

A HealthEast Subsidiary

MS 16
KO

License No. 37-16238-01
Docket No. 030-10642
Control No. 03697

August 27, 1985

Dr. John E. Glenn
Materials Licensing Branch
United States Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Dr. Glenn:

This information is supplied in response to your letter dated August 5, 1985.

1. A copy of the checklist found on page 10.8-25 of Regulatory Guide 10.8 is attached for your review.
2. Item 10A indicates that constancy will be performed at installation and daily thereafter. Item 10F (attached) has been updated to reflect this.
3. The procedure for receiving radioactive materials has been updated, (updated items 13 & 14 enclosed) so that storeroom personnel do not receive or handle radioactive material. The carriers are now instructed to deliver the radioactive packages directly to the Nuclear Medicine Department during the day. Security personnel will be given instructions on radiation hazards and precautions that should be used. Instructions will be given initially and annually thereafter.
4. This procedure has been updated. Radioactive packages are now delivered directly to the Nuclear Medicine Department. One of the technologists in Nuclear Medicine will sign for the licensed material and take immediate control of the material.
5. Item 14, pages 12 and 12(B) (attached) are updated to confirm that NRC Region I Office will be notified in accordance with regulations, if removable contamination exceeds 0.01 uCi per 100 cm², or if external radiation exceeds 200 mR per hour at the package surface or 10 mR per hour at 1 meter.

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37-16238-01 PDR

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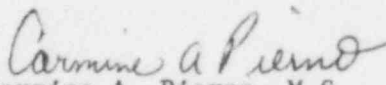
AUG 29 1985

"OFFICIAL RECORD COPY" ML10

6. Attached is an efficiency chart of our counting system and the setup procedure for counting wipe samples. These two items indicate the efficiency of our counting system and the activity represented by 100 counts per minute per 100 cm² for the radionuclides which we routinely use.
7. The decay storage area is surveyed weekly. The attached area survey form indicates all the locations in the Nuclear Medicine Department where the weekly radiation survey is conducted.
8. The precautionary measures and bioassay procedures for the use of therapeutic liquid I-131 is attached.
- 9a. Airflow of all air supply and air exhaust vents in areas where Xe-133 is stored or used is remeasured semiannually to ensure that the release of Xe-133 to restricted and unrestricted areas does not exceed the requirement of 10 CFR Parts 20.103 and 20.106.
- b. A Xenalarm trap monitor is used to continually monitor the effluents from the charcoal trap system. As per manufacturer's instructions, if the alarm of the trap monitor should activate during or after a study, the charcoal cartridge in the trap will be changed immediately after the completion of the study.
- c. All saturated charcoal cartridges from the xenon trays will be, if possible, capped and sealed in a polyethylene bag before storing for decay.

If any additional information is needed or if you need any clarification about the above information, please give me a call at (215) 776-8385.

Sincerely,


Carmine A. Pierno, M.S.
Radiologic Physicist

CAPled

Attachments

X 1. Survey instruments will be calibrated at least annually and following repair.

The two points will be approximately 1/3 and 2/3 of full scale. A survey instrument may be considered properly calibrated when the instrument readings are within ± 10 percent of the calculated or known values for each point checked. Readings within ± 20 percent are considered acceptable if a calibration chart, graph, or response factor is prepared, attached to the instrument, and used to interpret readings to within ± 10 percent. Also, when higher scales are not checked or calibrated, an appropriate precautionary note will be posted on the instrument.

 X a. By the manufacturer

(1) Calibration source

Manufacturer's name _____
Model no. _____
Activity in millicuries _____
or _____
Exposure rate at a specified distance _____
Accuracy _____
Traceability to primary standard _____

(2) The calibration procedures in Section I of Appendix D will be used
or

(3) The step-by-step procedures, including radiation safety procedures, are attached.

 X c. By a consultant or outside firm

(1) Name The Allentown Hospital

(2) Location 17th & Chew Streets, Allentown, PA 18102

(3) Procedures and sources

X have been approved by NRC and are on file in License No. 37-01548-01

_____ have been approved by an Agreement State: a copy of the Agreement State license, the procedures, and a description of the sources are attached, and the consultant's report will contain the information on _____

_____ the attached "Certificate of Instrument Calibration."

X the consultant's reporting form as attached.

_____ are described in the attachment, and the consultant's report will contain the information on

_____ the attached "Certificate of Instrument Calibration."

the consultant's reporting form as attached.

* Survey instruments will be calibrated by manufacturers, if The Allentown Hospital's adjustments cannot bring the measured reading within $\pm 20\%$ of the true reading.

CERTIFICATE OF INSTRUMENT CALIBRATION

For: _____

Instrument:

Manufacturer _____

Type _____

Model No. _____

Serial No. _____

Calibration Data:

Scale	Exposure rate (mR/hr)	Instrument reading (mR/hr)	Exposure rate (mR/hr)	Instrument reading (mR/hr)	Exposure rate (mR/hr)	Instrument reading (mR/hr)

Comments: _____

	Activity or	
<u>Nuclide</u>	<u>Exposure Rate at Specified Distance</u>	<u>Calibration Accuracy</u>

Calibration Source: _____

Calibrated by _____ Date _____

6. Calibration checks that do not agree within $\pm 5\%$ indicate that the instrument should be repaired or adjusted. If this is not possible, a calibration factor should be calculated for use during routine assays of radionuclides.
7. At the same time the instrument is being initially calibrated with NBS-traceable standards, place a long-lived source in the calibrator, set the instrument, in turn, at the various radionuclide settings used (^{137}Cs , ^{131}I , $^{99\text{m}}\text{Tc}$, ^{125}I , etc.), and record the readings. These values may later be used to check instrument calibration at each setting (after correcting for decay of the long-lived source) without requiring more NBS-traceable standards. Keep a log of these initial and subsequent readings.

F. TEST FOR INSTRUMENT CONSTANCY

1. Daily, before using the instrument, measure and record the activity of at least one reference source. This check should be repeated during the day whenever sample readings are not within $\pm 10\%$ of the anticipated assay. Variations greater than $\pm 5\%$ in this test will indicate the need for instrument repair, adjustment or recalibration.
 - a.) In the Nuclear Medicine and Nuclear Cardiology laboratories, we measure and record (in the Dose Calibrator Log Book) the activity of the following reference sources:
 - i.) ^{57}Co
 - ii.) ^{133}Ba
 - iii.) ^{137}Cs
2. Daily, measure and record the apparent activity of a long-lived standard radionuclide at all the commonly used radionuclide settings. Choose a source with activity in the 100 uCi range.
 - a.) In the main laboratory, measure and record (in the Dose Calibrator Log Book) the apparent activity of the ^{133}Ba reference standard at the following settings:
 - i.) $^{99\text{m}}\text{Tc}$
 - ii.) ^{67}Ga
 - iii.) ^{131}I
 - iv.) ^{133}Xe
 - v.) ^{201}Tl
 - vi.) ^{111}In

ITEM 10
8/13/85

ITEMS 13 AND 14

IV. PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIALS

A. Ordering of Radioactive Materials

1. The Chief and/or Senior Technologist will place all orders for radioactive material and will ensure that the requested materials and quantities are authorized by the license and that possession limits are not exceeded (See NRC and PA State licenses).
2. For therapeutic material, a written request will be obtained from the Physician who will perform the procedure. This request will indicate Radionuclide, compound and activity. This request will be referenced when placing the order, receiving and before administration of the radionuclide.

