DEPARTMENT OF THE ARMY
US ARMY CHEMICAL SCHOOL
FORT LEONARD WOOD, MISSOURI 65473-8926

June 12, 2000

REPLY TO
ATTENTION OF

Health Physics Office

Regional Director
U.S. Nuclear Regulatory Commission, Region II
Division of Nuclear Materials Safety (Ms. Bailey)
Sam Nunn Atlanta Federal Building
61 Forsyth Street SW, Suite 23T85
Atlanta, GA 30303-8930

Dear Sir:

Reference meeting between Mr. May, this office; and Ms. Bailey, NRC; April 11, 2000; subject: Remediation of Old Radiation Sites at McClellan.

The additional survey data you requested at referenced meeting is attached. Also attached is the requested leak test and shipping information for the U-233 and Pu-239 sources. Based upon the results of this survey and of the previous survey, request that Building 1081 and the alpha field be released for unrestricted use.

Please amend NRC License Number 01-02861-05, Docket Number 030-17584, by deleting material authorized in 6A through 6F. Additionally, please terminate NRC License Number SNM-1877, Docket Number 070-02934.

Sincerely,

Thomas W. Klewin
Colonel, U.S. Army
Assistant Commandant

Attachments

ADDENDUMS TO
FINAL SURVEY REPORT
U.S. ARMY CHEMICAL SCHOOL
BUILDING 1081
FORT McCLELLAN, AL

Addendums to Final Survey Report, Building 1081,Fort McClellan, AL

Addendum 1	Eberline E-520 survey meter scans and fixed point measurements.
Addendum 2	Additional Fixed Point Measurements in Radiation Laboratories.
Addendum 3	Status of alpha sources for NRC license SNM-1877

Eberline E-520 survey meter scans and fixed point measurements.
Addendum 1 to Final Survey Report, Building 1081,Fort McClellan, AL

The following information is provided to clarify information in the final survey report dated March 2000.

An Eberline E-520 survey meter with a HP-260 pancake G-M detector was used to perform the beta scans and fixed point measurements.

The efficiency of the survey meter with pancake probe was determined with Tc-99 which has a beta energy of 292 keV. Since the beta energy of Tc-99 is less energetic than the beta energies of the isotopes being surveyed for (Co-60, 317 keV; Cs-137, 511 keV; and Sr-90, 546 keV) the efficiency and MDA would be better for these isotopes. The efficiency and MDAs are shown below.

Calibration Source Data:
Source: Tc-99 MFR: New England Nuclear Model: NES-200B
A = 0.041 µCi on 6 Aug 76 = 91020 DPM on 29 Oct 99
B max = 0.292 MeV (100%), Self Absorption = 22%, t1/2 = 212000 yrs

Eberline E-520 survey meter, S/N 3213, with HP-260 pancake probe.
Used for beta scans and fixed point measurements.
Time Constant (slow response): 10 Seconds or 0.167 minutes.
Probe Surface Area: 15.5 cm2
Meter Response (Rs): 5000 CPM Background Rate (Rb): 20 CPM

$$\%Eff = \frac{R_s - R_b}{(DPM)(\%transmission)(other\_factors)} * 100$$

$$\%Eff = \frac{5000CPM - 20CPM}{(91020DPM)(2\pi/4\pi)(0.78)} * 100 = 14.00\%$$

Scan MDA, in DPM/100 cm2, is determined with the following equation:

$$\text{Scan } MDA = \frac{3 * Rb}{E * \left(A/100\right)}$$

$$\text{Scan } MDA = \frac{3 * 20CPM}{(0.14)(15.5cm2/100)} = \textbf{2765 DPM/100 cm}^2$$

where Rb = background rate
A = area of probe
E = % efficiency

The 30 second readings were taken using the same survey meter used for scans. These are 30 second readings NOT 30 second counts. The meter was used on slow response with a time constant(τ) of 10 seconds. After each grid was scanned, the probe was placed on the surface at the location of the highest scan reading (or at a random location if no elevated reading was identified) for 30 seconds and the highest counting rate was recorded.

