PPD PHARMACO

Analytical Laboratory
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http://www.ppdpharmaco.com

U.S. NRC
Region II
Materials Licensing/Inspection Branch
Mail Control No. 257612
Atlanta Federal Center
61 Forsyth Street S.W.
Atlanta, GA 30303-3415

November 18, 1997

Re: License No. 45-25314-01 Docket No. 030-33656

Materials Licensing and Inspection Branch:

Following is additional information regarding our recent ammendment request. Also enclosed is the Final Survey of 2246C Dabney Circle to support removal of this location as an authorized place of use under the above referenced license.

Items a. through k. from IN 89-25

a. The name of the organization, if changed. Provide the new name of the licensed organization and if there is no change, so state.

Pharmaco-LSR (Pharmaco-LSR, Inc.) has merged with PPD (Pharmaceutical Product Development Company) resulting in a single corporate entity, PPD Pharmaco, Inc.

b. Identification of any changes in personnel named in the license, including any required information on personnel qualifications.

There are no changes to personnel named on the license related to the merger. As a result of increased workload for the laboratory, 3 additional personnel are to be added as requested in our previous letter.

c. An indication of whether the seller will remain in business without the license.

This item is not applicable to our situation. The transaction was a merger of the two companies.

d. A complete description of the transaction. The description should include any transfer of stocks or assets.

APBI, a holding company and owner of Pharmaco-LSR, Inc. and Pharmaceutical Product Development Company engaged in a pooling of interests in which all assets of both companies

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were pooled to form a new corporate entity, PPD Pharmaco, Inc. No stocks or assets were transferred.

e. An indication of any planned changes in organization, location, facilities, equipment, procedures or personnel. If such changes are to be made, they should be fully described.

There will be no changes to the organization related to the merger. The Radiation Safety Officer will remain the same. We have changed the primary location of the use of radioactive materials from 2246C Dabney Circle to 2240 Dabney Road. Both locations are authorized places of use. A final survey of 2246C Dabney Circle is enclosed. **We will retain control of 2246C Dabney Circle until release from the license is authorized by the NRC.**

f. An indication of any changes in the use, possession or storage of the licensed materials. If such changes are to be made, they should be described.

There will be no changes in the use, possession or storage of licensed materials.

g. An indication of whether all surveillance items and records including radioactivity inventory and accountability requirements will be current at the time of transfer. A description of the status of all surveillance requirements and records, e.g., calibrations, leak test, surveys, ect. should be provided.

All records are current, in good condition and will remain with the Radiation Safety Officer. A copy of a recent audit performed for this license is enclosed.

h. A description of the status of the facility. Specifically, the presence or absence of contamination should be documented. If contamination is present, will decontamination occur before transfer? If not, does the successor company agree to assume full liability for the decontamination of the facility or site?

The facility is in very good condition as demonstrated by the enclosed Final Survey of 2246C Dabney Circle.

i. A description of any decontamination plans, including financial assurance arrangements of the transferee, should be provided, as specified in 10 CFR Sections 30.35, 40.36 and 70.25. This should include information about how the transferee and transferor propose to divide the transferor's assets and responsibility for any cleanup needed at the time of transfer.

This item does not appear to be directly applicable to this situation. This is a merger and there will be no division of assets and no cleanup related to the change is required. The possession limits for the license are less than the decommissioning funding plan requirements of 10 CFR.

j. An indication of whether the transferor and transferee agree to the change in ownership or control of the licensed material and activity. If so, documentation stating this should be provided.

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This action is signed by the Director of PPD Pharmaco Analytical Laboratory indicating agreement to the change of control of the licensed material and activity.

k. A commitment by the transferee to abide by all constraints, conditions, requirements, representations and commitments identified in the existing license. If not, the transferee must provide a description of its program to assure compliance with the license and regulations.

PPD Pharmaco Inc. will abide by all constraints, conditions, requirements, representations and commitments identified in the existing license.

Sincerely,

Bruce A. Petersen
Executive Director
PPD Pharmaco Richmond Analytical Laboratory

Prepared By

RSO, Inc.
Laurel, Maryland

Final Radiological Survey Report

For 2246C Dabney Circle

Prepared For

PPD Pharmaco

2240 Dabney Road

Richmond, Virginia

October 1997

Final Radiological Survey Report
PPD Pharmaco

This final report describes the results of the surveys conducted on the radioisotope use laboratory and surrounding work areas along with those areas either adjacent to or directly connected to the use laboratory.

Background and Scope of Work

PPD Pharmaco analytical laboratory (PPD) performs analytical studies and occasionally uses low activity levels of various radionuclides in laboratories at the PPD facility under the provisions of a specific license (License Number 45-25314-01) (Docket Number 303-33656) issued by the Nuclear Regulatory Commission (NRC). All work has been performed in the laboratory at 2246C Dabney Circle, Richmond, Virginia until September 1997. PPD has moved its laboratory operations to 2240 Dabney Road, Richmond, Virginia and plans on terminating the old facility from its NRC specific license. Radioactive material used at PPD 2246C facility was ^{125}I, ^{14}C and ^{3}H in low activity concentrations (typically less than 1mCi at any one time).

All radioactive materials have been removed from PPD Laboratory before the final survey was conducted, including original source vials and radioactive waste along with storage containers such as refrigerators and freezers. There were no reported spills, releases or unusual events. A scoping survey was performed by the Radiation Safety Officer on September 15, 1997. The results of the survey are included in this report and did not show any residual contamination.

Surveys

RSO, Inc. (RSO) performed surveys on the following surfaces in the laboratory and adjacent unaffected areas;

1. Floor surfaces
   A. Affected Areas formal 1 x 1 m grids
   B. Unaffected Areas no grids
2. Wall surfaces
   A. Affected Areas formal 2 x 2 m grids
   B. Unaffected Areas no grids
3. Bench tops
4. Bench drawers and interior surfaces
5. Sinks
6. Unaffected areas either adjacent to or having direct access to the affected areas.

Isotope and Project Release Limits

Isotope used in the lab was ^{125}I, ^{14}C and ^{3}H. The action and release limits used were;

- Action level 100 dpm/100 cm^2 loose/fixed contamination
- Release limit 1,000 dpm/100 cm^2 loose contamination
- Release limit 5,000 dpm/100 cm^2 fixed contamination.

Survey Description

Surveys conducted were performed as follows;

- Floor surface in affected area: A grid system was established of 1x1 m cells. One hundred percent of the surface was scanned using a survey instrument connected to a 425 cm^2 proportional detector, wipes were collected at grid intersections for loose contamination, and 1 direct measurement for every 5 wipes of 1 minute duration using a survey instrument connected to a 100 cm^2 proportional detector.

- Wall surfaces in affected area: A grid system was established of 2x2 m cells. The surface was scanned using a survey instrument connected to a 100 cm^2 proportional detector, wipes were collected at grid intersections where possible, for loose contamination, and 1 direct measurement for every 5 wipes of 1 minute duration using a survey instrument connected to a 100 cm^2 proportional detector.

- Hood: One hood was used in the laboratory. Wipes were collected from inside/outside surfaces and behind the rear baffle. One hundred percent of the inner surface was scanned using a survey instrument connected to a 100 cm^2 proportional detector. Wipes were collected from inside the hood duct work above the hood and at the effluent on the roof.

- Laboratory bench tops: The bench top surface was scanned using a survey instrument connected to a 100 cm^2 proportional detector, 1 wipe per linear meter of bench top was collected for loose contamination, and 1 direct measurement of 1 minute duration per 5 wipes using a survey instrument connected to a 100 cm^2 proportional detector.

- Laboratory bench drawers: Inner surfaces were scanned using a survey instrument connected to a 100 cm^2 proportional detector, 1 wipe per section of bench was collected for loose contamination.

- Sinks: Sink surfaces were scanned using a survey instrument connected to a 100 cm^2 proportional detector, wipes were collected from inner walls and drain for loose contamination.

- Unaffected areas: These areas consisted of the office area in front of the laboratory. Floor surfaces were scanned using a survey instrument connected to a 425 cm^2 proportional detector, wipes were collected randomly from the office area and 1 direct measurement per 5 wipes of 1 minute duration using a survey instrument connected to a 100 cm^2 proportional detector.

- Roof: Wipes were collected from the roof surface around the effluent of the hood used in the laboratory, also wipes were collected from the hood exhaust and blower motor.

- Exposure rates were measured in each area (at least 1 for every 10 m^2) and 1 from each sink drain.

- Soil: 4 exterior soil samples were collected from locations around the laboratory (see Appendix A).

Summary

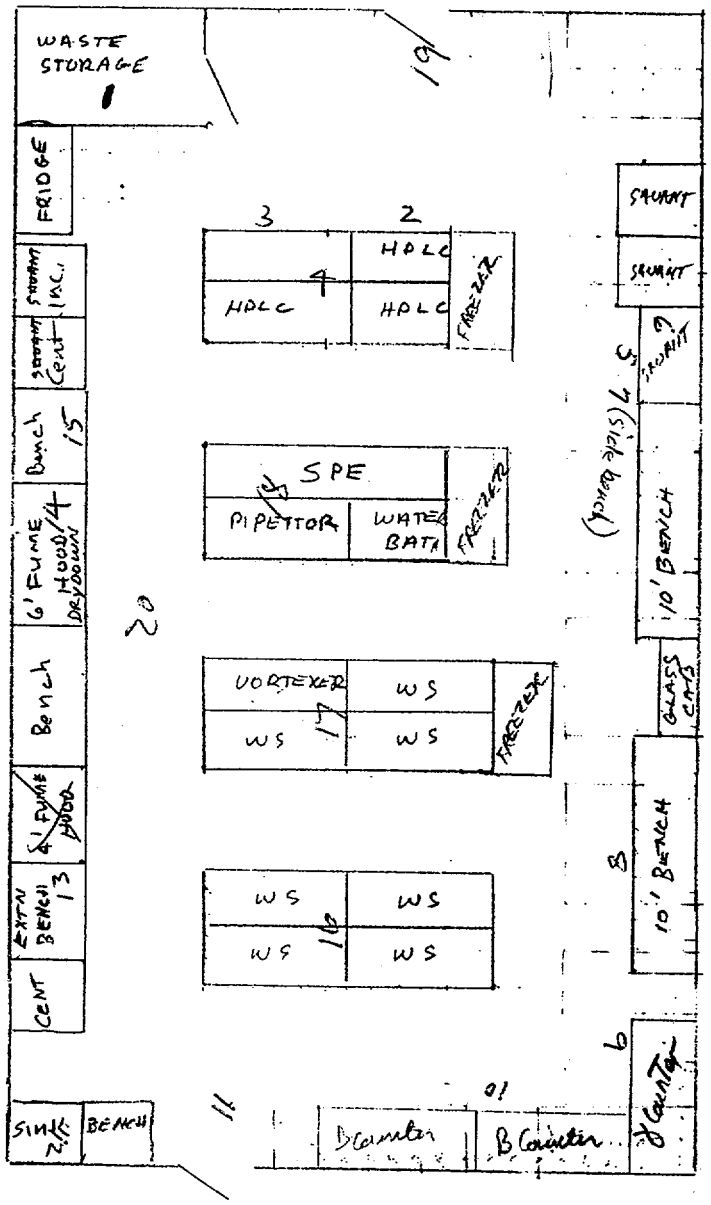
RSO performed the Final Survey activities from 16-Sept-97 through 17-Sept-97. Data results from the survey are shown in Appendix A. The final survey found ^{125}I activity above the project action limit but below the release limit on a bench top next to the hood and ^{3}H contamination near the release limit on a floor surface grid location H/2. The areas of concern were decontaminated by facility personnel and additional wipes were collected and sent to RSO for analysis. Three other locations of ^{3}H activity slightly above the action limit of 100 dpm/100 cm^2 were re-wiped and no contamination was found. The laboratory north air ventilation system filter was found to contain elevated radon activity. Four soil samples were collected and analyzed at the RSO laboratory, only normal isotopes and background activities were found. The final survey and post decon wipe analysis has shown that the laboratory is free of contamination, the facility appears to be in a condition to be eligible for free release.

Attachments: Appendixes include data and corresponding drawings and instrument information.

Appendix A Floors, walls and benches.

Appendix B Instrument information.

Scoping Survey



Map for Swipe tests 9-15-97
3 H and 125 I Swipes at each number.
#1-20 Swipes
#21 = Blank

RT.
9-15-97

CS

CS - COLLECT SETUP SEPTEMBER 15, 1997 07:04 PM
MEMORY EMPTY

ASSAY NO.: 2813
ASSAY I.D. (40 CHARS. MAX.): 2246C SWPS 9-15-97
PROTOCOL NO. (1-16): 1
NO. VIALS (1-9999): 21
COUNTING TIME, MIN. (.1-250): 5

ANY CHANGES (Y/N)? N
ANOTHER ASSAY (Y/N)? N

COMMAND:

ASSAY NO.: 2813 2246C SWPS 9-15-97
SETUP: SEPTEMBER 15, 1997 07:04 PM
START: SEPTEMBER 15, 1997 07:05 PM
PROTOCOL NO. (1-16): 1
PM
ISOTOPE CODE (H3, C14, P32): H3

COUNTED ON BETA 2
Serial #621
Initials JM Date 16 Sept 97

V#	T	ICT	MAT	CPM
0001	5.0	12	1.012718	12
0002	5.0	11	1.012718	10
0003	5.0	16	1.012718	16
0004	5.0	9	1.012718	9
0005	5.0	7	0.970453	7
0006	5.0	2	0.970453	2
0007	5.0	5	0.970453	5
0008	5.0	3	0.970453	3
0009	5.0	14	1.007426	13
0010	5.0	7	1.007426	7
0011	5.0	8	1.007426	8
0012	5.0	4	1.007426	3
0013	5.0	5	1.009402	5
0014	5.0	6	1.009402	6
0015	5.0	0	1.009402	0
0016	5.0	0	1.009402	0
0017	5.0	6	1.012718	6
0018	5.0	7	1.012718	7
0019	5.0	9	1.012718	9
0020	5.0	6	1.012718	6
0021	5.0	0	0.970453	0

END: SEPTEMBER 15, 1997 07:47 PM

COMMAND: CS

CS - COLLECT SETUP SEPTEMBER 16, 1997 06:40 AM
MEMORY EMPTY

RIAAID

1 minute

Date: 15-Sep-97
Time: 7:07 PM

(c) 1983-96 RMA, Inc. Serial number 95-003: (V7.00c) Pharmaco::LSR , Richmond, VA

Tech: RT Assay run no: 2246CSWPS Project:
Worklist name: (none) Count time (min): 1.0 Station: A

Tube	Counts
1	0m
2	5
3	0m
4	0m
5	14
6	0m
7	17
8	6
9	9
10	0m
11	0m
12	0m
13	0m
14	0m
15	0m
16	0m
17	0m
18	0m
19	0m
20	17
21	0m

Legend: (c) = changed; (d) = deleted; (m) = missing

COUNTED ON APEX 1
Serial #5263
Initials DSF Date 15Sep97

Appendix A

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Hood Rear Panels
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 16-Sep-97
Surveyor - J. Dean, R. Dunkelburger