B. Receiving Radioactive Material

1. During Normal Working Hours
 - a.) Carriers will be instructed to deliver radioactive packages to the Nuclear Medicine department.
 - b.) The Nuclear Medicine department personnel will sign for the delivery of the package(s).
2. During Off-duty Hours
 - a.) Security personnel will accept delivery of the radioactive package(s) in accordance with the following procedures:
 - i.) Any package(s) containing radioactive materials that arrive between 5:00 p.m. and 7:00 a.m. or on weekends shall be delivered directly to the Nuclear Medicine department by the carrier accompanied by security.
 - ii.) If the package(s) is wet and/or damaged, immediately contact the following personnel at the telephone numbers listed below.
 - iii.) Ask the carrier to remain at the hospital until it can be determined that neither he nor the delivery vehicle is contaminated.
 - iv.) If the package(s) are not wet and/or damaged, then deliver the package(s) to the Nuclear Medicine department.
 - v.) Unlock the door, place the package(s) on the counter-top in the Secretary/Reception area. When leaving relock the laboratory.

The first person to contact is the:

RADIATION SAFETY OFFICER: Mr. Carmine Pierno
Home Phone Number -- 261-1503

The second person to contact is the:

CHIEF TECHNOLOGIST: Mr. John Kohler
Home Phone Number -- 821-8582

or the:

SENIOR TECHNOLOGIST: Mr. Bernard Valasek
Home Phone Number -- 797-0594

ITEMS 13 and 14
8/27/85

LEHIGH VALLEY HOSPITAL CENTER

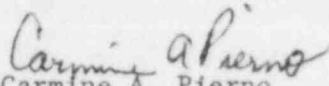
M E M O R A N D U M

DATE: August 27, 1985

TO: William Dieruff

RE: Receipt of Packages Containing Radioactive Material

Arrangements have been made with the radiopharmaceutical companies to directly deliver all packages containing radioactive material to the Nuclear Medicine Department. If any packages containing radioactive material are delivered to the storeroom, please instruct the carrier to deliver the package directly to the Nuclear Medicine Department.


Carmine A. Pierno
Radiologic Physicist

CAPled

cc: Donald Morel, M.D.
John Kohler, R.T.

C. Procedures for Safely Opening Packages Containing Radioactive Material
(Record all information on the RADIONUCLIDE SHIPMENT RECEIPT REPORT form -
See Page # 12A)

1. PUT ON DISPOSABLE GLOVES !
2. Visually inspect the package(s) for any sign of damage (i.e.; wetness, crushed, etc.). If damage is noted, stop the procedure and notify the Radiation Safety Officer and the Chief and/or Senior Technologist at the following telephone numbers:

RADIATION SAFETY OFFICER: Mr. Carmine Pierno
Home Phone Number -- 261-1503
Pager Number -- 160

CHIEF TECHNOLOGIST: Mr. John Kohler
Home Phone Number -- 821-8582
Pager Number -- 547

SENIOR TECHNOLOGIST: Mr. Bernard Valasek
Home Phone Number -- 797-0594

3. Measure the exposure rate at 1 meter (approximately 3 feet) from the package surface. If the exposure rate is 10 mR/hr, stop the procedure and notify the Radiation Safety Officer and the Chief and/or Senior Technologist.
4. Measure the exposure rate at the package surface. If the exposure rate is 200 mR/hr, stop the procedure and notify the Radiation Safety Officer and the Chief and/or Senior Technologist.
5. Open the outer package and remove the packing slip. Open inner package to verify the contents (compare the packing slip and the label on the vial), and check integrity of the final source container (inspecting for breakage of seals or vials, loss of liquid or discoloration of packaging material). Check also that the shipment does not exceed our possession limits.
6. Wipe 100 cm² of the external surfaces of the shipping carton and the final source container with a cotton swab moistened with alcohol. Count the swipes in the well counter and record the results. If removable contamination exceeds 0.01 uCi, notify the Radiation Safety Officer and the Chief and/or Senior Technologist.
7. Monitor the packing material and package for contamination before discarding.
 - a.) If contaminated, treat as radioactive waste.
 - b.) If not contaminated, obliterate the radiation labels before discarding to the regular trash.

IN ALL THE ABOVE PROCEDURES, TAKE PRECAUTIONS AGAINST THE SPREAD OF
CONTAMINATION AS NECESSARY !

8. The Radiation Safety Officer or Chief Technologist will notify NRC Region 1 Office if removable contamination exceeds $0.01 \text{ uCi}/100 \text{ cm}^2$ or if external radiation levels exceed $200 \text{ mR}/\text{hour}$ at package surface or $10 \text{ mR}/\text{hour}$ at 1 meter from package.

CANBERRA SYSTEM EFFICIENCY CHART

Amp Gain: Course 900 Fine .516 High Voltage 1000 volts

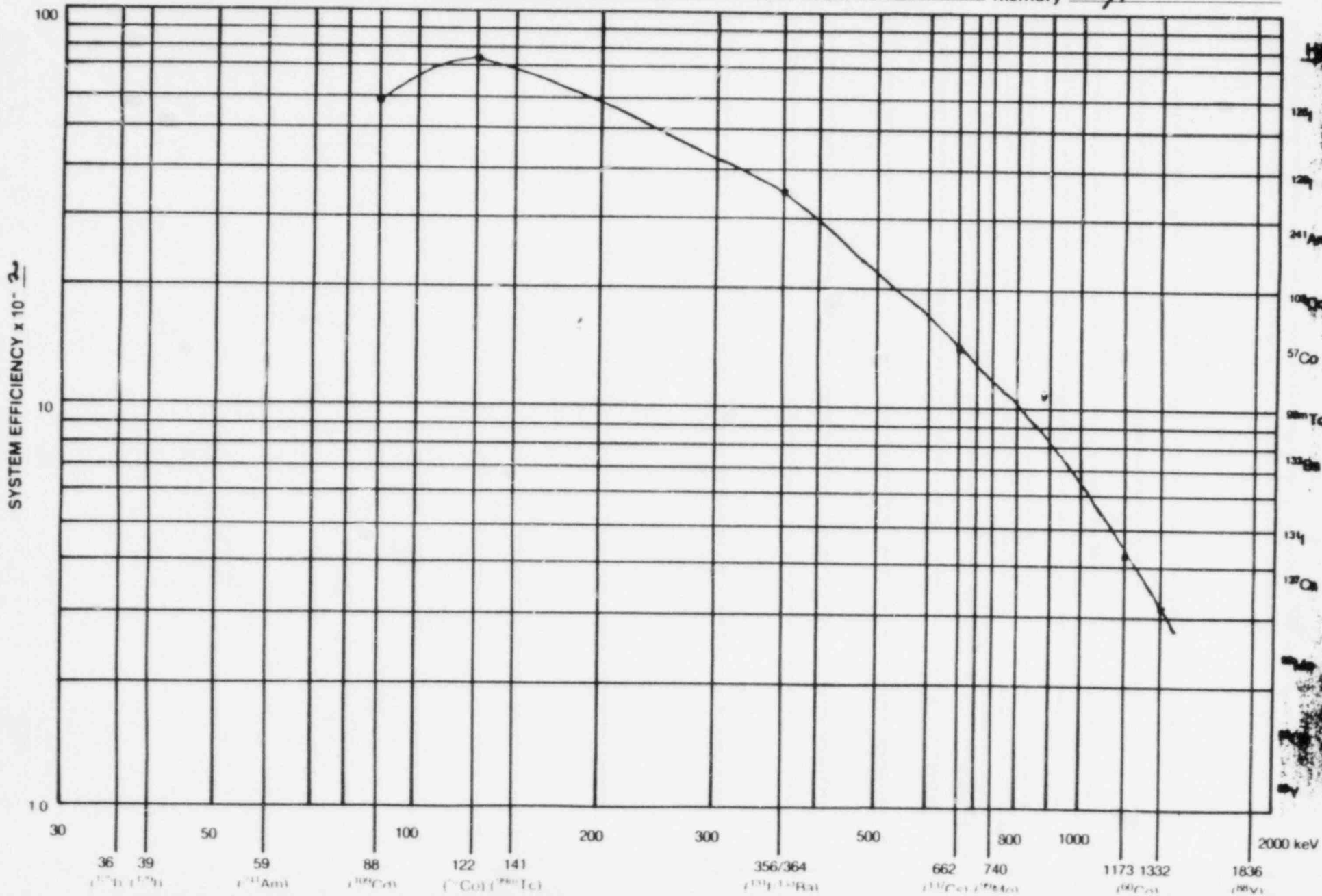
LLD 30 ULD 100% Preset Time 300 seconds live time