Ratemeter MDA, in DPM/100 cm2, is determined with the following equation:

$$MDA = \frac{4.65\sqrt{Rb/2\tau}}{E(A/100)} \qquad MDA = \frac{4.65\sqrt{20/(2*0.167)}}{0.14(15.5/100)} \qquad \textbf{MDA= 1665 DPM/100 cm}^2$$

The Eberline E-520 survey meter is dual scale and reads in both mR/hr and cpm. The conversion from mR/hr to cpm was made by visual observation (direct reading) of the meter. The survey data should have been recorded in cpm instead of mR/hr and the final survey sheets should have shown the activity after the efficiency and probe surface area was applied. The survey sheets were left as recorded at the time of the survey and the direct relation to cpm was included in the report. The formula used for converting from cpm to dpm/100 cm^2 is shown below.

$$\frac{(cpm/eff)}{A}*100 = \text{dpm/100 cm}^2 \qquad \frac{(33cpm/0.14)}{15.5}*100 = 1520.74 \text{ dpm/100 cm}^2$$

Therefore, the following applies to the readings from the E-520 on the data sheets included in the March 2000 Final Survey Report.

0.01 mr/hr = 11 cpm = 506.9 dpm/100 cm^2
0.02 mr/hr = 22 cpm = 1013.8 dpm/100 cm^2
0.03 mr/hr = 33 cpm = 1520.74 dpm/100 cm^2

The scan MDA of 2765 DPM/100 cm^2 and the ratemeter MDA of 1665 DPM/100 cm^2 are below the release limit for cobalt 60 of 7100 dpm/100 cm^2.

Fixed Point Measurements in Radiation Laboratories.
Addendum 2 to Final Survey Report, Building 1081, Fort McClellan, AL

Fixed point measurements for contamination at the Chemical School radiation laboratories were conducted 2 through 6 May 2000, as directed by the NRC at the 11 April meeting on Fort McClellan. These measurements supplement the final closeout survey report dated March 2000.

A measurement was taken in each grid in class 1 areas and 5 random measurements were taken in each class 2 area, class 3 area, and non-impacted area. Two 30 second counts were taken per data point at a distance of 2.5 cm or less from the surface. One of the counts was taken using a Berthold LB123 meter with LB 1231 Xenon filled proportional detector and the other count was taken using an Eberline ESP-2 with HP-210 shielded G-M detector. Both instruments were used in scaler mode set for a 30 second count.

The efficiency and MDA of both instruments was determined with Tc-99 which has a beta energy of 292 keV. Since the beta energy of Tc-99 is less energetic than the beta energies of the isotopes being surveyed for (Co-60, 317 keV; Cs-137, 511 keV; and Sr-90, 546 keV) the efficiency and MDA would be better for these isotopes. Efficiency and MDA counts were taken every morning and are at the top of the data sheets. The MDA for both instruments is far below the release limits for the isotopes in question and all measurements were below MDA.

The efficiency and MDA formulas and source data is as follows.

Calibration Source Data:
Source: Tc-99 MFR: New England Nuclear Model: NES-200B
A = 0.041 µCi on 6 Aug 76 = 91020 DPM on 29 Oct 99
t1/2 = 212000 yrs B max = 0.292 MeV (100%) Self Absorption = 22%

$$\%Eff = \frac{Rs - Rb}{(DPM)(\%transmission)} * 100$$

MDA in Scaler mode, in DPM/100 cm2, is determined with the following equation:

$$MDA = \frac{2.71 + 4.65\sqrt{Rb * tb}}{E * (A/100) * tb}$$

where Rs = meter response
Rb = background rate
A = area of probe
E = % efficiency

Instruments used for fixed point measurements:
Berthold LB123 survey meter, S/N 116107, with LB-1231 Xenon filled Proportional detector. Probe Surface Area: 228 cm2

Eberline ESP-2 survey meter, S/N 2076, with HP 210 shielded G-M pancake detector. Probe surface area: 15.5 cm2