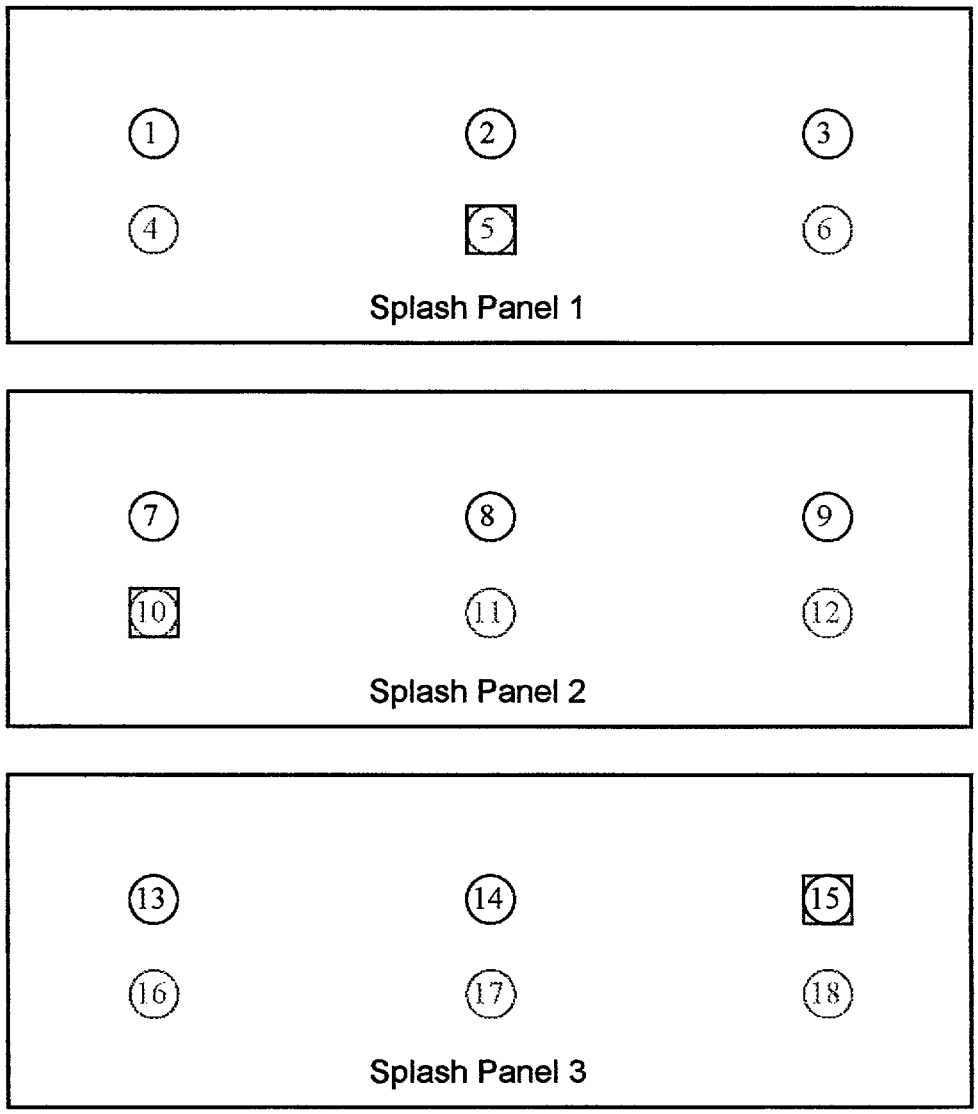
Background Information

#1 Gas Flow 100 cm2 398 cpm — #2 Gas Flow 100 cm2- 398 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 290 (cpm)

Scan MDA - 987 dpm/100 cm² — Direct MDA - 367 dpm/100 cm²

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm² cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm² cpm Gross	Net	#2 dpm	Net Exposure Contact uR/h	1 meter uR/h	Gamma Direct Net cpm	Disposition Pass/Fail	Decon Y/N
	Panel 1 Front	1	4	-3	6	2	325	-73	-281						-10	Pass	N
	Panel 1 Front	2	6	-7	3	2										Pass	N
	Panel 1 Front	3	30	-2	6	2										Pass	N
	Panel 1 Rear	4	20	3	3	2	350	-48	-185						0	Pass	N
	Panel 1 Rear	5	4	-1	1	2										Pass	N
	Panel 1 Rear	6	25	-6	4	2				374	-24	-92				Pass	N
	Panel 2 Front	7	5	2	0	2	360	-38	-146						10	Pass	N
	Panel 2 Front	8	32	-6	3	2										Pass	N
	Panel 2 Front	9	107	-1	3	2										Fail	Y
	Panel 2 Rear	10	174	-2	0	2	350	-48	-185						10	Fail	Y
	Panel 2 Rear	11	46	-6	2	2				362	-36	-138				Pass	N
	Panel 2 Rear	12	12	-3	-3	2										Pass	N
	Panel 3 Front	13	10	-5	4	2	325	-73	-281						-10	Pass	N
	Panel 3 Front	14	14	-3	0	2										Pass	N
	Panel 3 Front	15	-6	-5	1	2										Pass	N
	Panel 3 Rear	16	43	-4	1	2	380	-18	-69	422	24	92			10	Pass	N
	Panel 3 Rear	17	3	3	5	2										Pass	N
	Panel 3 Rear	18	-17	-3	6	2										Pass	N
	Re-wipe of elevated results above																
	Panel 2 Front	9	6	-4	2	-6										Pass	N
	Panel 2 Rear	10	25	-7	-4	-4										Pass	N

Fume Hood
Inside Rear Splash Panel

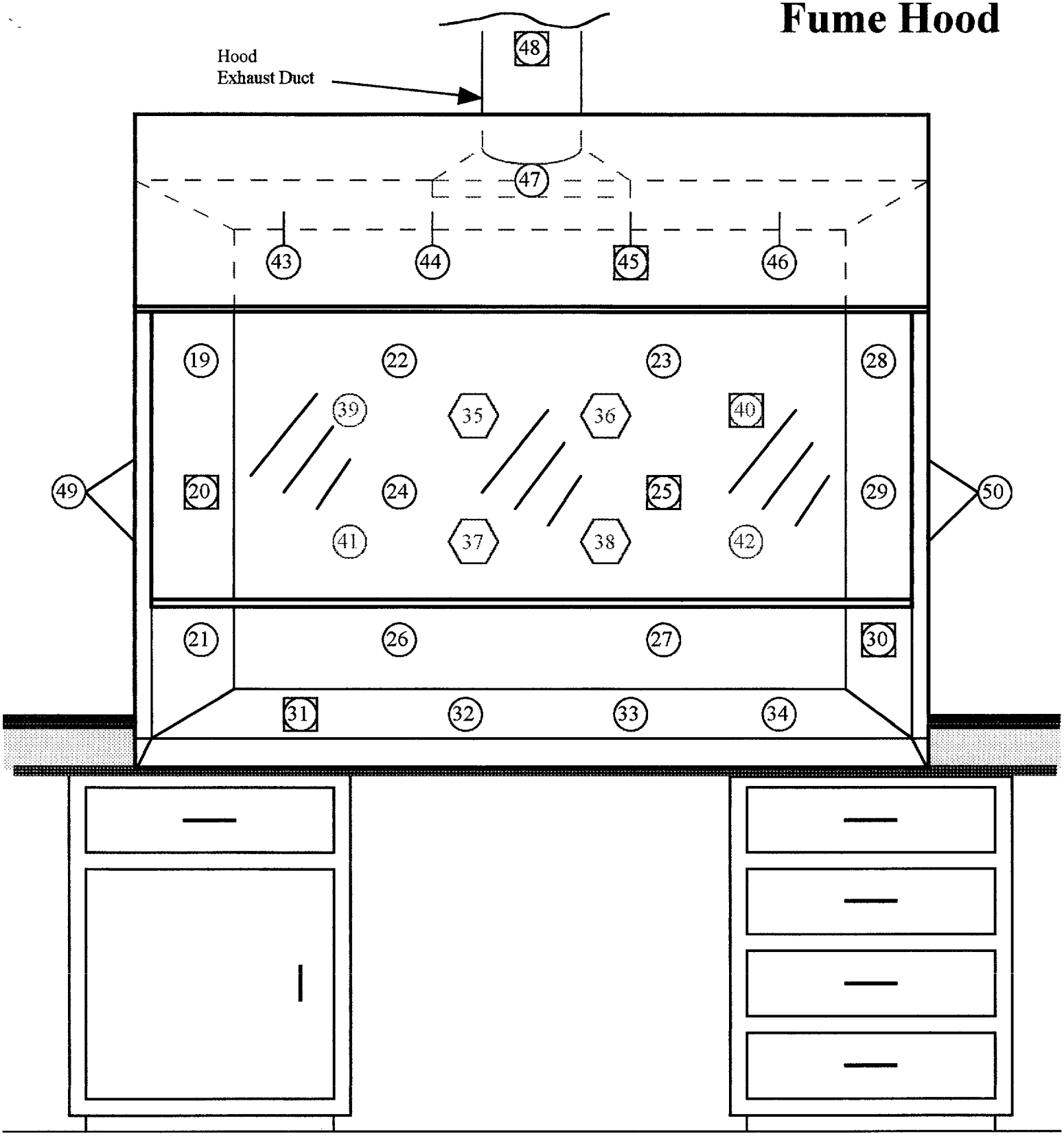


57 Front Panel Wipe Location 66 Back Panel Wipe Location Direct Measurement Location

PPD Pharmaco

RSO, Inc.

Fume Hood



57 Wipe Location

55 Direct Measurement Location

66 Inner Wipe on Hood Sash

12 Outer Wipe on Hood Sash

PPD Pharmaco

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Hood
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 16-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

#1 Gas Flow 100 cm2 398 cpm — #2 Gas Flow 100 cm2- 398 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 290 (cpm)

Scan MDA - 987 dpm/100 cm² — Direct MDA - 367 dpm/100 cm²

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm² cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm² cpm Gross	Net	#2 dpm	Net Exposure Contact uR/h	1 meter uR/h	Gamma Direct Net cpm	Disposition Pass/Fail	Decon Y/N
	Inside L Top	19	21	-2	2	-4	325	-73	-281						-10	Pass	N
	Inside L Middle	20	15	-5	3	-4				278	-120	-462				Pass	N
	Inside L Bottom	21	5	2	2	-4										Pass	N
	Back Top L	22	6	1	2	-4	325	-73	-281						10	Pass	N
	Back Top R	23	27	2	-3	-4										Pass	N
	Back M Top L	24	24	-6	6	-4										Pass	N
	Back M Top R	25	40	-7	9	-4				296	-102	-392				Pass	N
	Back Bottom L	26	20	3	6	-4	325	-73	-281						10	Pass	N
	Back Bottom R	27	44	2	7	-4										Pass	N
	R Side Top	28	32	-2	13	-4	325	-73	-281						0	Pass	N
	R Side Middle	29	-10	-6	-3	-4										Pass	N
	R Side Bottom	30	16	-8	3	-4				350	-48	-185				Pass	N
	Base L	31	11	1	1	-4	325	-73	-281						10	Pass	N
	Base L Center	32	13	0	12	-4										Pass	N
	Base R Center	33	36	4	0	-4										Pass	N
	Base R	34	3	-5	8	-4										Pass	N
	Shash O Top L	35	0	-1	14	-4	300	-98	-377	264	-134	-515			0	Pass	N
	Shash O Top R	36	6	2	7	-4										Pass	N
	Shash O Bottom L	37	16	-7	0	-4										Pass	N
	Shash O Bottom R	38	3	5	4	-4										Pass	N
	Shash I Top L	39	-14	4	5	-4	300	-98	-377						10	Pass	N
	Shash I Top R	40	-11	2	5	-4				262	-136	-523				Pass	N
	Shash I Bottom L	41	21	-1	2	-4										Pass	N
	Shash I Bottom R	42	-13	1	-7	-4										Pass	N
	Inside Top L	43	-4	-1	0	-4	325	-73	-281						-10	Pass	N
	Inside Top L Center	44	-6	-3	0	-4										Pass	N
	Inside Top R Center	45	7	-3	4	-4				376	-22	-85				Pass	N
	Inside Top R	46	32	0	0	-4										Pass	N
	Duct In Lower Rim	47	32	-1	5	-4	320	-78	-300						20	Pass	N
	Duct In 80 cm	48	-10	-5	5	-4				376	-22	-85				Pass	N
	Outter Panel L	49	2	0	6	-4	325	-73	-281						10	Pass	N
	Outter Panel R	50	3	3	1	-4										Pass	N

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Floor Surface
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 16-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

#1 Gas Flow 425 cm2 854 cpm — #2 Gas Flow 100 cm2- 398 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 290 (cpm)

Scan MDA - 630 dpm/100 cm² — Direct MDA - 367 dpm/100 cm²

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm² cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm² cpm Gross	Net	#2 dpm	Exposure µR/h Contact Gross	Net	1 meter Gross	Net	Gamma Direct Net cpm	Disp. Pass/Fail	Decon Y/N
1	A / 0	51	6	-7	11	-1												Pass	N
1	A / 1	52	3	1	9	-1	832	434	-37									Pass	N
2	A / 2	53	-7	-1	4	-1	862	464	13									Pass	N
3	A / 3	54	-7	-1	-1	-1	926	528	121									Pass	N
4	A / 4	55	1	-7	0	-1	984	586	218	450	52	200						Pass	N
5	A / 5	56	6	4	-5	-1	844	446	-17									Pass	N
7	A / 7	57	12	-3	10	-1	934	536	134									Pass	N
9	A / 9	58	29	-4	8	-1	1000	602	245									Pass	N
10	A / 10	59	-9	-1	1	-1	900	502	77									Pass	N
11	A / 11	60	-12	-3	3	-1	900	502	77	388	-10	-38						Pass	N
12	A / 12	61	18	1	-3	-1	1000	602	245									Pass	N
13	A / 13	62	-6	-1	1	-1	900	502	77									Pass	N
14	A / 14	63	18	-8	8	-1	800	402	-91									Pass	N
15	A / 15	64	10	2	-1	-1	900	502	77									Pass	N
16	A / 16	65	5	6	5	-1	900	502	77	390	-8	-31						Pass	N
17	A / 17	66	-13	-4	5	-1	800	402	-91									Pass	N
18	B / 17	67	-13	3	7	-1	900	502	77									Pass	N
19	B / 16	68	-3	4	5	-1	900	502	77									Pass	N
20	B / 15	69	-5	-4	1	-1	1000	602	245									Pass	N
21	B / 14	70	-8	-6	1	-1	1000	602	245	412	14	54						Pass	N
22	B / 13	71	-4	-9	6	5	900	502	77									Pass	N
23	B / 12	72	16	-1	1	5	1000	602	245									Pass	N
24	B / 11	73	2	-8	7	5	900	502	77									Pass	N
25	B / 10	74	23	2	0	5	900	502	77									Pass	N
26	B / 9	75	11	-1	-3	5	900	502	77	424	26	100						Pass	N
27	B / 8	76	3	0	-5	5	1000	602	245									Pass	N
28	B / 7	77	16	-2	3	5	1000	602	245									Pass	N
29	B / 6	78	4	5	8	5	900	502	77									Pass	N
30	B / 5	79	33	-2	-2	5	900	502	77									Pass	N
31	B / 4	80	179	1	0	5	1000	602	245	410	12	46						Fail	Y
32	B / 3	81	-11	-6	6	7	800	402	-91									Pass	N
33	B / 2	82	17	-8	3	7	800	402	-91									Pass	N
N/A	B / 1	83	16	0	1	7	700	302	-259									Pass	N
N/A	C / 1	84	-5	1	6	7	800	402	-91									Pass	N
36	C / 2	85	0	5	-6	7	900	502	77	410	12	46	10.0	10.0	8.0	8.0		Pass	N
37	C / 3	86	-16	3	3	7	900	502	77									Pass	N
38	C / 4	87	-15	-3	2	7	800	402	-91									Pass	N
39	C / 5	88	15	3	-2	7	1000	602	245									Pass	N
40	C / 6	89	-9	1	8	7	1000	602	245									Pass	N
41	C / 7	90	-13	7	2	7	1100	702	413	406	8	31						Pass	N
42	C / 8	91	-12	10	-3	-2	900	502	77				13.0	13.0	11.0	11.0		Pass	N
43	C / 9	92	0	1	3	-2	1000	602	245									Pass	N
44	C / 10	93	15	-1	1	-2	900	502	77									Pass	N
45	C / 11	94	3	3	7	-2	1000	602	245									Pass	N
46	C / 12	95	-11	-1	5	-2	1100	702	413	424	26	100						Pass	N
47	C / 13	96	1	-6	-4	-2	900	502	77				11.0	11.0	11.0	11.0		Pass	N
48	C / 14	97	15	-2	4	-2	900	502	77									Pass	N
49	C / 15	98	-10	-5	4	-2	900	502	77									Pass	N
50	C / 16	99	-12	-4	-2	-2	800	402	-91									Pass	N
51	C / 17	100	13	-5	0	-2	700	302	-259	360	-38	-146						Pass	N
52	D / 17	101	11	-6	4	-1	700	302	-259									Pass	N
53	D / 16	102	-1	-6	5	-1	900	502	77									Pass	N
54	D / 15	103	32	-1	1	-1	1000	602	245									Pass	N
55	D / 14	104	1	-2	4	-1	900	502	77									Pass	N
56	D / 13	105	5	-2	1	-1	900	502	77	470	72	277						Pass	N
57	D / 12	106	13	-3	3	-1	800	402	-91									Pass	N
58	D / 11	107	0	-2	2	-1	800	402	-91									Pass	N
59	D / 10	108	8	-4	-1	-1	1000	602	245									Pass	N
60	D / 9	109	3	-1	4	-1	1000	602	245									Pass	N
61	D / 8	110	34	2	-3	-1	900	502	77	416	18	69						Pass	N
62	D / 7	111	9	5	-2	7	1000	602	245									Pass	N
63	D / 6	112	4	1	3	7	900	502	77									Pass	N
64	D / 5	113	17	-1	6	7	900	502	77									Pass	N
65	D / 4	114	-6	1	4	7	900	502	77									Pass	N