Date April 12, 1985 By CAP

Verified April 16, 1985 QAP

ADC Gain 2048 Geometry in well

ADC Offset 0 Memory 11



SET-UP FOR COUNTING WIPE SAMPLES

SETTINGS:

Memory: 1/1
Course Gain: 900
High Voltage: 1000
ADC: 2048
Fine Gain: 0.516

ENERGY CALIBRATION SETTINGS (ECAL):

Lower Channel No.: 88
Lower Energy: 88
Upper Channel No.: 1373
Upper Energy: 1333

Counting of Samples

Place wipe sample inside well and count for one minute. If a peak is found, set a region of interest (ROI) to include four channels of background on each side of the peak and record the area count. If no peak is found, use the lower and upper energy channel indicated in Table 1 for the radionuclide of interest. Record the count and take a one minute background count. Using the same region of interest, record the background count. The net count is equal to the sample count minus the background count. Once the net count is determined, look up under the appropriate radionuclide in Table 2 and determine the activity from the net count.

Activity Sample

$$\text{Activity (uCi)} = \frac{2.22 \times 10^{-6} \frac{\text{cpm}}{\text{dpm}} * \text{efficiency} \frac{\text{cpm}}{\text{dpm}} * \text{abundance}}{\text{dpm}}$$

Where: Efficiency and abundance are in decimal form.

If activity (uCi) is over 1.0×10^{-2} , notify Radiation Physicist or Chief Technologist at once!

Efficiencies

Table 1 contains the efficiencies for all the radionuclides that we routinely use. For radionuclides with energies below 122 keV, the attached efficiency chart must be used. For radionuclides above 122 keV which are not listed, the efficiency can be calculated by:

$$\text{Efficiency (decimal)} = (e^{mx}) * b$$

Where: x = energy of the radionuclide in keV

$$m = -0.0025$$

$$b = 0.93$$

Abundance

Abundance must be looked up in the chart of the nuclides.

TABLE 1

<u>Nuclide</u>	<u>Energy (keV)</u>	<u>Lower Level</u>	<u>Upper Level</u>	<u>Detection Efficiency</u>	<u>Abundance %</u>
Co-57	122	98 keV	160 keV	74.3%	85.59
Tc-99m	140	116 keV	178 keV	64.8%	100
I-123	159	135 keV	197 keV	61.8%	83
Tl-201	167	143 keV	205 keV	60.5%	10
Ga-67	184	160 keV	222 keV	57.9%	20.9
In-111	245.4	223 keV	285 keV	49.3%	94.2
Cr-51	320	240 keV	445 keV	40.9%	9.83
I-131	364	285 keV	490 keV	36.5%	82
Mo-99	740	655 keV	855 keV	14%	16

<u>Nuclide</u>	<u>Maximum number of counts before going over limit</u>
Co-57	14,118
Tc-99m	14,386
I-123	11,387
Tl-201	134
Ga-67	2,686
In-111	10,310
Cr-51	892
I-131	6,644
Mo-99	497

TABLE 2

Radionuclide - Tl-201

Counts per Minute	DPM	uCi
1	16.529	7.445462E-06
2	33.058	1.489092E-05
3	49.587	2.233639E-05
4	66.116	2.978185E-05
5	82.645	3.722731E-05
6	99.174	4.467277E-05
7	115.702	5.211824E-05
8	132.231	5.956369E-05
9	148.760	6.700916E-05
10	165.289	7.445461E-05
11	181.818	8.190008E-05
12	198.347	8.934554E-05
13	214.876	9.6791E-05
14	231.405	1.042365E-04
15	247.934	1.116819E-04
16	264.463	1.191274E-04
17	280.992	1.265729E-04
18	297.521	1.340183E-04
19	314.050	1.414638E-04
20	330.579	1.489092E-04
21	347.107	1.563547E-04
22	363.636	1.638002E-04
23	380.165	1.712456E-04
24	396.694	1.786911E-04
25	413.223	1.861365E-04
26	429.752	1.93582E-04
27	446.281	2.010275E-04
28	462.810	2.084729E-04
29	479.339	2.159184E-04
30	495.868	2.233639E-04
31	512.397	2.308093E-04
32	528.926	2.382548E-04
33	545.455	2.457003E-04
34	561.983	2.531457E-04
35	578.512	2.605912E-04
36	595.041	2.680367E-04
37	611.570	2.754821E-04
38	628.099	2.829275E-04
39	644.628	2.90373E-04
40	661.157	2.978185E-04
41	677.686	3.052639E-04
42	694.215	3.127094E-04
43	710.744	3.201549E-04
44	727.273	3.276003E-04
45	743.802	3.350458E-04
46	760.331	3.424913E-04
47	776.860	3.499367E-04
48	793.388	3.573822E-04
49	809.917	3.648276E-04
50	826.446	3.722731E-04

Counts per Minute

DPM

uCi

51	842.975	3.797186E-04
52	859.504	3.87164E-04
53	876.033	3.946095E-04
54	892.562	4.020549E-04
55	909.091	4.095004E-04
56	925.620	4.169459E-04
57	942.149	4.243914E-04
58	958.678	4.318368E-04
59	975.207	4.392823E-04
60	991.736	4.467278E-04
61	1008.264	4.541732E-04
62	1024.793	4.616186E-04
63	1041.322	4.690641E-04
64	1057.851	4.765096E-04
65	1074.380	4.83955E-04
66	1090.909	4.914005E-04
67	1107.438	4.98846E-04
68	1123.967	5.062914E-04
69	1140.496	5.137369E-04
70	1157.025	5.211823E-04
71	1173.554	5.286278E-04
72	1190.083	5.360733E-04
73	1206.612	5.435188E-04
74	1223.141	5.509642E-04
75	1239.669	5.584097E-04
76	1256.198	5.658551E-04
77	1272.727	5.733005E-04
78	1289.256	5.80746E-04
79	1305.785	5.881915E-04
80	1322.314	5.956369E-04
81	1338.843	6.030824E-04
82	1355.372	6.105279E-04
83	1371.901	6.179734E-04
84	1388.430	6.254188E-04
85	1404.959	6.328643E-04
86	1421.488	6.403097E-04
87	1438.017	6.477552E-04
88	1454.545	6.552006E-04
89	1471.074	6.626461E-04
90	1487.603	6.700916E-04
91	1504.132	6.775371E-04
92	1520.661	6.849825E-04
93	1537.190	6.92428E-04
94	1553.719	6.998735E-04
95	1570.248	7.073189E-04
96	1586.777	7.147643E-04
97	1603.306	7.222098E-04
98	1619.835	7.296552E-04
99	1636.364	7.371007E-04
100	1652.893	7.445461E-04