FIXED POINT MEASUREMENTS

CLOSEOUT SURVEY
BUILDING 1081

AREA O
Health Physics Lab
CLASS 1

Instrument Data	**Berthold LB123 with LB 1231 detector**	**Eberline ESP-2 with HP-210 detector**	**Survey Date:** 3 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm^2	228	15.5	**Survey Area: O**
Count time in minutes	0.5	0.5	HEALTH PHYSICS LAB
Source Self Absorption	22%	22%	CLASS 1
Tc-99 Source dpm	91020	91020	
Background (cpm)	850	26	**Survey Performed By:**
Meter reading (cpm)	12000	16300	SSG Ronald DeGumbia
Meter Efficiency	15.71%	22.92%	
Scaler MDA in dpm/$100cm^2$	550.56	1096.30	

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/$100cm^2$ LB123	DPM/$100cm^2$ ESP-2
141	O	W	1	D	5	860.00	20.00	27.93	-168.87
142	O	W	1	E	5	890.00	28.00	111.71	56.29
143	O	W	1	F	5	850.00	38.00	0.00	337.74
144	O	W	1	G	5	900.00	42.00	139.63	450.32
145	O	W	1	H	5	830.00	42.00	-55.85	450.32
146	O	W	1	I	5	820.00	24.00	-83.78	-56.29
147	O	W	1	J	5	910.00	24.00	167.56	-56.29
148	O	W	1	K	5	790.00	22.00	-167.56	-112.58
149	O	W	2	D	5	830.00	30.00	-55.85	112.58
150	O	W	2	E	5	950.00	32.00	279.27	168.87
151	O	W	2	F	5	910.00	42.00	167.56	450.32
152	O	W	2	G	5	880.00	26.00	83.78	0.00
153	O	W	2	H	5	840.00	26.00	-27.93	0.00
154	O	W	2	I	5	830.00	34.00	-55.85	225.16
155	O	W	2	J	5	570.00	24.00	-781.95	-56.29
156	O	W	2	K	5	800.00	26.00	-139.63	0.00
157	O	W	3	D	5	810.00	50.00	-111.71	675.49
158	O	W	3	E	5	940.00	32.00	251.34	168.87
159	O	W	3	F	5	850.00	36.00	0.00	281.45
160	O	W	3	G	5	840.00	32.00	-27.93	168.87
161	O	W	3	H	5	880.00	36.00	83.78	281.45
162	O	W	3	I	5	820.00	32.00	-83.78	168.87
163	O	W	3	J	5	620.00	16.00	-642.32	-281.45
164	O	W	3	K	5	710.00	32.00	-390.98	168.87
165	O	W	4	N	5	770.00	40.00	-223.41	394.03
166	O	W	5	N	5	870.00	38.00	55.85	337.74
167	O	W	6	N	5	870.00	34.00	55.85	225.16
168	O	W	7	N	5	840.00	32.00	-27.93	168.87
169	O	W	4	M	5	820.00	46.00	-83.78	562.91
170	O	W	5	M	5	870.00	40.00	55.85	394.03
171	O	W	6	M	5	830.00	24.00	-55.85	-56.29
172	O	W	7	M	5	880.00	44.00	83.78	506.61
173	O	W	4	L	5	890.00	36.00	111.71	281.45
174	O	W	5	L	5	900.00	40.00	139.63	394.03
175	O	W	6	L	5	900.00	38.00	139.63	337.74