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Floor Surface
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 16-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

#1 Gas Flow 425 cm2 854 cpm — #2 Gas Flow 100 cm2- 398 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 290 (cpm)

Scan MDA - 630 dpm/100 cm² — Direct MDA - 367 dpm/100 cm²

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm² cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm² cpm Gross	Net	#2 dpm	Exposure µR/h Contact Gross	Net	1 meter Gross	Net	Gamma Direct Net cpm	Disp. Pass/Fail	Decon Y/N
66	D / 3	115	5	-1	6	7	800	402	-91	374	-24	-92						Pass	N
67	D / 2	116	-3	-3	-1	7	800	402	-91									Pass	N
68	D / 1	117	8	-5	1	7	800	402	-91									Pass	N
N/A	D / 0	118	-1	-1	1	7												Pass	N
N/A	E / 0	119	-17	2	3	7												Pass	N
69	E / 1	120	-13	4	-1	7	1000	602	245	382	-16	-62						Pass	N
70	E / 2	121	8	3	-3	11	1000	602	245									Pass	N
71	E / 3	122	0	2	9	11	900	502	77									Pass	N
72	E / 4	123	-22	-1	-1	11	900	502	77									Pass	N
73	E / 5	124	-8	-5	4	11	800	402	-91									Pass	N
74	E / 6	125	-4	-2	6	11	800	402	-91	400	2	8						Pass	N
75	E / 7	126	9	-3	2	11	1000	602	245									Pass	N
76	E / 8	127	2	1	3	11	1000	602	245									Pass	N
77	E / 9	128	-14	6	5	11	1100	702	413									Pass	N
78	E / 10	129	0	4	3	11	900	502	77									Pass	N
79	E / 11	130	8	-4	2	11	1000	602	245	430	32	123						Pass	N
80	E / 12	131	-8	-3	3	2	800	402	-91									Pass	N
81	E / 13	132	-7	4	2	2	900	502	77									Pass	N
82	E / 14	133	13	-2	-1	2	1000	602	245									Pass	N
83	E / 15	134	-1	3	4	2	1100	702	413									Pass	N
84	E / 16	135	-1	-5	10	2	1000	602	245	322	-76	-292						Pass	N
85	E / 17	136	29	-2	5	2	1000	602	245									Pass	N
86	F / 17	137	-5	-7	5	2	900	502	77									Pass	N
87	F / 16	138	10	-2	-1	2	1000	602	245									Pass	N
88	F / 15	139	-2	1	7	2	1000	602	245									Pass	N
89	F / 14	140	-19	3	0	2	1100	702	413	488	90	346						Pass	N
90	F / 13	141	-8	1	-1	7	900	502	77									Pass	N
91	F / 12	142	114	1	3	7	900	502	77									Fail	Y
92	F / 11	143	-2	-4	1	7	900	502	77									Pass	N
93	F / 10	144	-3	-2	0	7	1000	602	245									Pass	N
94	F / 9	145	1	3	-2	7	1000	602	245	398	0	0						Pass	N
95	F / 8	146	10	4	1	7	900	502	77									Pass	N
96	F / 7	147	-7	0	4	7	1000	602	245									Pass	N
97	F / 6	148	0	4	7	7	900	502	77									Pass	N
98	F / 5	149	8	-1	7	7	1000	602	245									Pass	N
99	F / 4	150	9	-4	2	7	1000	602	245	376	-22	-85						Pass	N
100	F / 3	151	-6	2	0	12	900	502	77									Pass	N
101	F / 2	152	15	0	5	12	1000	602	245									Pass	N
102	F / 1	153	-14	-2	8	12	800	402	-91									Pass	N
N/A	F / 0	154	3	-4	8	12												Pass	N
N/A	G / 0	155	24	-3	5	12												Pass	N
103	G / 1	156	-10	-1	0	12	700	302	-259	382	-16	-62						Pass	N
104	G / 2	157	-1	5	2	12	800	402	-91									Pass	N
105	G / 3	158	-10	-1	1	12	900	502	77									Pass	N
106	G / 4	159	-2	3	1	12	800	402	-91									Pass	N
107	G / 5	160	-6	-5	-3	12	800	402	-91									Pass	N
108	G / 6	161	15	-4	0	3	900	502	77	398	0	0						Pass	N
109	G / 7	162	-2	1	-3	3	900	502	77									Pass	N
110	G / 8	163	6	-5	0	3	800	402	-91									Pass	N
111	G / 9	164	2	-8	-3	3	900	502	77									Pass	N
112	G / 10	165	11	-5	0	3	900	502	77									Pass	N
113	G / 11	166	-1	7	4	3	800	402	-91	416	18	69						Pass	N
114	G / 12	167	19	0	2	3	900	502	77									Pass	N
115	G / 13	168	13	-2	9	3	1000	602	245									Pass	N
116	G / 14	169	-3	-1	7	3	900	502	77									Pass	N
117	G / 15	170	13	-5	0	3	1000	602	245									Pass	N
118	G / 16	171	6	6	3	5	900	502	77	322	-76	-292						Pass	N
119	G / 17	172	-11	3	5	5	1000	602	245									Pass	N
120	H / 17	173	1	1	3	5	1000	602	245									Pass	N
121	H / 16	174	3	2	5	5	1000	602	245									Pass	N
122	H / 15	175	18	0	2	5	1100	702	413									Pass	N
123	H / 14	176	-7	-6	7	5	900	502	77	404	6	23						Pass	N
124	H / 13	177	-2	0	1	5	800	402	-91				10.0	10.0	10.0	10.0		Pass	N
125	H / 12	178	-4	1	3	5	1000	602	245									Pass	N

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Floor Surface
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 16-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

#1 Gas Flow 425 cm2 854 cpm — #2 Gas Flow 100 cm2- 398 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 290 (cpm)

Scan MDA - 630 dpm/100 cm^2 — Direct MDA - 367 dpm/100 cm^2

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm^2				Beta Scan /100 cm^2			Beta Direct Meas./100 cm^2			Exposure µR/h				Gamma	Disp.	Decon
			^{3}H	^{14}C	^{32}P	^{125}I	cpm		#1	cpm		#2	Contact		1 meter		Direct	Pass/Fail	Y/N
			dpm	dpm	dpm	dpm	Gross	Net	dpm	Gross	Net	dpm	Gross	Net	Gross	Net	Net cpm		
126	H / 11	179	2	-1	0	5	800	402	-91									Pass	N
127	H / 10	180	-6	-1	5	5	900	502	77									Pass	N
128	H / 9	181	6	-2	-1	1	900	502	77	366	-32	-123						Pass	N
129	H / 8	182	8	-5	3	1	1000	602	245				11.0	11.0	11.0	11.0		Pass	N
130	H / 7	183	5	4	-3	1	900	502	77									Pass	N
131	H / 6	184	10	-5	4	1	1000	602	245									Pass	N
132	H / 5	185	-4	1	1	1	900	502	77									Pass	N
133	H / 4	186	6	5	0	1	900	502	77	414	16	62						Pass	N
134	H / 3	187	4	-4	9	1	800	402	-91									Pass	N
135	H / 2	188	930	2	3	1	900	502	77				9.0	9.0	11.0	11.0		Fail	Y
136	H / 1	189	-12	7	-4	1	900	502	77									Pass	N
N/A	H / 0	190	-7	10	4	1												Pass	N
N/A	I / 0	191	4	-6	4	2												Pass	N
137	I / 1	192	-5	0	3	2	900	502	77	372	-26	-100						Pass	N
138	I / 2	193	-8	0	-1	2	800	402	-91									Pass	N
139	I / 3	194	8	6	1	2	900	502	77									Pass	N
140	I / 4	195	13	-2	3	2	1000	602	245									Pass	N
141	I / 5	196	17	-6	2	2	900	502	77									Pass	N
142	I / 6	197	-4	-1	8	2	900	502	77	406	8	31						Pass	N
143	I / 7	198	-9	2	2	2	900	502	77									Pass	N
144	I / 8	199	10	-6	0	2	900	502	77									Pass	N
145	I / 9	200	-10	1	1	2	900	502	77									Pass	N
146	I / 10	201	-10	1	0	5	1000	602	245									Pass	N
147	I / 11	202	10	1	13	5	900	502	77	418	20	77						Pass	N
148	I / 12	203	1	7	0	5	1000	602	245									Pass	N
149	I / 13	204	14	0	1	5	1000	602	245									Pass	N
150	I / 14	205	27	-1	9	5	1000	602	245									Pass	N
151	I / 15	206	-13	-1	6	5	900	502	77									Pass	N
152	I / 16	207	13	-7	0	5	1000	602	245	392	-6	-23						Pass	N
153	I / 17	208	0	5	0	5	1000	602	245									Pass	N
154	J / 17	209	-9	0	0	5	900	502	77									Pass	N
155	J / 16	210	8	6	4	5	800	402	-91									Pass	N
156	J / 15	211	-5	-2	3	17	900	502	77									Pass	N
157	J / 14	212	-8	4	3	17	800	402	-91	398	0	0						Pass	N
158	J / 13	213	-14	-1	3	17	1000	602	245									Pass	N
159	J / 12	214	20	-4	5	17	800	402	-91									Pass	N
160	J / 11	215	-13	-2	-2	17	1100	702	413									Pass	N
161	J / 10	216	-18	0	2	17	800	402	-91									Pass	N
162	J / 9	217	0	-9	7	17	1000	602	245	378	-20	-77						Pass	N
163	J / 8	218	-4	-3	0	17	800	402	-91									Pass	N
164	J / 7	219	-4	-1	5	17	800	402	-91									Pass	N
165	J / 6	220	-3	-1	4	17	900	502	77									Pass	N
166	J / 5	221	-15	4	5	8	1000	602	245									Pass	N
167	J / 4	222	8	5	2	8	1000	602	245	374	-24	-92						Pass	N
168	J / 3	223	7	-8	13	8	900	502	77									Pass	N
169	J / 2	224	7	4	2	8	800	402	-91									Pass	N
170	J / 1	225	-4	-7	11	8	900	502	77									Pass	N
N/A	J / 0	226	0	-10	5	8												Pass	N
N/A	K / 0	227	20	-4	7	8												Pass	N
N/A	K / 1	228	2	-4	0	8				326	-72	-277						Pass	N
N/A	K / 2	229	4	2	-4	8												Pass	N
N/A	K / 3	230	9	2	10	8												Pass	N
N/A	K / 4	231	8	5	0	-2												Pass	N
N/A	K / 5	232	9	-1	5	-2												Pass	N
N/A	K / 6	233	39	-5	7	-2				344	-54	-208						Pass	N
N/A	K / 7	234	0	-5	2	-2												Pass	N
N/A	K / 8	235	2	-3	4	-2												Pass	N
N/A	K / 9	236	16	4	3	-2												Pass	N
N/A	K / 10	237	-1	-1	6	-2												Pass	N
N/A	K / 11	238	3	-5	1	-2				350	-48	-185						Pass	N
N/A	K / 12	239	-1	-5	7	-2												Pass	N
N/A	K / 13	240	16	0	4	-2												Pass	N
N/A	K / 14	241	-8	-1	1	1												Pass	N
N/A	K / 15	242	0	1	8	1												Pass	N

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Floor Surface
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 16-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