TABLE 2 (Cont'd)

Radionuclide - In-111

Counts per Minute	DPM	uCi
1	2.153	9.699498E-07
2	4.307	1.9399E-06
3	6.460	2.909849E-06
4	8.613	3.879799E-06
5	10.766	4.849748E-06
6	12.920	5.819699E-06
7	15.073	6.789648E-06
8	17.226	7.759598E-06
9	19.380	8.729548E-06
10	21.533	9.699496E-06
11	23.686	1.066945E-05
12	25.839	1.16394E-05
13	27.993	1.260935E-05
14	30.146	1.35793E-05
15	32.299	1.454925E-05
16	34.453	1.55192E-05
17	36.606	1.648915E-05
18	38.759	1.74591E-05
19	40.912	1.842905E-05
20	43.066	1.939899E-05
21	45.219	2.036894E-05
22	47.372	2.13389E-05
23	49.526	2.230885E-05
24	51.679	2.327879E-05
25	53.832	2.424874E-05
26	55.986	2.52187E-05
27	58.139	2.618864E-05
28	60.292	2.715859E-05
29	62.445	2.812854E-05
30	64.599	2.909849E-05
31	66.752	3.006844E-05
32	68.905	3.103839E-05
33	71.059	3.200834E-05
34	73.212	3.297829E-05
35	75.365	3.394824E-05
36	77.518	3.491819E-05
37	79.672	3.588814E-05
38	81.825	3.685809E-05
39	83.978	3.782804E-05
40	86.132	3.879799E-05
41	88.285	3.976794E-05
42	90.438	4.073789E-05
43	92.591	4.170783E-05
44	94.745	4.267779E-05
45	96.898	4.364774E-05
46	99.051	4.461769E-05
47	101.205	4.558764E-05
48	103.358	4.655759E-05
49	105.511	4.752754E-05
50	107.664	4.849749E-05

Counts per Minute

DPM

uCi

51	109.818	4.946744E-05
52	111.971	5.043739E-05
53	114.124	5.140734E-05
54	116.279	5.237729E-05
55	118.431	5.334724E-05
56	120.584	5.431718E-05
57	122.737	5.528713E-05
58	124.891	5.625708E-05
59	127.044	5.722703E-05
60	129.197	5.819699E-05
61	131.351	5.916693E-05
62	133.504	6.013688E-05
63	135.657	6.110683E-05
64	137.810	6.207678E-05
65	139.964	6.304673E-05
66	142.117	6.401668E-05
67	144.270	6.498663E-05
68	146.424	6.595658E-05
69	148.577	6.692653E-05
70	150.730	6.789648E-05
71	152.883	6.886643E-05
72	155.037	6.983639E-05
73	157.190	7.080634E-05
74	159.343	7.177628E-05
75	161.497	7.274623E-05
76	163.650	7.371618E-05
77	165.803	7.468613E-05
78	167.957	7.565608E-05
79	170.110	7.662603E-05
80	172.263	7.759597E-05
81	174.416	7.856592E-05
82	176.570	7.953588E-05
83	178.723	8.050583E-05
84	180.876	8.147578E-05
85	183.030	8.244573E-05
86	185.183	8.341567E-05
87	187.336	8.438562E-05
88	189.489	8.535558E-05
89	191.643	8.632552E-05
90	193.796	8.729548E-05
91	195.949	8.826542E-05
92	198.103	8.923538E-05
93	200.256	9.020532E-05
94	202.409	9.117528E-05
95	204.562	9.214522E-05
96	206.716	9.311518E-05
97	208.869	9.408512E-05
98	211.022	9.505508E-05
99	213.176	9.602502E-05
100	215.329	9.699497E-05

TABLE 2 (Cont'd)

Radionuclide - Cr-51

Counts per Minute	DPM	uCi
1	24.873	1.120393E-05
2	49.745	2.240785E-05
3	74.618	3.361177E-05
4	99.491	4.48157E-05
5	124.364	5.601963E-05
6	149.236	6.722355E-05
7	174.109	7.842748E-05
8	198.982	8.96314E-05
9	223.854	1.008353E-04
10	248.727	1.120393E-04
11	273.600	1.232432E-04
12	298.473	1.344471E-04
13	323.345	1.45651E-04
14	348.218	1.56855E-04
15	373.091	1.680589E-04
16	397.963	1.792628E-04
17	422.836	1.904667E-04
18	447.709	2.016706E-04
19	472.582	2.128746E-04
20	497.454	2.240785E-04
21	522.327	2.352824E-04
22	547.200	2.464864E-04
23	572.072	2.576903E-04
24	596.945	2.688942E-04
25	621.818	2.800981E-04
26	646.691	2.91302E-04
27	671.563	3.02506E-04
28	696.436	3.137099E-04
29	721.309	3.249138E-04
30	746.181	3.361178E-04
31	771.054	3.473217E-04
32	795.927	3.585256E-04
33	820.800	3.697295E-04
34	845.672	3.809334E-04
35	870.545	3.921374E-04
36	895.418	4.033413E-04
37	920.290	4.145453E-04
38	945.163	4.257491E-04
39	970.036	4.369531E-04
40	994.909	4.48157E-04
41	1019.781	4.593609E-04
42	1044.654	4.705649E-04
43	1069.527	4.817688E-04
44	1094.399	4.929728E-04
45	1119.272	5.041766E-04
46	1144.145	5.153806E-04
47	1169.018	5.265845E-04
48	1193.890	5.377884E-04
49	1218.763	5.489923E-04
50	1243.636	5.601963E-04

Counts per Minute

DPM

uCi

51	1268.508	5.714002E-04
52	1293.381	5.826041E-04
53	1318.254	5.93808E-04
54	1343.127	6.05012E-04
55	1367.999	6.162158E-04
56	1392.872	6.274198E-04
57	1417.745	6.386237E-04
58	1442.617	6.498276E-04
59	1467.490	6.610315E-04
60	1492.363	6.722355E-04
61	1517.236	6.834395E-04
62	1542.108	6.946433E-04
63	1566.981	7.058473E-04
64	1591.854	7.170512E-04
65	1616.726	7.28255E-04
66	1641.599	7.39459E-04
67	1666.472	7.50663E-04
68	1691.345	7.618669E-04
69	1716.217	7.730708E-04
70	1741.090	7.842747E-04
71	1765.963	7.954787E-04
72	1790.835	8.066825E-04
73	1815.708	8.178865E-04
74	1840.581	8.290905E-04
75	1865.454	8.402943E-04
76	1890.326	8.514982E-04
77	1915.199	8.627022E-04
78	1940.072	8.739061E-04
79	1964.944	8.8511E-04
80	1989.817	8.96314E-04
81	2014.690	9.075179E-04
82	2039.563	9.187218E-04
83	2064.435	9.299257E-04
84	2089.308	9.411297E-04
85	2114.181	9.523336E-04
86	2139.054	9.635376E-04
87	2163.926	9.747415E-04
88	2188.799	9.859454E-04
89	2213.672	9.971492E-04
90	2238.544	1.008353E-03
91	2263.417	1.019557E-03
92	2288.290	1.030761E-03
93	2313.162	1.041965E-03
94	2338.035	1.053169E-03
95	2362.908	1.064373E-03
96	2387.781	1.075577E-03
97	2412.653	1.086781E-03
98	2437.526	1.097985E-03
99	2462.399	1.109189E-03
100	2487.271	1.120393E-03