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA O**
BUILDING 1081 **Health Physics Lab**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
176	O	W	7	L	5	800.00	38.00	-139.63	337.74
177	O	W	10	K	5	670.00	46.00	-502.68	562.91
178	O	W	10	J	5	630.00	32.00	-614.39	168.87
179	O	W	10	I	5	860.00	32.00	27.93	168.87
180	O	W	10	H	5	890.00	38.00	111.71	337.74
181	O	W	10	G	5	880.00	36.00	83.78	281.45
182	O	W	10	F	5	910.00	36.00	167.56	281.45
183	O	W	10	E	5	890.00	22.00	111.71	-112.58
184	O	W	10	D	5	850.00	32.00	0.00	168.87
185	O	W	9	K	5	640.00	28.00	-586.46	56.29
186	O	W	9	J	5	850.00	22.00	0.00	-112.58
187	O	W	9	I	5	910.00	40.00	167.56	394.03
188	O	W	9	H	5	940.00	36.00	251.34	281.45
189	O	W	9	G	5	860.00	26.00	27.93	0.00
190	O	W	9	F	5	920.00	48.00	195.49	619.20
191	O	W	9	E	5	850.00	20.00	0.00	-168.87
192	O	W	9	D	5	870.00	36.00	55.85	281.45
193	O	W	8	K	5	660.00	12.00	-530.61	-394.03
194	O	W	8	J	5	550.00	32.00	-837.81	168.87
195	O	W	8	I	5	880.00	30.00	83.78	112.58
196	O	W	8	H	5	920.00	34.00	195.49	225.16
197	O	W	8	G	5	920.00	24.00	195.49	-56.29
198	O	W	8	F	5	850.00	36.00	0.00	281.45
199	O	W	8	E	5	880.00	38.00	83.78	337.74
200	O	W	8	D	5	940.00	32.00	251.34	168.87
201	O	W	7	A	5	970.00	54.00	335.12	788.07
202	O	W	6	A	5	900.00	26.00	139.63	0.00
203	O	W	5	A	5	880.00	52.00	83.78	731.78
204	O	W	4	A	5	840.00	26.00	-27.93	0.00
205	O	W	7	B	5	850.00	22.00	0.00	-112.58
206	O	W	6	B	5	820.00	24.00	-83.78	-56.29
207	O	W	5	B	5	900.00	22.00	139.63	-112.58
208	O	W	4	B	5	810.00	26.00	-111.71	0.00
209	O	W	7	C	5	870.00	40.00	55.85	394.03
210	O	W	6	C	5	940.00	44.00	251.34	506.61
211	O	W	5	C	5	850.00	30.00	0.00	112.58
212	O	W	4	C	5	840.00	34.00	-27.93	225.16
213	O	F	4	D	5	750.00	28.00	-279.27	56.29
214	O	F	4	E	5	750.00	22.00	-279.27	-112.58
215	O	F	4	F	5	730.00	24.00	-335.12	-56.29
216	O	F	4	G	5	760.00	12.00	-251.34	-394.03
217	O	F	4	H	5	820.00	24.00	-83.78	-56.29
218	O	F	4	I	5	810.00	26.00	-111.71	0.00
219	O	F	4	J	5	690.00	24.00	-446.83	-56.29
220	O	F	4	K	5	770.00	20.00	-223.41	-168.87
221	O	F	5	D	5	690.00	22.00	-446.83	-112.58
222	O	F	5	E	5	760.00	24.00	-251.34	-56.29
223	O	F	5	F	5	700.00	22.00	-418.90	-112.58