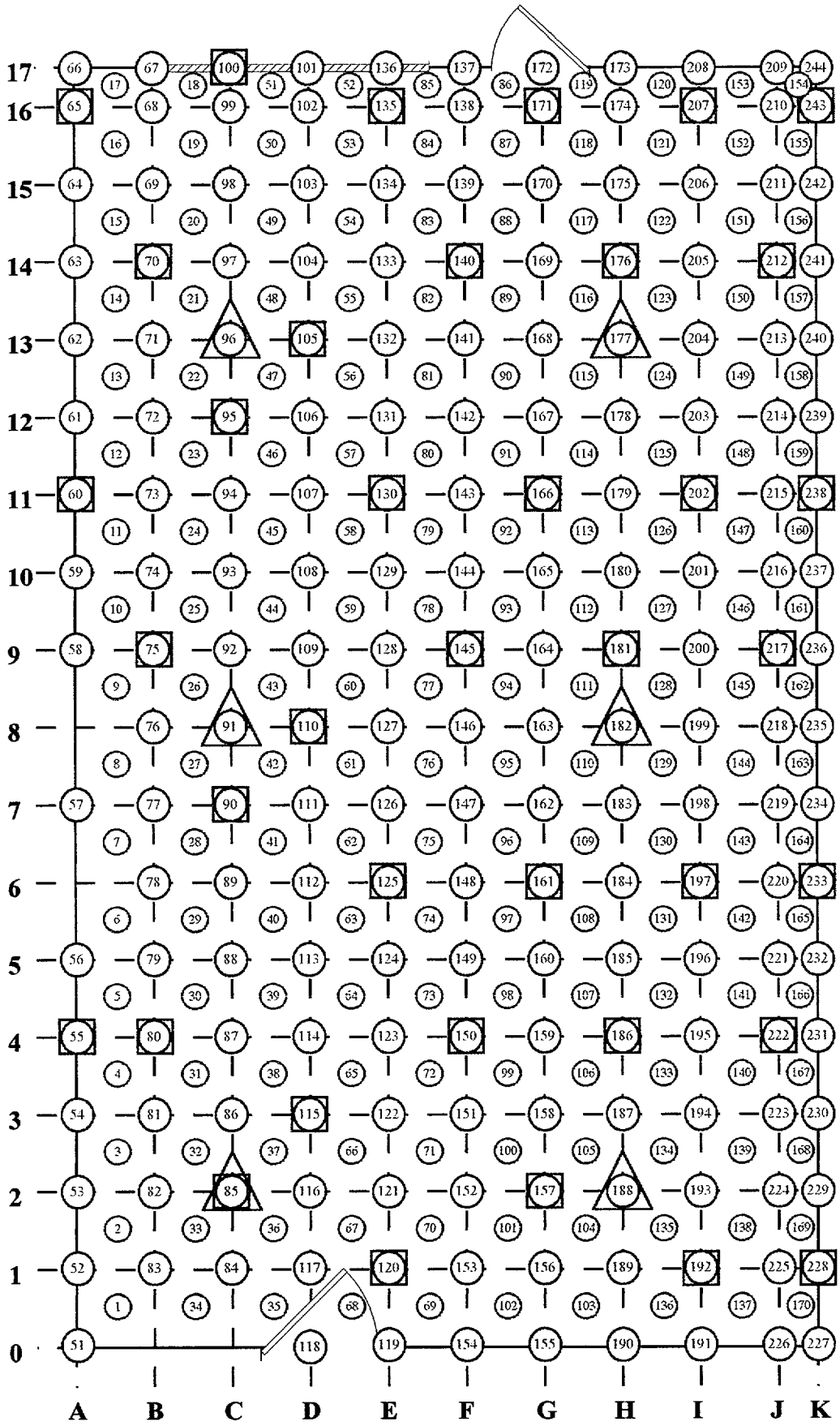
#1 Gas Flow 425 cm2 854 cpm — #2 Gas Flow 100 cm2- 398 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 290 (cpm)

Scan MDA - 630 dpm/100 cm^2 — Direct MDA - 367 dpm/100 cm^2

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm^2 ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm^2 cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm^2 cpm Gross	Net	#2 dpm	Exposure µR/h Contact Gross	Net	1 meter Gross	Net	Gamma Direct Net cpm	Disp. Pass/Fail	Decon Y/N
N/A	K / 16	243	-2	13	-4	1				350	-48	-185						Pass	N
N/A	K / 17	244	21	-3	12	1												Pass	N
	Re-wipe of elevated wipe results 80 and 142																		
31	B / 4	451	-13	-7	2	-12												Pass	N
91	F / 12	453	-12	-13	2	10												Pass	N
	Post Decontamination Results																		
135	**H / 2**	**188**	**original wipe location**																
	Additional wipes																		
	H-50 / 1-50	445	-23	-1	1	2												Pass	N
	H-50 / 2-50	446	2	-9	1	5												Pass	N
	G-50 / 2-50	447	23	-13	2	-7												Pass	N
	G-50 / 1-50	448	-9	-5	3	3												Pass	N
	H / 2	449	19	-7	6	5												Pass	N

RSO, Inc.

Floor Surface Area



57 Floor Surface Wipe

57 Grid Cell Numbers

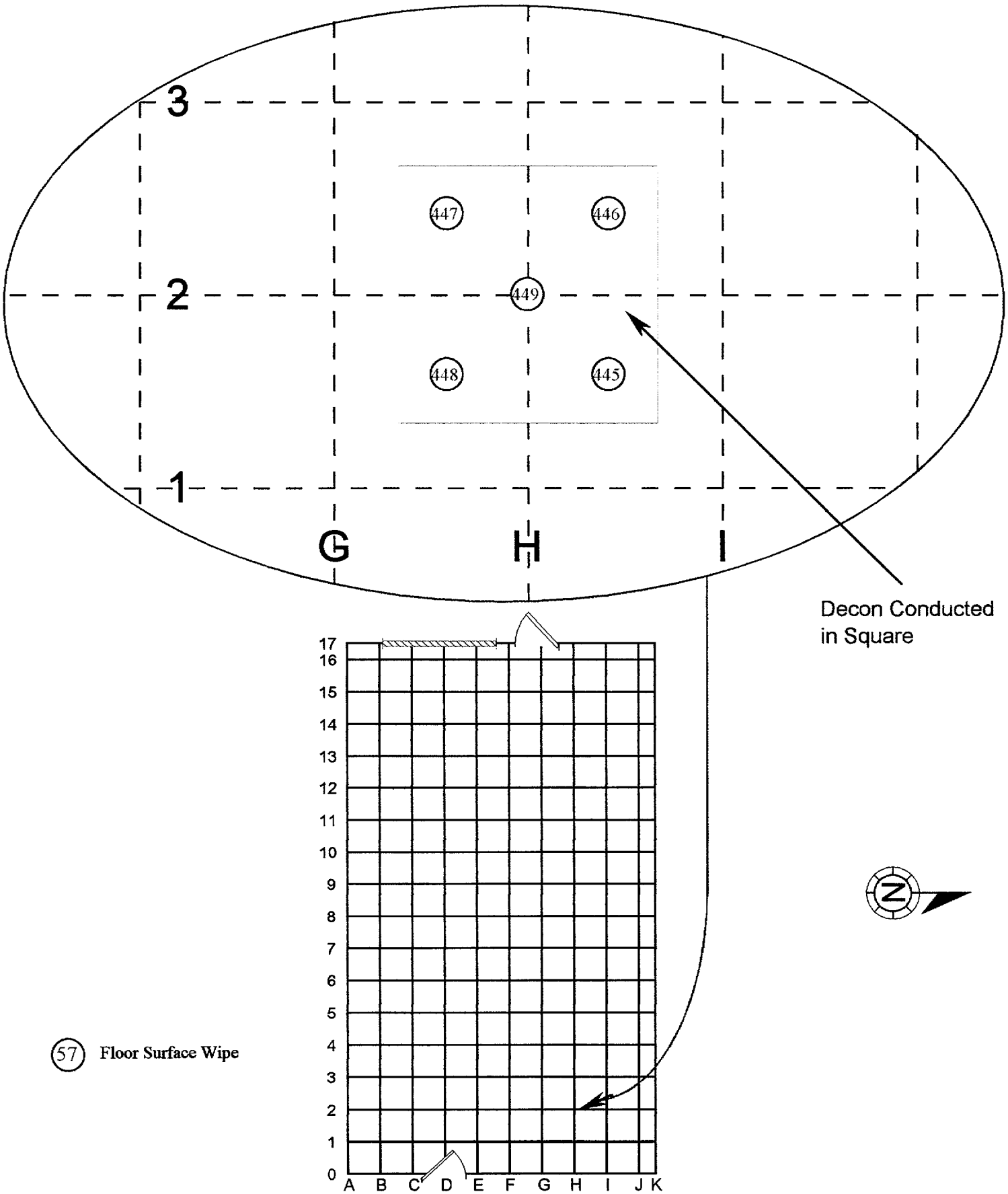
PPD Pharmaco

Direct Measurement Location

Exposure Rate Measurement

RSO, Inc.

Floor Post Decon Survey



PPD Pharmaco

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Bench Top Surface
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 16-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

#1 Gas Flow 100 cm2 398 cpm — #2 Gas Flow 100 cm2- 398 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 290 (cpm)

Scan MDA - 987 dpm/100 cm² — Direct MDA - 367 dpm/100 cm²

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm² cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm² cpm Gross	Net	#2 dpm	Net Exposure Contact uR/h	1 meter uR/h	Gamma Direct Net cpm	Disp. Pass/Fail	Decon Y/N
N/A	G / 3	245	26	-6	-1	1	350	-48	-185							Pass	N
N/A	F / 3	246	6	0	1	1										Pass	N
N/A	E / 3	247	25	-4	-2	1										Pass	N
N/A	D / 3	248	13	-10	6	1										Pass	N
N/A	D / 4	249	-4	11	2	1	350	-48	-185	342	-56	-215			-10	Pass	N
N/A	E / 4	250	2	-2	2	1										Pass	N
N/A	F / 4	251	-4	6	6	2										Pass	N
N/A	G / 4	252	4	3	8	2										Pass	N
N/A	G / 5-75	253	28	-6	9	2	350	-48	-185							Pass	N
N/A	F / 5-75	254	7	-2	2	2				360	-38	-146			10	Pass	N
N/A	E / 5-75	255	1	0	2	2										Pass	N
N/A	D / 5-75	256	3	3	-3	2										Pass	N
N/A	D / 6-75	257	14	-4	3	2	350	-48	-185							Pass	N
N/A	E / 6-75	258	-5	-2	2	2										Pass	N
N/A	F / 6-75	259	28	-10	0	2				376	-22	-85			-10	Pass	N
N/A	G / 6-75	260	-17	1	4	2										Pass	N
N/A	F-50 / 8-50	261	27	2	-1	3	350	-48	-185							Pass	N
N/A	F / 8-50	262	6	9	1	3										Pass	N
N/A	E / 8-50	263	30	-7	12	3										Pass	N
N/A	D / 8-50	264	2	0	7	3				410	12	46			10	Pass	N
N/A	D / 9-50	265	-9	5	1	3	350	-48	-185							Pass	N
N/A	E / 9-50	266	8	-4	0	3										Pass	N
N/A	F / 9-50	267	3	-1	0	3										Pass	N
N/A	F-50 / 9-50	268	10	-7	11	3										Pass	N
N/A	F-50 / 11	269	19	-2	2	3	350	-48	-185	366	-32	-123			-10	Pass	N
N/A	F / 11	270	16	-6	7	3										Pass	N
N/A	E / 11	271	-3	3	8	-2										Pass	N
N/A	D / 11	272	-1	-6	4	-2										Pass	N
N/A	D / 12	273	-10	4	2	-2	350	-48	-185							Pass	N
N/A	E / 12	274	-4	-1	1	-2				368	-30	-115			-10	Pass	N
N/A	F / 12	275	-10	3	7	-2										Pass	N
N/A	F-50 / 12	276	0	3	5	-2										Pass	N
N/A	J / 12-80	277	1	6	4	-2	350	-48	-185							Pass	N
N/A	J / 11-80	278	9	3	5	-2										Pass	N
N/A	J / 10-80	279	15	4	4	-2				310	-88	-338			10	Pass	N
N/A	J / 9-80	280	10	4	11	-2										Pass	N
N/A	J / 7-80	281	-7	1	0	7	350	-48	-185							Pass	N
N/A	J / 6-80	282	52	-6	-1	7										Pass	N
N/A	J / 5-80	283	0	1	10	7										Pass	N
N/A	J / 4-80	284	3	5	14	7				342	-56	-215			10	Pass	N
N/A	B-50 / 0-50	285	2	6	-2	7	350	-48	-185							Pass	N
N/A	A-50 / 0-50	286	-1	2	3	7										Pass	N
N/A	DRAIN	287	18	-5	12	7	300	-98	-377	348	-50	-192			10	Pass	N
N/A	A-50 / 3	288	4	5	2	7										Pass	N
N/A	A-50 / 4	289	-1	7	1	7	350	-48	-185	358	-40	-154			-10	Pass	N
N/A	A-50 / 5	290	1	2	-3	7										Pass	N
N/A	A-50 / 9	291	170	-2	3	-2										Fail	Y
N/A	A-50 / 10	292	88	20	7	218				394	-4	-15			-10	Fail	Y
	Post Decontamination Results																
	A-50 / 10	**292**	**Original wipe location**														
	Additional wipes																
	see map	455	16	-9	-5	-3										Pass	N
	see map	456	20	-8	3	-5										Pass	N
	see map	457	1	-10	3	5										Pass	N
	see map	458	6	-5	4	-1										Pass	N
	see map	459	21	-12	2	9										Pass	N
	Re-wipe of elevated wipe results																
	A-50 / 9	452	7	-7	-3	-3										Pass	N

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Interior of Lab Benches
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 17-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

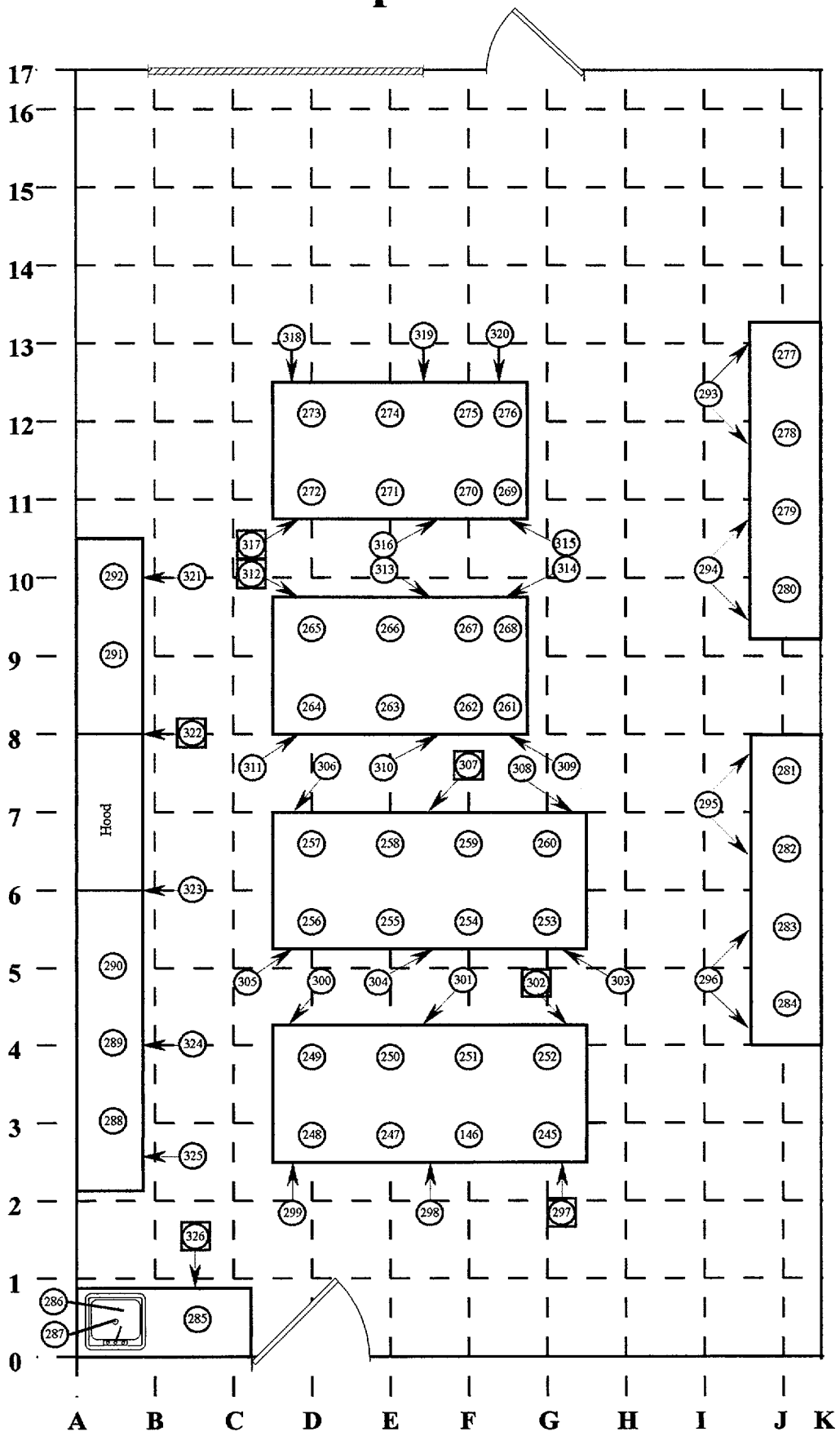
#1 Gas Flow 100 cm2 378 cpm — #2 Gas Flow 100 cm2- 378 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 300 (cpm)