TABLE 2 (Cont'd)

Radionuclide - I-131

Counts per Minute	DPM	uCi
1	3.341	1.505013E-06
2	6.682	3.010027E-06
3	10.023	4.51504E-06
4	13.365	6.020053E-06
5	16.706	7.525066E-06
6	20.047	9.030079E-06
7	23.388	1.053509E-05
8	26.729	1.204011E-05
9	30.070	1.354512E-05
10	33.411	1.505013E-05
11	36.752	1.655515E-05
12	40.094	1.806016E-05
13	43.435	1.956517E-05
14	46.776	2.107019E-05
15	50.117	2.25752E-05
16	53.458	2.408021E-05
17	56.799	2.558522E-05
18	60.140	2.709024E-05
19	63.481	2.859525E-05
20	66.823	3.010027E-05
21	70.164	3.160528E-05
22	73.505	3.311029E-05
23	76.846	3.461531E-05
24	80.187	3.612032E-05
25	83.528	3.762533E-05
26	86.869	3.913034E-05
27	90.210	4.063536E-05
28	93.552	4.214037E-05
29	96.893	4.364538E-05
30	100.234	4.51504E-05
31	103.575	4.665541E-05
32	106.916	4.816042E-05
33	110.257	4.966544E-05
34	113.598	5.117045E-05
35	116.940	5.267547E-05
36	120.281	5.418048E-05
37	123.622	5.568549E-05
38	126.963	5.71905E-05
39	130.304	5.869552E-05
40	133.645	6.020053E-05
41	136.986	6.170555E-05
42	140.327	6.321055E-05
43	143.669	6.471557E-05
44	147.010	6.622058E-05
45	150.351	6.77256E-05
46	153.692	6.923061E-05
47	157.033	7.073563E-05
48	160.374	7.224063E-05
49	163.715	7.374565E-05
50	167.056	7.525065E-05

Counts per Minute

DPM

uCi

51	170.398	7.675568E-05
52	173.739	7.826068E-05
53	177.080	7.97657E-05
54	180.421	8.127071E-05
55	183.762	8.277572E-05
56	187.103	8.428074E-05
57	190.444	8.578575E-05
58	193.785	8.729076E-05
59	197.127	8.879578E-05
60	200.468	9.030079E-05
61	203.809	9.18058E-05
62	207.150	9.331082E-05
63	210.491	9.481583E-05
64	213.832	9.632084E-05
65	217.173	9.782586E-05
66	220.515	9.933087E-05
67	223.856	1.008359E-04
68	227.197	1.023409E-04
69	230.538	1.038459E-04
70	233.879	1.053509E-04
71	237.220	1.068559E-04
72	240.561	1.08361E-04
73	243.902	1.09866E-04
74	247.244	1.11371E-04
75	250.585	1.12876E-04
76	253.926	1.14381E-04
77	257.267	1.15886E-04
78	260.608	1.17391E-04
79	263.949	1.188961E-04
80	267.290	1.204011E-04
81	270.631	1.219061E-04
82	273.973	1.234111E-04
83	277.314	1.249161E-04
84	280.655	1.264211E-04
85	283.996	1.279261E-04
86	287.337	1.294311E-04
87	290.678	1.309362E-04
88	294.019	1.324412E-04
89	297.361	1.339462E-04
90	300.702	1.354512E-04
91	304.043	1.369562E-04
92	307.384	1.384612E-04
93	310.725	1.399662E-04
94	314.066	1.414713E-04
95	317.407	1.429763E-04
96	320.748	1.444813E-04
97	324.090	1.459863E-04
98	327.431	1.474913E-04
99	330.772	1.489963E-04
100	334.113	1.505013E-04

TABLE 2 (Cont'd)

Radionuclide - Mo-99

Counts per Minute	DPM	uCi
1	44.643	2.01094E-05
2	89.286	4.021879E-05
3	133.929	6.032819E-05
4	178.571	8.043758E-05
5	223.214	1.00547E-04
6	267.857	1.206564E-04
7	312.500	1.407658E-04
8	357.143	1.608752E-04
9	401.786	1.809846E-04
10	446.429	2.01094E-04
11	491.071	2.212034E-04
12	535.714	2.413128E-04
13	580.357	2.614221E-04
14	625.000	2.815316E-04
15	669.643	3.01641E-04
16	714.286	3.217503E-04
17	758.929	3.418597E-04
18	803.571	3.619691E-04
19	848.214	3.820785E-04
20	892.857	4.021879E-04
21	937.500	4.222973E-04
22	982.143	4.424067E-04
23	1026.786	4.625161E-04
24	1071.429	4.826255E-04
25	1116.071	5.027349E-04
26	1160.714	5.228443E-04
27	1205.357	5.429537E-04
28	1250.000	5.630631E-04
29	1294.643	5.831725E-04
30	1339.286	6.032819E-04
31	1383.929	6.233913E-04
32	1428.571	6.435007E-04
33	1473.214	6.6361E-04
34	1517.857	6.837195E-04
35	1562.500	7.038288E-04
36	1607.143	7.239382E-04
37	1651.786	7.440476E-04
38	1696.429	7.64157E-04
39	1741.072	7.842665E-04
40	1785.714	8.043759E-04
41	1830.357	8.244852E-04
42	1875.000	8.445946E-04
43	1919.643	8.64704E-04
44	1964.286	8.848134E-04
45	2008.929	9.049228E-04
46	2053.572	9.250322E-04
47	2098.214	9.451416E-04
48	2142.857	9.65251E-04
49	2187.500	9.853604E-04
50	2232.143	1.00547E-03

Counts per Minute

DPM

uCi

51	2276.786	1.025579E-03
52	2321.429	1.045689E-03
53	2366.072	1.065798E-03
54	2410.714	1.085907E-03
55	2455.357	1.106017E-03
56	2500.000	1.126126E-03
57	2544.643	1.146236E-03
58	2589.286	1.166345E-03
59	2633.929	1.186454E-03
60	2678.572	1.206564E-03
61	2723.214	1.226673E-03
62	2767.857	1.246783E-03
63	2812.500	1.266892E-03
64	2857.143	1.287001E-03
65	2901.786	1.307111E-03
66	2946.429	1.32722E-03
67	2991.072	1.34733E-03
68	3035.714	1.367439E-03
69	3080.357	1.387548E-03
70	3125.000	1.407658E-03
71	3169.643	1.427767E-03
72	3214.286	1.447877E-03
73	3258.929	1.467986E-03
74	3303.571	1.488095E-03
75	3348.214	1.508205E-03
76	3392.857	1.528314E-03
77	3437.500	1.548423E-03
78	3482.143	1.568533E-03
79	3526.786	1.588642E-03
80	3571.429	1.608752E-03
81	3616.071	1.628861E-03
82	3660.714	1.64897E-03
83	3705.357	1.66908E-03
84	3750.000	1.689189E-03
85	3794.643	1.709299E-03
86	3839.286	1.729408E-03
87	3883.929	1.749517E-03
88	3928.571	1.769627E-03
89	3973.214	1.789736E-03
90	4017.857	1.809846E-03
91	4062.500	1.829955E-03
92	4107.143	1.850065E-03
93	4151.786	1.870174E-03
94	4196.429	1.890283E-03
95	4241.072	1.910392E-03
96	4285.715	1.930502E-03
97	4330.357	1.950611E-03
98	4375.000	1.970721E-03
99	4419.643	1.99083E-03
100	4464.286	2.010939E-03