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
224	O	F	5	G	5	700.00	34.00	-418.90	225.16
225	O	F	5	H	5	660.00	38.00	-530.61	337.74
226	O	F	5	I	5	780.00	18.00	-195.49	-225.16
227	O	F	5	J	5	810.00	30.00	-111.71	112.58
228	O	F	5	K	5	730.00	24.00	-335.12	-56.29
229	O	F	6	D	5	760.00	18.00	-251.34	-225.16
230	O	F	6	E	5	740.00	22.00	-307.20	-112.58
231	O	F	6	F	5	780.00	25.00	-195.49	-28.15
232	O	F	6	G	5	860.00	24.00	27.93	-56.29
233	O	F	6	H	5	800.00	28.00	-139.63	56.29
234	O	F	6	I	5	750.00	26.00	-279.27	0.00
235	O	F	6	J	5	740.00	20.00	-307.20	-168.87
236	O	F	6	K	5	710.00	24.00	-390.98	-56.29
237	O	F	7	D	5	770.00	26.00	-223.41	0.00
238	O	F	7	E	5	770.00	28.00	-223.41	56.29
239	O	F	7	F	5	760.00	22.00	-251.34	-112.58
240	O	F	7	G	5	720.00	30.00	-363.05	112.58
241	O	F	7	H	5	830.00	18.00	-55.85	-225.16
242	O	F	7	I	5	700.00	20.00	-418.90	-168.87
243	O	F	7	J	5	740.00	14.00	-307.20	-337.74
244	O	F	7	K	5	730.00	28.00	-335.12	56.29
245	O	C	4	D	5	840.00	30.00	-27.93	112.58
246	O	C	4	E	5	730.00	54.00	-335.12	788.07
247	O	C	4	F	5	770.00	34.00	-223.41	225.16
248	O	C	4	G	5	800.00	44.00	-139.63	506.61
249	O	C	4	H	5	790.00	48.00	-167.56	619.20
250	O	C	4	I	5	740.00	58.00	-307.20	900.65
251	O	C	4	J	5	740.00	26.00	-307.20	0.00
252	O	C	4	K	5	800.00	30.00	-139.63	112.58
253	O	C	5	D	5	820.00	26.00	-83.78	0.00
254	O	C	5	E	5	800.00	28.00	-139.63	56.29
255	O	C	5	F	5	790.00	43.00	-167.56	478.47
256	O	C	5	G	5	840.00	56.00	-27.93	844.36
257	O	C	5	H	5	700.00	36.00	-418.90	281.45
258	O	C	5	I	5	730.00	32.00	-335.12	168.87
259	O	C	5	J	5	770.00	30.00	-223.41	112.58
260	O	C	5	K	5	800.00	42.00	-139.63	450.32
261	O	C	6	D	5	840.00	32.00	-27.93	168.87
262	O	C	6	E	5	740.00	30.00	-307.20	112.58
263	O	C	6	F	5	680.00	50.00	-474.76	675.49
264	O	C	6	G	5	700.00	48.00	-418.90	619.20
265	O	C	6	H	5	860.00	28.00	27.93	56.29
266	O	C	6	I	5	720.00	34.00	-363.05	225.16
267	O	C	6	J	5	800.00	44.00	-139.63	506.61
268	O	C	6	K	5	790.00	40.00	-167.56	394.03
269	O	C	7	D	5	810.00	26.00	-111.71	0.00
270	O	C	7	E	5	670.00	28.00	-502.68	56.29
271	O	C	7	F	5	690.00	28.00	-446.83	56.29

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
272	O	C	7	G	5	700.00	32.00	-418.90	168.87
273	O	C	7	H	5	880.00	30.00	83.78	112.58
274	O	C	7	I	5	820.00	42.00	-83.78	450.32
275	O	C	7	J	5	800.00	44.00	-139.63	506.61
276	O	C	7	K	5	780.00	40.00	-195.49	394.03

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: FLOOR, WALL, CEILING
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

FIXED POINT MEASUREMENTS

CLOSEOUT SURVEY
BUILDING 1081

AREA P
Lab 1
CLASS 1

Instrument Data	**Berthold LB123 with LB 1231 detector**	**Eberline ESP-2 with HP-210 detector**	**Survey Date:** 3 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm^2	228	15.5	**Survey Area: P**
Count time in minutes	0.5	0.5	LAB 1
Source Self Absorption	22%	22%	Class 1
Tc-99 Source dpm	91020	91020	
Background (cpm)	850	26	**Survey Performed By:**
Meter reading (cpm)	12000	16300	SSG Ronald DeGumbia
Meter Efficiency	15.71%	22.92%	
Scaler MDA in dpm/100cm^2	550.56	1096.30	