Scan MDA - 962 dpm/100 cm^2 — Direct MDA - 358 dpm/100 cm^2

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm^2 ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm^2 cpm Gross	Net	#1 dpm	Beta Direct Meas /100 cm^2 cpm Gross	Net	#2 dpm	Net Exposure Contact uR/h	1 meter uR/h	Gamma Direct Net cpm	Disp. Pass/Fail	Decon Y/N
N/A	J / 10 TO 13	293	2	-8	5	-2	325	-53	-204							Pass	N
N/A	J / 9 TO 11	294	-17	3	3	-10	325	-53	-204							Pass	N
N/A	J / 6 TO 8	295	15	-4	-1	-2	300	-78	-300							Pass	N
N/A	J / 4 TO 6	296	4	1	5	1	300	-78	-300							Pass	N
N/A	G-25 / 2-70	297	-5	1	6	9	300	-78	-300	394	16	62			-20	Pass	N
N/A	E-50 / 2-70	298	3	-5	3	-1	325	-53	-204							Pass	N
N/A	C-75 / 2-70	299	-3	7	3	-1	300	-78	-300							Pass	N
N/A	C-75 / 4	300	7	-5	7	-4	325	-53	-204							Pass	N
N/A	E-50 / 4	301	-1	-5	4	8	350	-28	-108							Pass	N
N/A	G-50 / 4	302	-4	-5	7	8	325	-53	-204	356	-22	-85			-20	Pass	N
N/A	G-50 / 5-50	303	3	4	3	8	325	-53	-204							Pass	N
N/A	E-50 / 5-50	304	-3	-3	0	8	325	-53	-204							Pass	N
N/A	D / 5-50	305	4	4	1	8	325	-53	-204							Pass	N
N/A	D / 6-50	306	17	1	-2	8	325	-53	-204							Pass	N
N/A	E-50 / 6-50	307	0	-7	13	8	300	-78	-300	442	64	246			0	Pass	N
N/A	G-50 / 6-50	308	22	-2	8	8	350	-28	-108							Pass	N
N/A	F-50 / 8-25	309	0	1	2	8	325	-53	-204							Pass	N
N/A	E-50 / 8-25	310	-17	6	3	8	350	-28	-108							Pass	N
N/A	C-75 / 8-25	311	9	-1	1	6	375	-3	-12							Pass	N
N/A	C-75 / 9-75	312	7	1	2	6	325	-53	-204	412	34	131			0	Pass	N
N/A	E-50 / 9-75	313	24	-3	0	6	350	-28	-108							Pass	N
N/A	F-50 / 9-75	314	-1	-5	8	6	350	-28	-108							Pass	N
N/A	F-50 / 11	315	3	3	1	6	400	22	85							Pass	N
N/A	E-50 / 11	316	-1	2	8	6	325	-53	-204							Pass	N
N/A	D / 11	317	-6	-4	2	6	350	-28	-108	400	22	85			0	Pass	N
N/A	C-75 / 12-25	318	-3	3	-2	6	325	-53	-204							Pass	N
N/A	E-50 / 12-25	319	5	-7	-1	6	350	-28	-108							Pass	N
N/A	F-50 / 12-25	320	-8	-6	7	6	400	22	85							Pass	N
N/A	A-50 / 10	321	6	-4	3	-6	325	-53	-204							Pass	N
N/A	A-50 / 8	322	10	-5	2	-6	325	-53	-204	374	-4	-15			-20	Pass	N
N/A	A-50 / 6	323	8	-4	5	-6	350	-28	-108							Pass	N
N/A	A-50 / 4	324	17	-1	4	-6	350	-28	-108							Pass	N
N/A	A-50 / 2-50	325	15	0	2	-6	350	-28	-108							Pass	N
N/A	A-50 / 0-50	326	0	-1	-2	-6	400	22	85	430	52	200			-20	Pass	N

RSO, Inc.

Bench Tops and Interiors



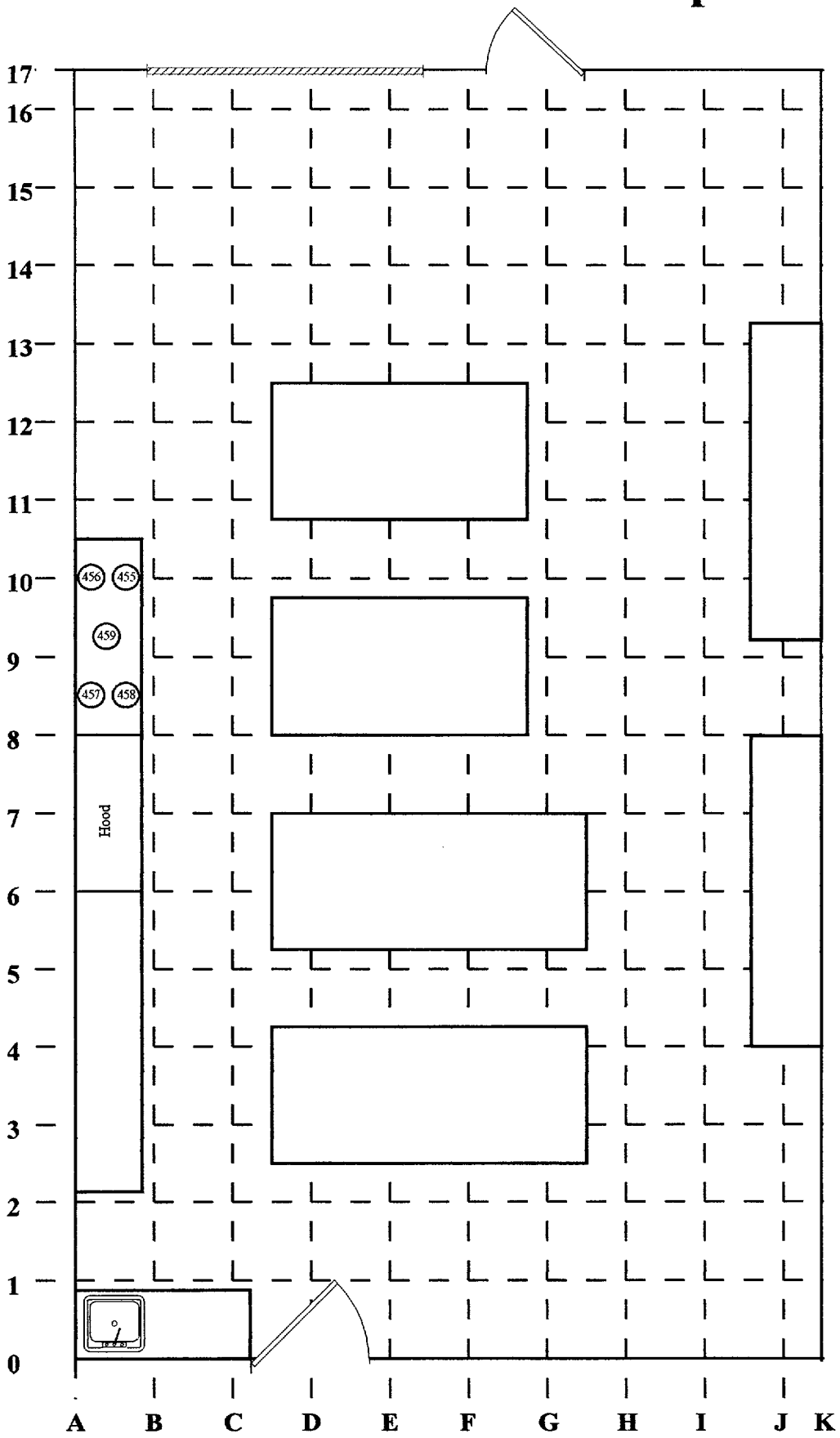
(2) Bench Wipe

Direct Measurement Location

PPD Pharmaco

RSO, Inc.

Post Decon of Bench Top



(2) Bench Wipe

PPD Pharmaco

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Wall Surfaces
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 17-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

#1 Gas Flow 100 cm2 378 cpm — #2 Gas Flow 100 cm2- 378 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 300 (cpm)

Scan MDA - 962 dpm/100 cm² — Direct MDA - 358 dpm/100 cm²

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm² cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm² cpm Gross	Net	#2 dpm	Net Exposure Contact uR/h	1 meter uR/h	Gamma Direct Net cpm	Disp. Pass/Fail	Decon Y/N
N/A	A / 0	327	4	-2	7	-6										Pass	N
	A / 02	328	-14	2	2	-6										Pass	N
	B / 01	329	4	-5	7	-6	300	-78	-300							Pass	N
	C - 02	330	5	2	8	-6										Pass	N
	D / 01	331	15	3	7	3				294	-84	-323				Pass	N
	E / 0	332	-11	8	4	3	350	-28	-108							Pass	N
	E / 02	333	14	-5	-3	3										Pass	N
	F / 01	334	8	-6	4	3										Pass	N
	G / 0	335	2	0	7	3	350	-28	-108							Pass	N
	G / 02	336	2	6	2	3				384	6	23				Pass	N
	H / 01	337	0	5	0	3										Pass	N
	I / 0	338	-7	4	-2	3	325	-53	-204							Pass	N
	I / 02	339	-13	-1	6	3										Pass	N
	J / 01	340	-10	-3	7	3										Pass	N
	K / 0	341	5	-5	0	1	300	-78	-300	364	-14	-54				Pass	N
	K / 02	342	0	-2	2	1										Pass	N
	L / 1	343	2	-1	11	1										Pass	N
	K / 2	344	-15	2	6	1	325	-53	-204							Pass	N
	M / 2	345	-2	5	10	1										Pass	N
	L / 3	346	8	-5	6	1				384	6	23				Pass	N
	K / 4	347	17	-3	3	1	325	-53	-204							Pass	N
	M / 4	348	3	-9	4	1										Pass	N
	L / 5	349	-7	5	5	1										Pass	N
	K / 6	350	-2	1	3	1	300	-78	-300							Pass	N
	M / 6	351	9	3	9	1				322	-56	-215				Pass	N
	L / 7	352	-14	5	-2	1										Pass	N
	K / 8	353	-2	-5	8	1	300	-78	-300							Pass	N
	M / 8	354	-2	1	10	1										Pass	N
	L / 9	355	19	8	4	1										Pass	N
	K / 10	356	11	-7	5	1	300	-78	-300	314	-64	-246				Pass	N
	M / 10	357	1	-4	7	1										Pass	N
	L / 11	358	-16	-3	1	1										Pass	N
	K / 12	359	-16	3	13	1	300	-78	-300							Pass	N
	M / 12	360	-15	3	3	1										Pass	N
	L / 13	361	-4	2	5	-2				282	-96	-369				Pass	N
	K / 14	362	-4	-6	4	-2	300	-78	-300							Pass	N
	M / 14	363	-11	-3	3	-2										Pass	N
	L / 15	364	-9	1	3	-2										Pass	N
	K / 16	365	-1	0	-2	-2	300	-78	-300							Pass	N
	M / 16	366	11	-1	7	-2				350	-28	-108				Pass	N
	L / 17	367	-1	5	9	-2										Pass	N
	J / 18	368	23	-1	-1	-2	475	97	373							Pass	N
	I / 17	369	18	-8	5	-2										Pass	N
	I / 19	370	-8	8	-1	-2										Pass	N
	H / 18	371	-2	-3	6	-4	475	97	373	530	152	585				Pass	N
	G / 17	372	8	-3	-4	-4										Pass	N
	G / 19	373	-14	8	0	-4										Pass	N
	F / 18	374	1	0	4	-4	450	72	277							Pass	N
	E / 17	375	20	1	-3	-4										Pass	N
	E / 19	376	11	-1	2	-4				326	-52	-200				Pass	N
	D / 18	377	-10	7	3	-4	300	-78	-300							Pass	N
	C / 17	378	-9	2	3	-4										Pass	N
	C / 19	379	12	1	6	-4										Pass	N
	B / 18	380	-7	4	-4	-4	400	22	85							Pass	N
	A / 17	381	-10	5	-1	-2				552	174	669				Pass	N
	A / 19	382	-5	4	-1	-2										Pass	N
	A / 16	383	19	-4	9	-2	350	-28	-108							Pass	N
	AB / 16	384	0	-6	13	-2										Pass	N
	AA / 15	385	4	-1	-2	-2										Pass	N
	A / 14	386	0	-5	8	-2	300	-78	-300	358	-20	-77				Pass	N
	AB / 14	387	-8	13	11	-2										Pass	N
	AA / 13	388	2	0	6	-2										Pass	N
	A / 12	389	-6	-4	4	-2	300	-78	-300							Pass	N
	AB / 12	390	10	6	6	-2										Pass	N

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Wall Surfaces
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 17-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

#1 Gas Flow 100 cm2 378 cpm
#2 Gas Flow 100 cm2- 378 cpm
Exposure rate - 11.0 (uR/h)
Gamma NaI 300 (cpm)
Scan MDA - 962 dpm/100 cm²
Direct MDA - 358 dpm/100 cm²

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H	^{14}C	^{32}P	^{125}I	Beta Scan /100 cm² cpm Gross	Net	#1	Beta Direct Meas./100 cm² cpm Gross	Net	#2	Net Exposure Contact	1 meter	Gamma Direct	Disp. Pass/Fail	Decon Y/N
			dpm	dpm	dpm	dpm			dpm			dpm	uR/h	uR/h	Net cpm		
N/A	AA / 11	391	1	7	9	-6				326	-52	-200				Pass	N
	AB / 10	392	-13	11	10	-6	300	-78	-300							Pass	N
	AA / 9	393	-5	-2	3	-6										Pass	N
	AB / 6	394	5	-1	2	-6										Pass	N
	AA / 5	395	9	-6	7	-6	300	-78	-300							Pass	N
	AB / 4	396	3	9	3	-6				368	-10	-38				Pass	N
	AA / 3	397	13	0	7	-6										Pass	N
	A / 2	398	19	-4	4	-6	325	-53	-204							Pass	N
	AB / 2	399	14	5	6	-6										Pass	N
	AA / 1	400	-17	3	-1	-6	300	-78	-300	322	-56	-215				Pass	N