TABLE 2 (Cont'd)

Radionuclide - Ga-67

Counts per Minute	DPM	uCi
1	8.264	3.722393E-06
2	16.527	7.444786E-06
3	24.791	1.116718E-05
4	33.055	1.488957E-05
5	41.319	1.861196E-05
6	49.582	2.233436E-05
7	57.846	2.605675E-05
8	66.110	2.977914E-05
9	74.373	3.350154E-05
10	82.637	3.722393E-05
11	90.901	4.094632E-05
12	99.165	4.466871E-05
13	107.428	4.839111E-05
14	115.692	5.21135E-05
15	123.956	5.583589E-05
16	132.219	5.955828E-05
17	140.483	6.328067E-05
18	148.747	6.700307E-05
19	157.011	7.072546E-05
20	165.274	7.444785E-05
21	173.538	7.817025E-05
22	181.802	8.189264E-05
23	190.065	8.561503E-05
24	198.329	8.933742E-05
25	206.593	9.305982E-05
26	214.857	9.678221E-05
27	223.120	1.005046E-04
28	231.384	1.04227E-04
29	239.648	1.079494E-04
30	247.911	1.116718E-04
31	256.175	1.153942E-04
32	264.439	1.191166E-04
33	272.702	1.22839E-04
34	280.966	1.265613E-04
35	289.230	1.302837E-04
36	297.494	1.340061E-04
37	305.757	1.377285E-04
38	314.021	1.414509E-04
39	322.285	1.451733E-04
40	330.548	1.488957E-04
41	338.812	1.526181E-04
42	347.076	1.563405E-04
43	355.340	1.600629E-04
44	363.603	1.637853E-04
45	371.867	1.675077E-04
46	380.131	1.712301E-04
47	388.394	1.749525E-04
48	396.658	1.786749E-04
49	404.922	1.823972E-04
50	413.186	1.861196E-04

Counts per Minute

DPM

uCi

51	421.449	1.89842E-04
52	429.713	1.935644E-04
53	437.977	1.972868E-04
54	446.240	2.010092E-04
55	454.504	2.047316E-04
56	462.768	2.08454E-04
57	471.032	2.121764E-04
58	479.295	2.158988E-04
59	487.559	2.196212E-04
60	495.823	2.233436E-04
61	504.086	2.27066E-04
62	512.350	2.307883E-04
63	520.614	2.345107E-04
64	528.878	2.382331E-04
65	537.141	2.419555E-04
66	545.405	2.456779E-04
67	553.669	2.494003E-04
68	561.932	2.531227E-04
69	570.196	2.568451E-04
70	578.460	2.605675E-04
71	586.724	2.642899E-04
72	594.987	2.680123E-04
73	603.251	2.717346E-04
74	611.515	2.754571E-04
75	619.778	2.791794E-04
76	628.042	2.829018E-04
77	636.306	2.866242E-04
78	644.569	2.903466E-04
79	652.833	2.94069E-04
80	661.097	2.977914E-04
81	669.361	3.015138E-04
82	677.624	3.052362E-04
83	685.888	3.089586E-04
84	694.152	3.12681E-04
85	702.415	3.164034E-04
86	710.679	3.201258E-04
87	718.943	3.238481E-04
88	727.207	3.275706E-04
89	735.470	3.31293E-04
90	743.734	3.350153E-04
91	751.998	3.387377E-04
92	760.262	3.424601E-04
93	768.525	3.461825E-04
94	776.789	3.499049E-04
95	785.053	3.536273E-04
96	793.316	3.573497E-04
97	801.580	3.610721E-04
98	809.844	3.647945E-04
99	818.107	3.685169E-04
100	826.371	3.722393E-04

TABLE 2 (Cont'd)

Radionuclide - I-123

Counts per Minute	DPH	uCi
1	1.950	8.781738E-07
2	3.899	1.756348E-06
3	5.849	2.634522E-06
4	7.798	3.512695E-06
5	9.748	4.390869E-06
6	11.697	5.269043E-06
7	13.647	6.147217E-06
8	15.596	7.025391E-06
9	17.546	7.903565E-06
10	19.495	8.781738E-06
11	21.445	9.659911E-06
12	23.395	1.053809E-05
13	25.344	1.141626E-05
14	27.294	1.229443E-05
15	29.243	1.317261E-05
16	31.193	1.405078E-05
17	33.142	1.492896E-05
18	35.092	1.580713E-05
19	37.041	1.66853E-05
20	38.991	1.756348E-05
21	40.940	1.844165E-05
22	42.890	1.931982E-05
23	44.840	2.0198E-05
24	46.789	2.107617E-05
25	48.739	2.195435E-05
26	50.688	2.283252E-05
27	52.638	2.37107E-05
28	54.587	2.458887E-05
29	56.537	2.546704E-05
30	58.486	2.634521E-05
31	60.436	2.722339E-05
32	62.385	2.810156E-05
33	64.335	2.897974E-05
34	66.285	2.985791E-05
35	68.234	3.073609E-05
36	70.184	3.161426E-05
37	72.133	3.249243E-05
38	74.083	3.337061E-05
39	76.032	3.424878E-05
40	77.982	3.512695E-05
41	79.931	3.600513E-05
42	81.881	3.68833E-05
43	83.830	3.776148E-05
44	85.780	3.863965E-05
45	87.730	3.951782E-05
46	89.679	4.0396E-05
47	91.629	4.127417E-05
48	93.578	4.215235E-05
49	95.528	4.303052E-05
50	97.477	4.390869E-05

Counts per Minute

DPM

uCi

51	99.427	4.478687E-05
52	101.376	4.566504E-05
53	103.326	4.654321E-05
54	105.275	4.742139E-05
55	107.225	4.829956E-05
56	109.175	4.917773E-05
57	111.124	5.005591E-05
58	113.074	5.093409E-05
59	115.023	5.181226E-05
60	116.973	5.269043E-05
61	118.922	5.35686E-05
62	120.872	5.444678E-05
63	122.821	5.532495E-05
64	124.771	5.620313E-05
65	126.720	5.708131E-05
66	128.670	5.795947E-05
67	130.620	5.883765E-05
68	132.569	5.971582E-05
69	134.519	6.0594E-05
70	136.468	6.147218E-05
71	138.418	6.235034E-05
72	140.367	6.322851E-05
73	142.317	6.410669E-05
74	144.266	6.498486E-05
75	146.216	6.586304E-05
76	148.165	6.674121E-05
77	150.115	6.761939E-05
78	152.065	6.849755E-05
79	154.014	6.937573E-05
80	155.964	7.025391E-05
81	157.913	7.113208E-05
82	159.863	7.201026E-05
83	161.812	7.288843E-05
84	163.762	7.376661E-05
85	165.711	7.464478E-05
86	167.661	7.552295E-05
87	169.610	7.640112E-05
88	171.560	7.72793E-05
89	173.510	7.815747E-05
90	175.459	7.903565E-05
91	177.409	7.991381E-05
92	179.358	8.0792E-05
93	181.308	8.167016E-05
94	183.257	8.254834E-05
95	185.207	8.342652E-05
96	187.156	8.430469E-05
97	189.106	8.518286E-05
98	191.056	8.606104E-05
99	193.005	8.693921E-05
100	194.955	8.781738E-05