seq	DIGIT CODE					CPM	CPM	DPM/100cm^2	DPM/100cm^2
#	1	2	3	4	5	LB123	ESP-2	LB123	ESP-2
277	P	W	1	D	5	810.00	30.00	-111.71	112.58
278	P	W	1	E	5	870.00	32.00	55.85	168.87
279	P	W	1	F	5	800.00	26.00	-139.63	0.00
280	P	W	1	G	5	860.00	42.00	27.93	450.32
281	P	W	1	H	5	910.00	26.00	167.56	0.00
282	P	W	1	I	5	800.00	50.00	-139.63	675.49
283	P	W	1	J	5	970.00	32.00	335.12	168.87
284	P	W	2	D	5	920.00	30.00	195.49	112.58
285	P	W	2	E	5	860.00	38.00	27.93	337.74
286	P	W	2	F	5	790.00	44.00	-167.56	506.61
287	P	W	2	G	5	880.00	42.00	83.78	450.32
288	P	W	2	H	5	840.00	48.00	-27.93	619.20
289	P	W	2	I	5	880.00	40.00	83.78	394.03
290	P	W	2	J	5	920.00	34.00	195.49	225.16
291	P	W	3	D	5	940.00	40.00	251.34	394.03
292	P	W	3	E	5	880.00	36.00	83.78	281.45
293	P	W	3	F	5	910.00	36.00	167.56	281.45
294	P	W	3	G	5	840.00	42.00	-27.93	450.32
295	P	W	3	H	5	850.00	30.00	0.00	112.58
296	P	W	3	I	5	870.00	22.00	55.85	-112.58
297	P	W	3	J	5	880.00	26.00	83.78	0.00
298	P	W	4	M	5	860.00	20.00	27.93	-168.87
299	P	W	5	M	5	870.00	26.00	55.85	0.00
300	P	W	6	M	5	840.00	42.00	-27.93	450.32
301	P	W	7	N	5	870.00	34.00	55.85	225.16
302	P	W	8	N	5	870.00	38.00	55.85	337.74
303	P	W	9	N	5	870.00	26.00	55.85	0.00
304	P	W	10	N	5	860.00	52.00	27.93	731.78
305	P	W	11	M	5	880.00	36.00	83.78	281.45
306	P	W	12	M	5	920.00	32.00	195.49	168.87
307	P	W	13	M	5	870.00	34.00	55.85	225.16
308	P	W	14	M	5	880.00	34.00	83.78	225.16
309	P	W	15	M	5	630.00	20.00	-614.39	-168.87
310	P	W	16	M	5	910.00	38.00	167.56	337.74
311	P	W	17	M	5	980.00	38.00	363.05	337.74

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY**
BUILDING 1081

AREA P
Lab 1
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
312	P	W	4	L	5	850.00	20.00	0.00	-168.87
313	P	W	5	L	5	640.00	32.00	-586.46	168.87
314	P	W	6	L	5	820.00	28.00	-83.78	56.29
315	P	W	7	L	5	860.00	22.00	27.93	-112.58
316	P	W	8	L	5	910.00	38.00	167.56	337.74
317	P	W	9	L	5	880.00	52.00	83.78	731.78
318	P	W	10	L	5	830.00	34.00	-55.85	225.16
319	P	W	11	L	5	920.00	42.00	195.49	450.32
320	P	W	12	L	5	900.00	28.00	139.63	56.29
321	P	W	13	L	5	890.00	38.00	111.71	337.74
322	P	W	14	L	5	830.00	40.00	-55.85	394.03
323	P	W	15	L	5	590.00	24.00	-726.10	-56.29
324	P	W	16	L	5	930.00	32.00	223.41	168.87
325	P	W	17	L	5	890.00	34.00	111.71	225.16
326	P	W	4	K	5	910.00	44.00	167.56	506.61
327	P	W	5	K	5	550.00	20.00	-837.81	-168.87
328	P	W	6	K	5	780.00	36.00	-195.49	281.45
329	P	W	7	K	5	850.00	22.00	0.00	-112.58
330	P	W	8	K	5	800.00	44.00	-139.63	506.61
331	P	W	9	K	5	900.00	42.00	139.63	450.32
332	P	W	10	K	5	870.00	34.00	55.85	225.16
333	P	W	11	K	5	910.00	38.00	167.56	337.74
334	P	W	12	K	5	950.00	40.00	279.27	394.03
335	P	W	13	K	5	960.00	60.00	307.20	956.94
336	P	W	14	K	5	880.00	36.00	83.78	281.45
337	P	W	15	K	5	610.00	12.00	-670.24	-394.03
338	P	W	16	K	5	960.00	44.00	307.20	506.61
339	P	W	17	K	5	860.00	44.00	27.93	506.61
340	P	W	20	J	5	870.00	38.00	55.85	337.74
341	P	W	20	I	5	890.00	44.00	111.71	506.61
342	P	W	20	H	5	850.00	38.00	0.00	337.74
343	P	W	20	G	5	880.00	24.00	83.78	-56.29
344	P	W	20	F	5	870.00	56.00	55.85	844.36
345	P	W	20	E	5	930.00	46.00	223.41	562.91
346	P	W	20	D	5	810.00	32.00	-111.71	168.87
347	P	W	19	J	5	910.00	38.00	167.56	337.74
348	P	W	19	I	5	950.00	38.00	279.27	337.74
349	P	W	19	H	5	880.00	32.00	83.78	168.87
350	P	W	19	G	5	890.00	38.00	111.71	337.74
351	P	W	19	F	5	920.00	26.00	195.49	0.00
352	P	W	19	E	5	920.00	36.00	195.49	281.45
353	P	W	19	D	5	950.00	36.00	279.27	281.45
354	P	W	18	J	5	820.00	42.00	-83.78	450.32
355	P	W	18	I	5	930.00	46.00	223.41	562.91
356	P	W	18	H	5	950.00	22.00	279.27	-112.58
357	P	W	18	G	5	950.00	54.00	279.27	788.07
358	P	W	18	F	5	960.00	28.00	307.20	56.29
359	P	W	18	E	5	930.00	46.00	223.41	562.91