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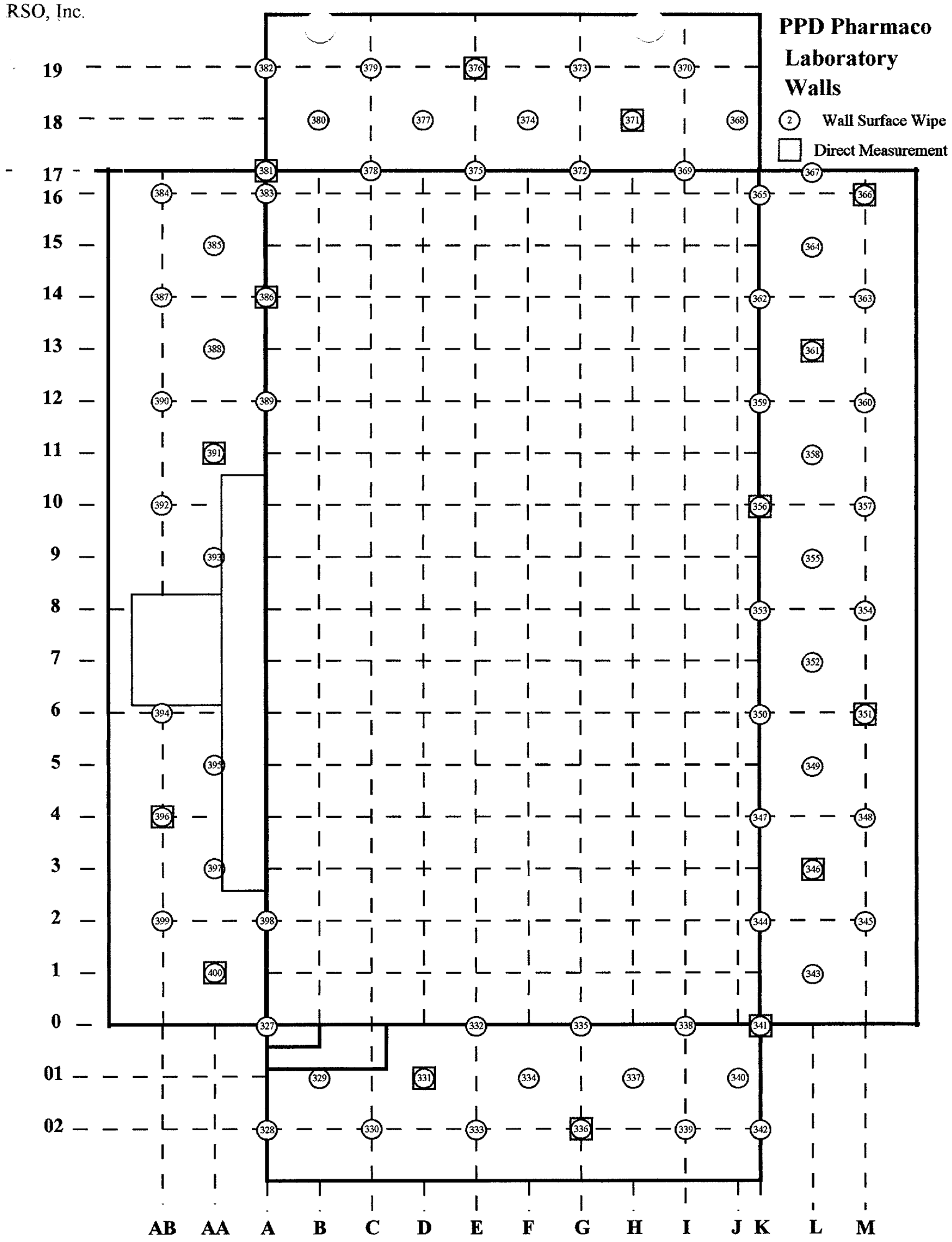
PPD Pharmaco
Laboratory
Walls
Wall Surface Wipe
Direct Measurement
19
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RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Barrier Wall / Roof Hood Exhaust
Location - Analytical Laboratory

Instruments - See Instrument List
Date - 17-Sep-97
Surveyor - J. Dean, R. Dunkelburger

Background Information

#1 Gas Flow 100 cm2 378 cpm #2 Gas Flow 100 cm2- 378 cpm Exposure rate - 11.0 (uR/h) Gamma NaI 300 (cpm)

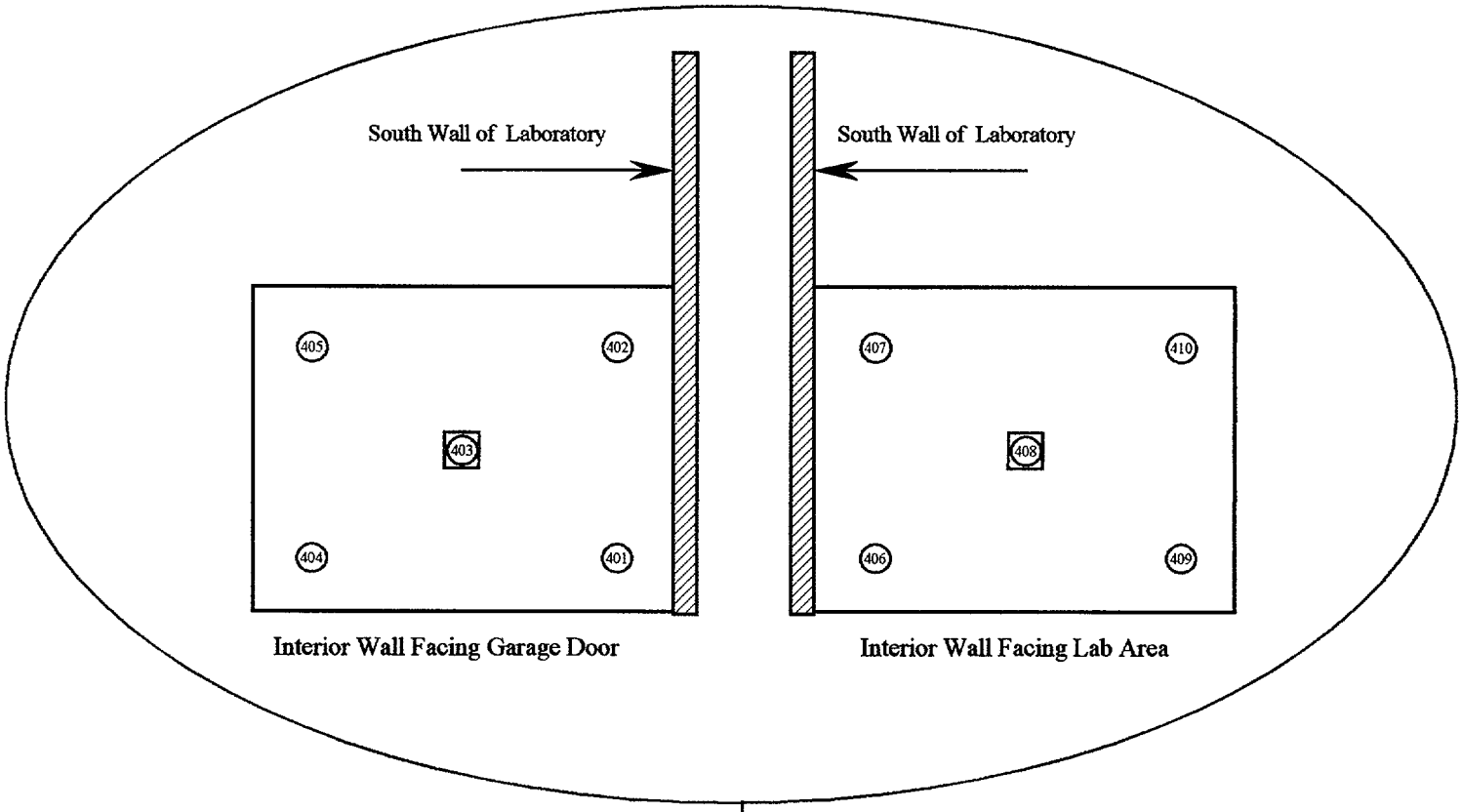
Scan MDA - 962 dpm/100 cm² Direct MDA - 358 dpm/100 cm²

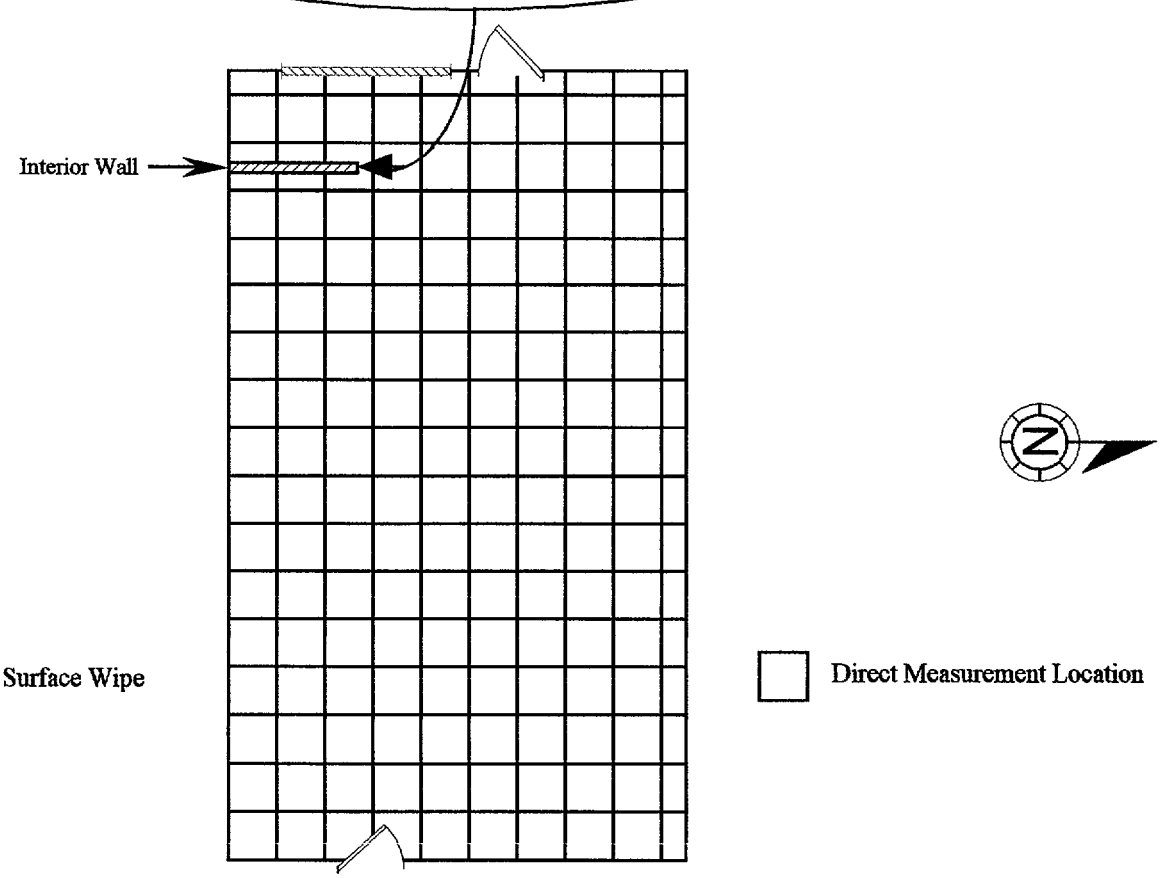
Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm² cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm² cpm Gross	Net	#2 dpm	Net Exposure Contact uR/h	1 meter uR/h	Gamma Direct Net cpm	Disp. Pass/Fail	Decon Y/N
	Barrier Wall																
	East See Map	401	1	-1	1	-10										Pass	N
	East See Map	402	-5	3	0	-10										Pass	N
	East See Map	403	4	-7	1	-10	300	-78	-300	322	-56	-215				Pass	N
	East See Map	404	3	7	1	-10										Pass	N
	East See Map	405	-8	-5	5	-10										Pass	N
	West See Map	406	-7	-1	9	-10										Pass	N
	West See Map	407	23	3	3	-10										Pass	N
	West See Map	408	-9	7	2	-10	325	-53	-204	318	-60	-231				Pass	N
	West See Map	409	-7	2	3	-10										Pass	N
	West See Map	410	-6	3	-1	-10										Pass	N
	Hood Exhaust																
	Exhaust Duct In	411	-19	7	2	-2										Pass	N
	Exhaust Duct Out	412	8	2	0	-2										Pass	N
	Blower Motor	413	26	-5	6	-2										Pass	N
	Roof Surface																
	East 1m	414	-8	5	6	-2										Pass	N
	West 1m	415	2	-3	4	-2										Pass	N
	North 2m	416	-2	-1	-1	-2										Pass	N
	East 2m	417	5	4	4	-2										Pass	N
	South 2m	418	17	7	1	-2										Pass	N
	West 2m	419	11	-2	3	-2										Pass	N
	On A/C unit	420	-12	3	1	-2										Pass	N
	Air Recirculation Units																
	North Unit	441	56	2	11	-6	300	-78	-300	340	-38	-146				Pass	N
	North Filter	442	5	-1	8	-6	8000	7,622	29,315	8,418	8,040	30,923				Fail	Y
	South Filter	443	-16	3	15	-6	400	22	85	484	106	408				Pass	N
	South Unit	444	17	-6	6	-6	300	-78	-300	320	-58	-223				Pass	N

North Filter Elevated activity caused by radon.

RSO, Inc.