TABLE 2 (Cont'd)

Radionuclide - Tc-99m

Counts per Minute	DFM	uCi
1	1.543	6.951396E-07
2	3.086	1.390279E-06
3	4.630	2.085419E-06
4	6.173	2.780558E-06
5	7.716	3.475698E-06
6	9.259	4.170838E-06
7	10.802	4.865977E-06
8	12.346	5.561117E-06
9	13.889	6.256257E-06
10	15.432	6.951396E-06
11	16.975	7.646536E-06
12	18.519	8.341675E-06
13	20.062	9.036814E-06
14	21.605	9.731954E-06
15	23.148	1.042709E-05
16	24.691	1.112223E-05
17	26.235	1.181737E-05
18	27.778	1.251251E-05
19	29.321	1.320765E-05
20	30.864	1.390279E-05
21	32.407	1.459793E-05
22	33.951	1.529307E-05
23	35.494	1.598821E-05
24	37.037	1.668335E-05
25	38.580	1.737849E-05
26	40.123	1.807363E-05
27	41.667	1.876877E-05
28	43.210	1.946391E-05
29	44.753	2.015905E-05
30	46.296	2.085419E-05
31	47.840	2.154933E-05
32	49.383	2.224447E-05
33	50.926	2.293961E-05
34	52.469	2.363475E-05
35	54.012	2.432989E-05
36	55.556	2.502503E-05
37	57.099	2.572017E-05
38	58.642	2.641531E-05
39	60.185	2.711044E-05
40	61.728	2.780558E-05
41	63.272	2.850073E-05
42	64.815	2.919586E-05
43	66.358	2.9891E-05
44	67.901	3.058614E-05
45	69.444	3.128128E-05
46	70.988	3.197642E-05
47	72.531	3.267156E-05
48	74.074	3.33667E-05
49	75.617	3.406184E-05
50	77.160	3.475698E-05

Counts per Minute

DPM

uCi

51	78.704	3.545212E-05
52	80.247	3.614726E-05
53	81.790	3.68424E-05
54	83.333	3.753754E-05
55	84.877	3.823268E-05
56	86.420	3.892782E-05
57	87.963	3.962296E-05
58	89.506	4.03181E-05
59	91.049	4.101324E-05
60	92.593	4.170838E-05
61	94.136	4.240352E-05
62	95.679	4.309865E-05
63	97.222	4.379379E-05
64	98.765	4.448894E-05
65	100.309	4.518407E-05
66	101.852	4.587922E-05
67	103.395	4.657435E-05
68	104.938	4.726949E-05
69	106.481	4.796464E-05
70	108.025	4.865977E-05
71	109.568	4.935491E-05
72	111.111	5.005005E-05
73	112.654	5.074519E-05
74	114.198	5.144033E-05
75	115.741	5.213547E-05
76	117.284	5.283061E-05
77	118.827	5.352575E-05
78	120.370	5.422089E-05
79	121.914	5.491603E-05
80	123.457	5.561117E-05
81	125.000	5.630631E-05
82	126.543	5.700145E-05
83	128.086	5.769659E-05
84	129.630	5.839172E-05
85	131.173	5.908686E-05
86	132.716	5.978201E-05
87	134.259	6.047715E-05
88	135.802	6.117229E-05
89	137.346	6.186742E-05
90	138.889	6.256256E-05
91	140.432	6.32577E-05
92	141.975	6.395285E-05
93	143.519	6.464798E-05
94	145.062	6.534312E-05
95	146.605	6.603826E-05
96	148.148	6.67334E-05
97	149.691	6.742854E-05
98	151.235	6.812369E-05
99	152.778	6.881882E-05
100	154.321	6.951396E-05

TABLE 2 (Cont'd)

Radionuclide - Co-57

Counts per Minute	DPM	uCi
1	1.572	7.083293E-07
2	3.145	1.416659E-06
3	4.717	2.124988E-06
4	6.290	2.833317E-06
5	7.862	3.541647E-06
6	9.435	4.249976E-06
7	11.007	4.958306E-06
8	12.580	5.666635E-06
9	14.152	6.374964E-06
10	15.725	7.083293E-06
11	17.297	7.791622E-06
12	18.870	8.499952E-06
13	20.442	9.208281E-06
14	22.015	9.916611E-06
15	23.587	1.062494E-05
16	25.160	1.133327E-05
17	26.732	1.20416E-05
18	28.305	1.274993E-05
19	29.877	1.345826E-05
20	31.450	1.416659E-05
21	33.022	1.487492E-05
22	34.595	1.558324E-05
23	36.167	1.629157E-05
24	37.740	1.69999E-05
25	39.312	1.770823E-05
26	40.885	1.841656E-05
27	42.457	1.912489E-05
28	44.030	1.983322E-05
29	45.602	2.054155E-05
30	47.175	2.124988E-05
31	48.747	2.195821E-05
32	50.320	2.266654E-05
33	51.892	2.337487E-05
34	53.465	2.40832E-05
35	55.037	2.479153E-05
36	56.610	2.549986E-05
37	58.182	2.620819E-05
38	59.755	2.691651E-05
39	61.327	2.762484E-05
40	62.900	2.833317E-05
41	64.472	2.90415E-05
42	66.045	2.974983E-05
43	67.617	3.045816E-05
44	69.190	3.116649E-05
45	70.762	3.187482E-05
46	72.335	3.258315E-05
47	73.907	3.329148E-05
48	75.480	3.399981E-05
49	77.052	3.470814E-05
50	78.625	3.541646E-05

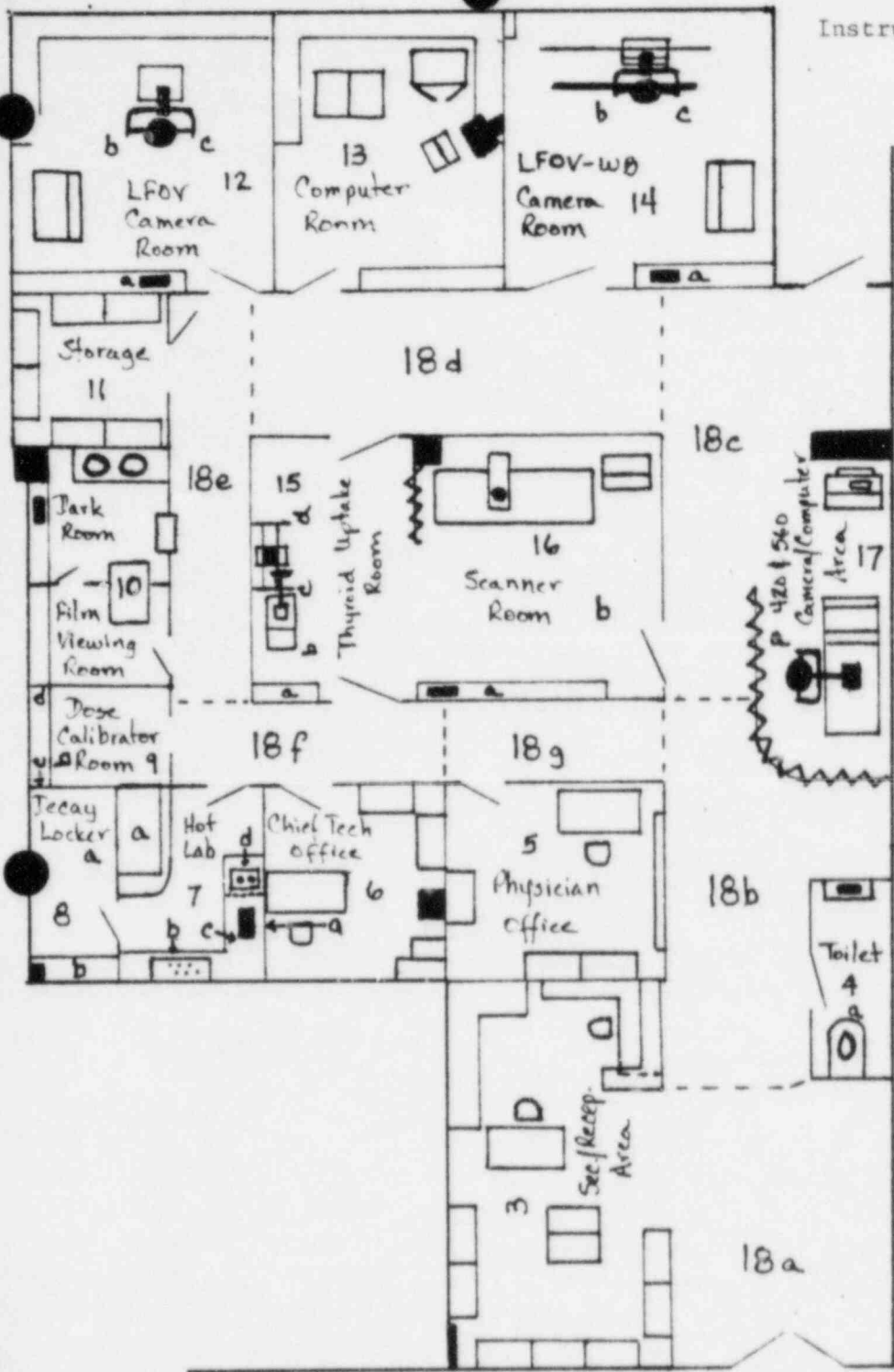
Counts per Minute

DPM

uCi

51	80.197	3.61248E-05
52	81.770	3.683313E-05
53	83.342	3.754145E-05
54	84.915	3.824979E-05
55	86.487	3.895811E-05
56	88.060	3.966644E-05
57	89.632	4.037477E-05
58	91.204	4.10831E-05
59	92.777	4.179143E-05
60	94.349	4.249976E-05
61	95.922	4.320809E-05
62	97.494	4.391642E-05
63	99.067	4.462475E-05
64	100.639	4.533308E-05
65	102.212	4.60414E-05
66	103.784	4.674974E-05
67	105.357	4.745807E-05
68	106.929	4.816639E-05
69	108.502	4.887472E-05
70	110.074	4.958305E-05
71	111.647	5.029138E-05
72	113.219	5.099971E-05
73	114.792	5.170804E-05
74	116.364	5.241637E-05
75	117.937	5.31247E-05
76	119.509	5.383303E-05
77	121.082	5.454136E-05
78	122.654	5.524968E-05
79	124.227	5.595802E-05
80	125.799	5.666635E-05
81	127.372	5.737468E-05
82	128.944	5.8083E-05
83	130.517	5.879133E-05
84	132.089	5.949966E-05
85	133.662	6.0208E-05
86	135.234	6.091632E-05
87	136.807	6.162465E-05
88	138.379	6.233298E-05
89	139.952	6.304131E-05
90	141.524	6.374963E-05
91	143.097	6.445796E-05
92	144.669	6.51663E-05
93	146.242	6.587463E-05
94	147.814	6.658296E-05
95	149.387	6.729128E-05
96	150.959	6.799961E-05
97	152.532	6.870795E-05
98	154.104	6.941628E-05
99	155.677	7.01246E-05
100	157.249	7.083293E-05

Instrument Used: _____



4A	_____	_____
6A	_____	_____
7A	_____	_____
B	_____	_____
C	_____	_____
D	_____	_____
8A	_____	_____
B	_____	_____
9A	_____	_____
B	_____	_____
C	_____	_____
12A	_____	_____
B	_____	_____
C	_____	_____
14A	_____	_____
B	_____	_____
C	_____	_____
15A	_____	_____
B	_____	_____
C	_____	_____
D	_____	_____
16A	_____	_____
B	_____	_____
17A	_____	_____
18A	_____	_____
B	_____	_____
C	_____	_____
D	_____	_____
E	_____	_____
F	_____	_____
G	_____	_____
BKGD,	_____	_____

HALLWAY TO THE
SHOCK/TRAUMA UNIT



After Decontamination: _____

PROCEDURE FOR HANDLING I-131

Liquid sodium iodide solution can oxidize into the volatile I_2 state. In this gaseous form the iodine will leave the solution and enter the air space in the top of the bottle and be available for release when the cap is removed. The following precautions will be used to reduce the exposure to iodine and the generation of iodine vapor.

1. Upon receipt, the I-131 solution bottle in its lead shipping shield will be immediately stored in the lead lined refrigerator in the hot lab.
2. Protective gloves must be worn when handling I-131 solution.
3. I-131 solution will be vented in the fume hood prior to use. The auxillary fan for the fume hood will be activated prior to venting.
4. Always remove the I-131 solution bottle cap at arms length so that if any iodine escapes upon opening, inhalation of the iodine will be minimized.
5. Always transfer the I-131 solution with a bulb (or similar device) aspirated pipet in the hood. Never pipet by mouth.
6. Always use a pipet with the smallest diameter at the tip consistent with the volume to be aspirated. The smaller the volume of the pipet itself, the smaller the volume of air displaced from the bottle.

I-131 BIOASSAY PROCEDURE

In-vivo thyroid counts will be performed on all personnel handling therapeutic liquid I-131. The thyroid counts will be performed approximately 24 hours after the handling of the therapeutic liquid I-131.

Procedure for In-Vivo Counting

1. Set the multichannel analyzer with the latest voltage and energy calibration factors used with the thyroid probe.
2. Obtain a 3 minute count over the thyroid gland with the thyroid probe set at a distance of 25 cm.
3. If a peak is found, set a region of interest (ROI) to include four channels of background on each side of the peak and record the area count (net count). If no peak is found, use a ROI with a lower energy channel of 285 keV and an upper energy channel of 490 keV. Record the count and take a 3 minute background count at the same ROI setting using the thyroid phantom. The net count, for no peak, is equal to the patient count minus the background count.
4. Calculate the activity in uCi

$$\text{Activity (uCi)} = \frac{2.22 \times 10^6 \text{ dpm} \times \frac{\text{Net Count (cpm)}}{\text{efficiency (cpm/dpm)}} \times \text{abundance}}{\text{dpm}}$$

Where abundance for I-131 = 0.82

Efficiency for I-131 must be looked up from the latest efficiency table generated for the system.

5. Report the results to the Physicist or Chief Technologist.
6. If the thyroid burden at the time of measurement exceeds 0.04 uCi of I-131, all steps described in position 5a (1) of Regulatory Guide 8.20 will be carried out.
7. If the thyroid burden at the time of measurement exceeds 0.14 uCi of I-131, all steps described in position 5a (2) of Regulatory Guide 8.20 will be carried out.