Interior Wall Surface





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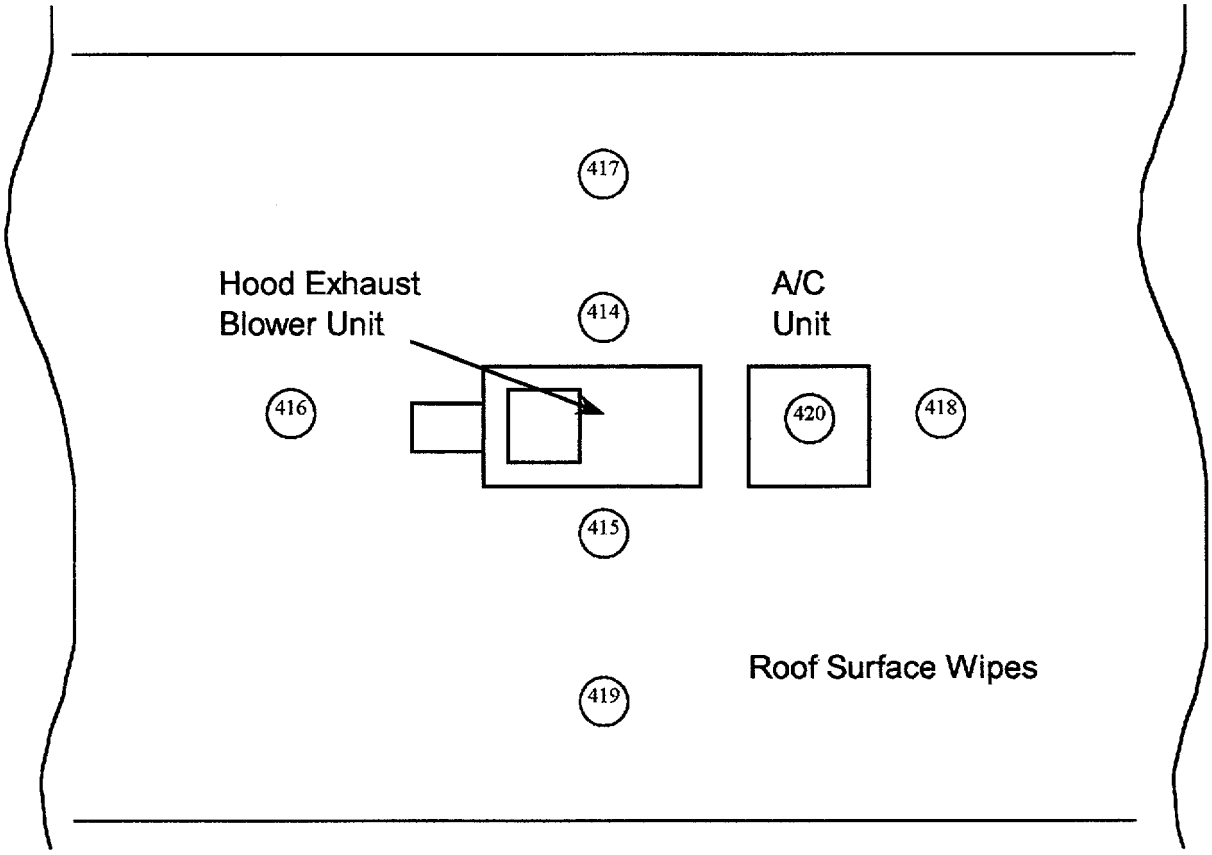
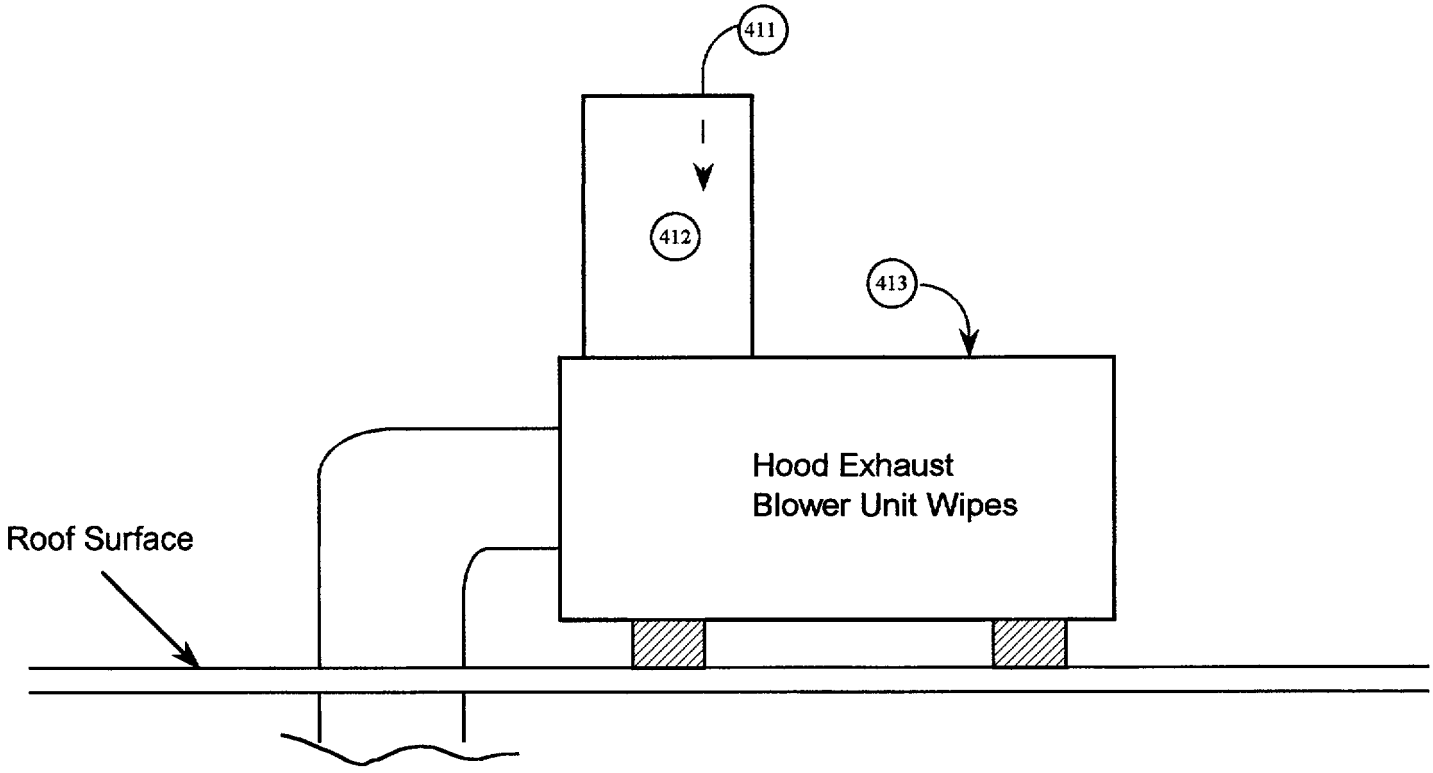
Roof, Hood Exhaust Effluent Duct





57 Surface Wipe

PPD Pharmaco

RSO, Inc. (SF -20)SRD

FINAL RADIOLOGICAL RESULTS

Site - PPD Pharmaco
Unaffected Area
Location - Laboratory Office

Instruments - See Instrument List
Date - 17-Sep-97
Surveyor - J. Dean, R. Dunkelburger

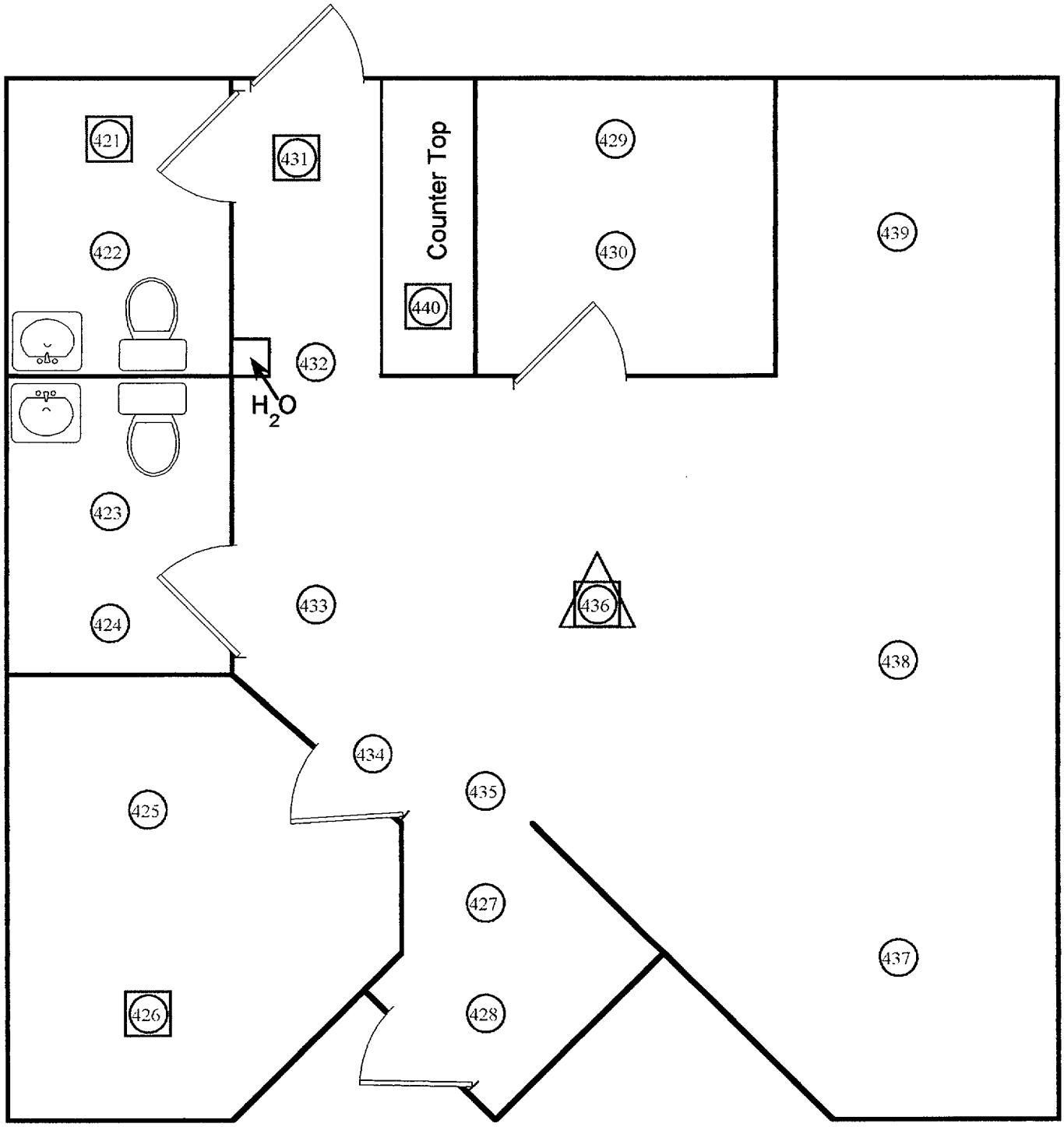
Background Information

#1 Gas Flow 425 cm2 910 cpm — #2 Gas Flow 100 cm2- 378 cpm — Exposure rate - 11.0 (uR/h) — Gamma NaI 300 (cpm)

Scan MDA - 650 dpm/100 cm² — Direct MDA - 358 dpm/100 cm²

Grid No.	Coordinates	Wipe No.	Wipe Results/dpm/100 cm² ^{3}H dpm	^{14}C dpm	^{32}P dpm	^{125}I dpm	Beta Scan /100 cm² cpm Gross	Net	#1 dpm	Beta Direct Meas./100 cm² cpm Gross	Net	#2 dpm	Net Exposure Contact uR/h		1 meter uR/h		Gamma Direct Net cpm	Disp. Pass/Fail	Decon Y/N
N/A	Mens Room	421	15	-3	3	1	900	522	-17	392	14	54						Pass	N
N/A	Mens Room	422	9	-3	8	1												Pass	N
N/A	Womens Room	423	12	1	2	1	1100	722	319									Pass	N
N/A	Womens Room	424	6	6	-4	1												Pass	N
N/A	Office 1	425	12	5	0	1	1300	922	655									Pass	N
N/A	Office 1	426	3	-4	-4	1				476	98	377						Pass	N
N/A	Entrance	427	6	-5	1	1	1400	1,022	824									Pass	N
N/A	Entrance	428	-3	-1	3	1												Pass	N
N/A	Office 2	429	-5	4	5	1	1300	922	655									Pass	N
N/A	Office 2	430	2	-6	5	1												Pass	N
N/A	Open Area	431	-14	1	7	3	1200	822	487	400	22	85						Pass	N
N/A	Open Area	432	-5	-1	2	3												Pass	N
N/A	Open Area	433	4	-1	6	3												Pass	N
N/A	Open Area	434	-10	-3	2	3												Pass	N
N/A	Open Area	435	15	3	6	3												Pass	N
N/A	Open Area	436	9	0	-8	3				440	62	238	13.0	2.0	12.5	1.5		Pass	N
N/A	Open Area	437	12	3	5	3												Pass	N
N/A	Open Area	438	1	8	-5	3												Pass	N
N/A	Open Area	439	10	-5	8	3												Pass	N
N/A	Counter Top	440	-5	3	-1	3				334	-44	-169						Pass	N

Unaffected Office Area



Exposure Rate Measurement

Direct Exposure Rate

57 Non-Floor Wipe

57 Floor Surface Wipe

N

PPD Pharmaco

RSO, INC. • Laurel, MD

Project:

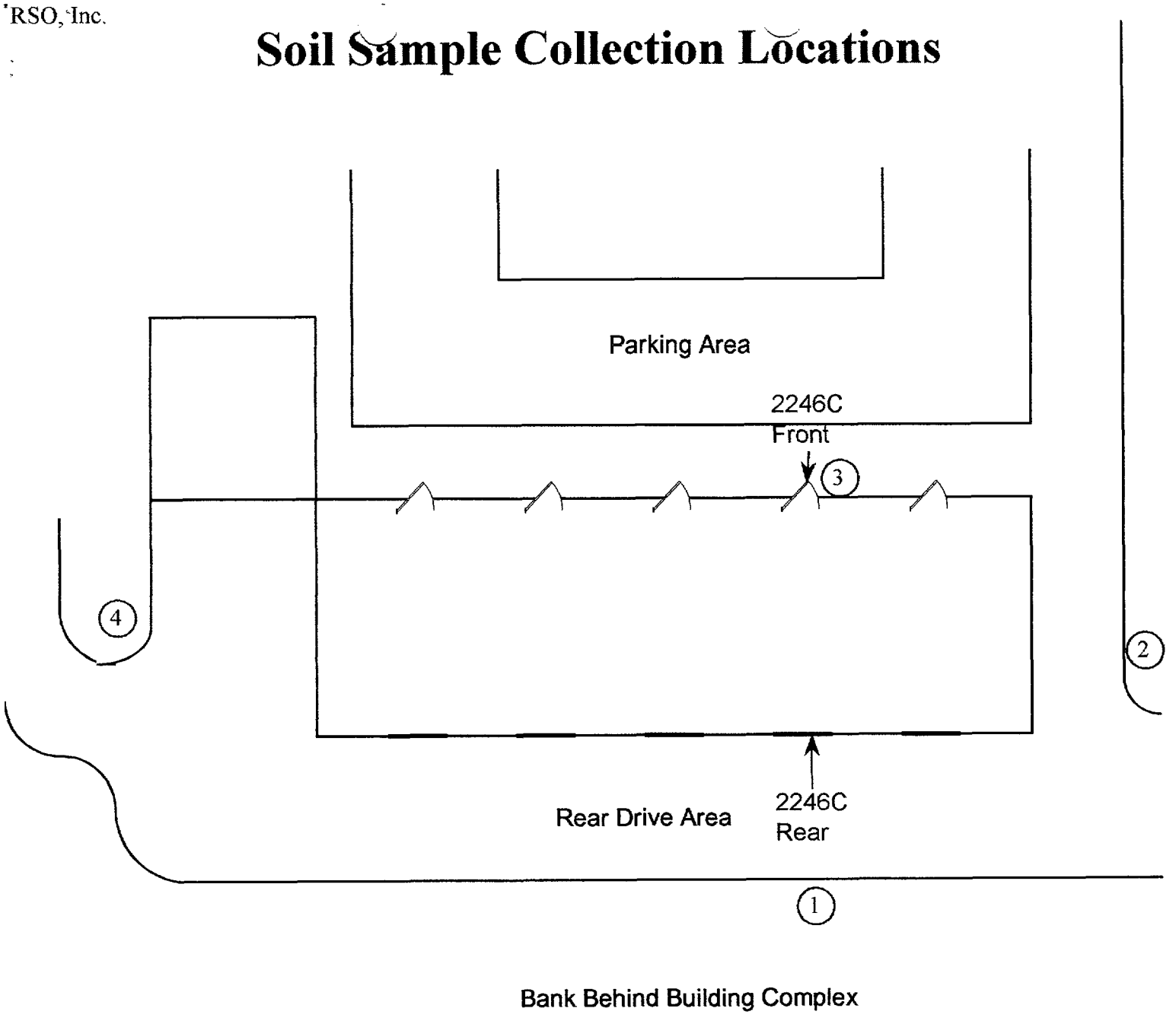
Sample Collection and Chain of Custody

Sampler(s): (Print and Sign)
James Dean
James Dean

Sample Number	Collection Date	Collection Time	Matrix	Remarks or Sample Location	Analysis Requested
P - 0997 - 01	9/17		Soil	West of Lab	γ
" - " - 02	9/17		Soil	North of Lab	"
" - " - 03	9/17		Soil	South of Lab	"
" - " - 04	9/17		Soil	East of Lab	"
" - " - 05	9/17		Filter	A/C unit inlet filter	βγ
- -					
- -					
- -					
- -					
- -					
- -					
- -					
- -					
- -					
- -					

Relinquished By:	Date:	Time:	Relinquished By:	Date:	Time:	Remarks:
James Dean	9-19-97	11:00	[illegible]	9/19/97	11:05	Filter may contain Radon.
Relinquished By:	Date:	Time:	Received For Lab By:	Date:	Time:	
Relinquished By:	Date:	Time:	Shipped Via:	Shipping Ticket No.:		

Soil Sample Collection Locations



57 Soil Sample Locations

Appendix B

Table 1
Instrument Information With Facility Background

Type of Measurement	ID	Instrumentation Detector	Instrumentation Meter	Site Bkg.	Efficiency	Collected From
Surface Scan Beta & Direct Meas. Beta	1	100 cm2 Gas Proportional Model 43-68	'Digital Scaler/ Countrate Face Ludlum Model 2200	398	26%	Non Rad Use Area Mens Room
Serial Number		79572	42622			
Surface Scan Beta & Direct Meas. Beta	2	425 cm2 Gas Proportional Model 239-1F	Digital Scaler/ Countrate Face Ludlum Model 2221	854	14%	Non Rad Use Area Mens Room
Serial Number		94479	108857			
Surface Activity Gamma	3	1" x 1mm" NaI Model 44-3	Ludlum Model 3	280 cpm	21%	Non Rad Use Area Mens Room
Serial Number		64975	49827			
Exposure Rates	4	Internal 1" x 1" NaI	Countrate meter Ludlum Model 19	11.0 uR/h	N/A	Non Rad Use Area Mens Room
Serial Number		N/A	32881			

RSO, Inc.

Table 2

PPD Pharmaco Analytical Laboratory 2246C Dabney Circle

MDA Type	Meter	Bkg.	MDA Description	MDA ^{99}Tc *	Efficiency	MDA ^{14}C	Efficiency
16-Sep-97							
Scanning Rate Meter	Ludlum	854 cpm	Surface Scan MDA (Movement Scan)	630 dpm	14%	1,260 dpm	7%
	Model 2221 S/N 108857 Probe-Ludlum Model-4337 (425 cm2 proportional detecter) S/N 94479						
Integrated Digital	Ludlum	854 cpm	Direct Measurement (1 minute Integrated count time)	233 dpm	14%	466 dpm	7%
	Model 2221 S/N 108857 Probe-Ludlum Model-4337 (425 cm2 proportional detecter) S/N 94479						
Scanning Rate Meter	Ludlum	398 cpm	Surface Scan MDA (Movement Scan)	987 dpm	26%	1,711 dpm	15%
	Model 2200 S/N 42622 Probe-Ludlum Model 43-68 (100cm2 proportional detecter) S/N 79572						
Integrated Digital	Ludlum	398 cpm	Direct Measurement (1 minute Integrated count time)	367 dpm	26%	637 dpm	15%
	Model 2200 S/N 42622 Probe-Ludlum Model 43-68 (100cm2 proportional detecter) S/N 79572						
17-Sep-97							
Scanning Rate Meter	Ludlum	910 cpm	Surface Scan MDA (Movement Scan)	650 dpm	14%	1,300 dpm	7%
	Model 2221 S/N 108857 Probe-Ludlum Model-4337 (425 cm2 proportional detecter) S/N 94479						
Integrated Digital	Ludlum	910 cpm	Direct Measurement (1 minute Integrated count time)	240 dpm	14%	481 dpm	7%
	Model 2221 S/N 108857 Probe-Ludlum Model-4337 (425 cm2 proportional detecter) S/N 94479						
Scanning Rate Meter	Ludlum	378 cpm	Surface Scan MDA (Movement Scan)	962 dpm	26%	1,668 dpm	15%
	Model 2200 S/N 42622 Probe-Ludlum Model 43-68 (100cm2 proportional detecter) S/N 79572						
Integrated Digital	Ludlum	378 cpm	Direct Measurement (1 minute Integrated count time)	358 dpm	26%	621 dpm	15%
	Model 2200 S/N 42622 Probe-Ludlum Model 43-68 (100cm2 proportional detecter) S/N 79572						

Integrated - MDA - 2.71+4.65 * Square Root (Br * t) / (t * E * (A / 100))

Movement Scan (Rate Meter) - MDA - 4.65 * Square Root (Br / 2tc) / (E * (A / 100))

A = Probe Area
E = Efficiency
Br = Background count rate
t = Count Time
tc = Time Constant

PPD PHARMACO

Analytical Laboratory
2244 Dabney Road
Richmond, Virginia 23230
Tel: 804.359.1900 • Fax: 804.353.1860
http://www.ppdpharmaco.com

U.S. NRC
Region II
Materials Licensing/Inspection Branch
Atlanta Federal Center
61 Forsyth Street S.W.
Atlanta, GA 30303-3415

August 29, 1997

Re: License No. 45-25314-01 Docket No. 030-33656

Nuclear Materials Licensing Section:

Please amend the above referenced license regarding the following changes and additions:

1. Change the name of the licensee from Pharmaco-LSR to PPD Pharmaco, Inc.

   Pharmaco-LSR (Pharmaco-LSR, Inc.) has merged with PPD (Pharmaceutical Development Company) resulting in a single new corporate entity, PPD Pharmaco, Inc. There will be no change in personnel, or changes in the licensed operations.

2. Please change the organization for the radiation safety program deleting the need for a radiation safety committee to an organization that has the following structure:

   - Radiation Safety Officer
   - Principal Investigators (individuals named in the license that will work with or supervise the use of radioactive materials)
   - Authorized Users (individuals that work with radioactive materials under supervision)

3. Please add the following individuals to be named on the license as individuals that will supervise the use of radioactive material:

   - Jim Gorman (Group Leader)
   - Chris Wilson (Project Leader)
   - Khristen Hallwachs (Project Leader)

   Resumes of pertinent training and experience are enclosed.

4. Please change the description of the training provided to users of radioactive material to show that the formal training is a 4-hour training class that is provided annually to the users of radioactive materials.

Also, please be aware that PPD Pharmaco will be initiating work with licensed radioactive material in the laboratory located at 2240 Dabney Road (2240) on or about September 11, 1997. Prior to this time, no work with radioactive material will have been performed at this location. Updated floor plans of this

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facility are enclosed. PPD Pharmaco will discontinue work with radioactive material at 2246C Dabney Circle (2246C) at about the same time. We will move all radioactive material (and equipment used to work with radioactive material) from 2246C to 2240 and perform a Final Survey to support a request that this location be removed from PPD Pharmaco's license as an authorized place of use.

The proposed Final Survey Plan is enclosed. PPD Pharmaco will submit the Final Survey Report to the NRC. PPD Pharmaco will not vacate or release for unrestricted use the space at 2246C until authorized to do so by the NRC.

A check in the amount of $640 is included to cover the license ammendment fee.

Please call me at 804-254-8421 if you have any questions or need any additional information.

Sincerely,

Richard L Tacey

Richard L. Tacey
Radiation Safety Officer

Enclosures:
- Resumes for the Additional Individuals to be named on the license
- Updated Floor Plan for 2240 Dabney Road
- Final Survey Plan for 2246C
- Check for license ammendment fee

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Christopher J. Wilson

Education: University of Liverpool, UK
B.S., Genetics, 1986

Training Basic Radiation Safety Training from Pharmaco-LSR 8 hours
Basic Radiation Safety Training from Hazelton Labs 4 hours

Experience Over 10 years of experience in clinical laboratory setting performing radio-immunoassays and other analytical tests using various analytical methodologies.

Experience working with Radioactive Materials

Radionuclide	Amount	Form	Number of Years	Place of Use
3H	5 mCi	Liquid	2	Pharmaco
125I	1 mCi	Liquid	2	Pharmaco
3H	5 mCi	Liquid	3	Hazelton
125I	1 mCi	Liquid	3	Hazelton
3H	5 mCi	Liquid	2	U. of Portsmouth, UK

Kristen D. Hallwachs

Education: The College of William and Mary, Williamsburg, VA
B.S., Biology and Anthropology

Training Basic Radiation Safety Training from Pharmaco-LSR 8 hours
Basic Radiation Safety Training from Hazelton Labs 4 hours

Experience Over 8 years of experience in clinical laboratory setting performing radio-immunoassays and other analytical tests using various analytical methodologies.

Experience working with Radioactive Materials

Radionuclide	Amount	Form	Number of Years	Place of Use
3H	5 mCi	Liquid	2	Pharmaco
125I	1 mCi	Liquid	2	Pharmaco
3H	5 mCi	Liquid	2	Hazelton
125I	1 mCi	Liquid	2	Hazelton

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Summaries of Training and Experience

James L. Gorman

Education: Cornell University, Ithaca, NY
B.S., Biology and B.A., English

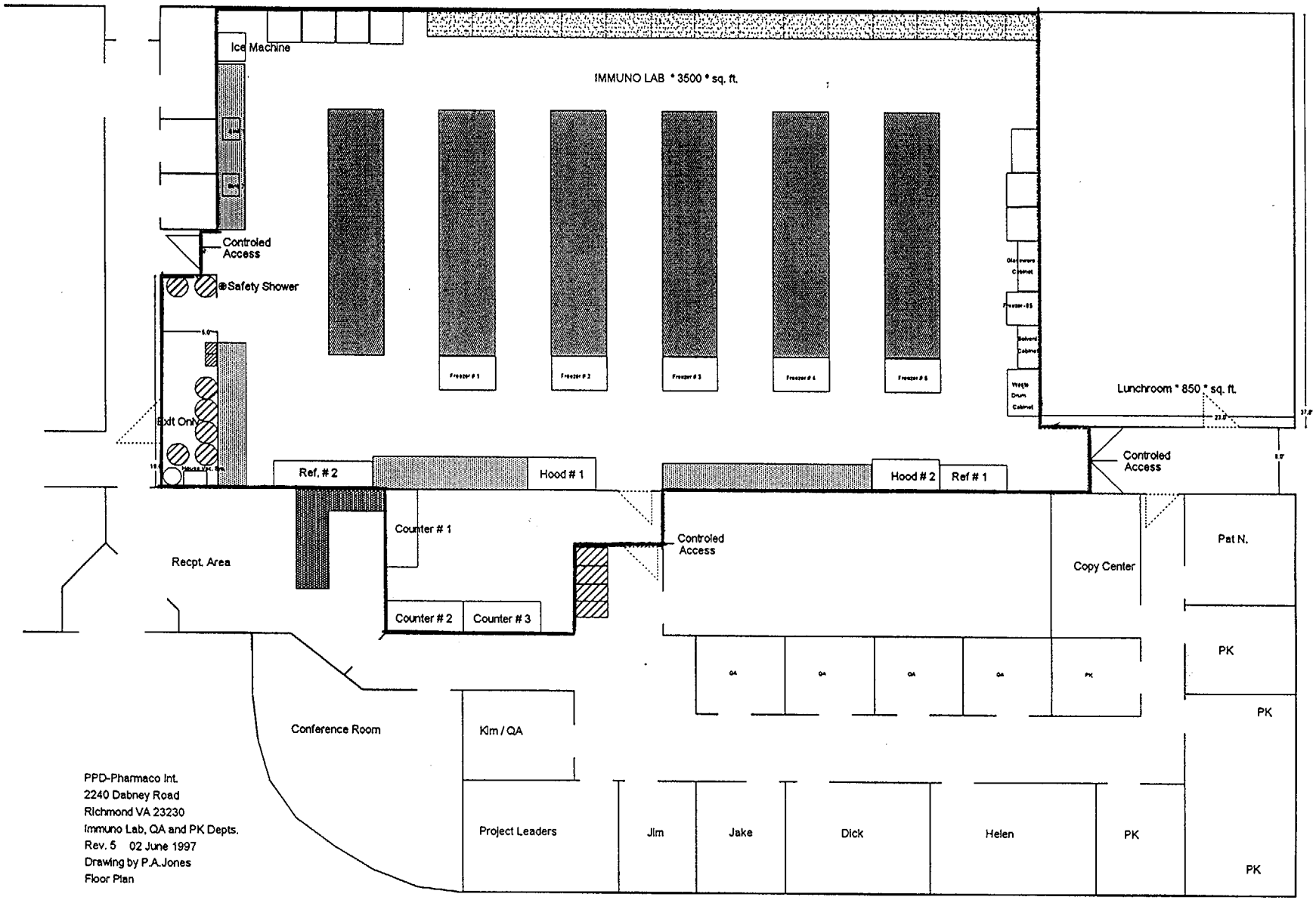
Illinois Institute of Technology, Chicago, IL
Graduate courses in Toxicology/Pharmacology

Training Basic Radiation Safety Training from Pharmaco-LSR 4 hours
Basic Radiation Safety Training from the U of Illinois Medical Center 4 hours

Experience Over 10 years of experience in clinical laboratory setting performing research and development using various analytical methodologies. Also performed laboratory management, quality control and other functions the daily operation and control of analytical laboratories.

Experience working with Radioactive Materials

Radionuclide	Amount	Form	Number of Years	Place of Use
3H	5 mCi	Liquid	4	Pharmaco
125I	1 mCi	Liquid	4	Pharmaco
125I	1 mCi	Liquid	1	U. of Illinois Medical Center, Dept. of Pharmacology



PPD-Pharmaco Int.
2240 Dabney Road
Richmond VA 23230
Immuno Lab, QA and PK Depts.
Rev. 5 02 June 1997
Drawing by P.A.Jones
Floor Plan

LICENSED AREA OUTLINED IN RED.

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PPD Pharmaco (License No. 45-25314-01)

Final Survey Plan for 2246C Dabney Circle

Preparation and Move
Complete Preparation of the 2240 Facility
Move and restart gamma and LSC counters
Move all other equipment, lab furniture and radioactive material (facilities are on the same parking lot and will not require transportation)

Perform initial survey
Minimum of 20 wipe tests for removable contamination (gamma and beta analysis)
Gamma scan using hand-held survey meter with low-energy gamma detector

Perform Final Survey
Review results of Initial Survey and Previous operational Contamination Surveys
Establish survey grid in RIA Chemistry Lab based on a 1 m grid pattern
Collect 1 wipe test per grid point and grid cell
Record survey meter response (count-rate survey meter with low-energy gamma detector) at each wipe test location
Collect addition wipes from adjacent areas including the hallway outside of the RIA Chemistry Laboratory Room, outdoor areas including 10 survey points each at the loading dock and office areas
Analyze each wipe test using gross gamma counting and liquid scintillation counting (detects both beta and gamma) using counting times long enough to achieve a minimum detectable activity of 100 dpm for 3H and 125I (2 minutes or longer will be used)

Evaluate results
Results that show contamination above 100 dpm per 100 cm2 will be resurveyed to determine the extent of the contamination and decontamination performed until it can be demonstrated that the contamination has been removed.

Prepare Final Survey Report
The Final Survey Report will include the following:
Inventory list of the materials moved to 2240
Diagrams of the Survey Areas
Description of the Survey Locations (Grid coordinates or other location description)
Results using Survey Meter and Wipe Test Results
Summary of the Results

Final Actions

Maintain control on 2246C until authorized by NRC to release for unrestricted use
Submit Final Survey Report to NRC with Request to Remove 2246C as an authorized place of use
Facilitate NRC Verification Survey (if requested)

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