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA P**
BUILDING 1081 **Lab 1**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
360	P	W	18	D	5	990.00	42.00	390.98	450.32
361	P	W	17	A	5	900.00	22.00	139.63	-112.58
362	P	W	16	A	5	880.00	36.00	83.78	281.45
363	P	W	15	A	5	840.00	26.00	-27.93	0.00
364	P	W	14	A	5	850.00	24.00	0.00	-56.29
365	P	W	13	A	5	940.00	26.00	251.34	0.00
366	P	W	12	A	5	880.00	36.00	83.78	281.45
367	P	W	11	A	5	840.00	58.00	-27.93	900.65
368	P	W	10	A	5	860.00	24.00	27.93	-56.29
369	P	W	9	A	5	890.00	38.00	111.71	337.74
370	P	W	8	A	5	890.00	42.00	111.71	450.32
371	P	W	7	A	5	940.00	32.00	251.34	168.87
372	P	W	6	A	5	840.00	52.00	-27.93	731.78
373	P	W	5	A	5	560.00	36.00	-809.88	281.45
374	P	W	4	A	5	880.00	48.00	83.78	619.20
375	P	W	17	B	5	980.00	44.00	363.05	506.61
376	P	W	16	B	5	960.00	22.00	307.20	-112.58
377	P	W	15	B	5	960.00	38.00	307.20	337.74
378	P	W	14	B	5	790.00	54.00	-167.56	788.07
379	P	W	13	B	5	800.00	42.00	-139.63	450.32
380	P	W	12	B	5	940.00	28.00	251.34	56.29
381	P	W	11	B	5	660.00	36.00	-530.61	281.45
382	P	W	10	B	5	880.00	40.00	83.78	394.03
383	P	W	9	B	5	930.00	44.00	223.41	506.61
384	P	W	8	B	5	920.00	40.00	195.49	394.03
385	P	W	7	B	5	800.00	40.00	-139.63	394.03
386	P	W	6	B	5	900.00	24.00	139.63	-56.29
387	P	W	5	B	5	560.00	24.00	-809.88	-56.29
388	P	W	4	B	5	870.00	28.00	55.85	56.29
389	P	W	17	C	5	990.00	36.00	390.98	281.45
390	P	W	16	C	5	960.00	34.00	307.20	225.16
391	P	W	15	C	5	890.00	32.00	111.71	168.87
392	P	W	14	C	5	920.00	32.00	195.49	168.87
393	P	W	13	C	5	920.00	44.00	195.49	506.61
394	P	W	12	C	5	930.00	36.00	223.41	281.45
395	P	W	11	C	5	710.00	30.00	-390.98	112.58
396	P	W	10	C	5	860.00	36.00	27.93	281.45
397	P	W	9	C	5	910.00	36.00	167.56	281.45
398	P	W	8	C	5	760.00	36.00	-251.34	281.45
399	P	W	7	C	5	570.00	60.00	-781.95	956.94
400	P	W	6	C	5	940.00	50.00	251.34	675.49
401	P	W	5	C	5	570.00	20.00	-781.95	-168.87
402	P	W	4	C	5	890.00	32.00	111.71	168.87
403	P	F	4	D	5	680.00	18.00	-474.76	-225.16
404	P	F	4	E	5	740.00	32.00	-307.20	168.87
405	P	F	4	F	5	700.00	28.00	-418.90	56.29
406	P	F	4	G	5	790.00	20.00	-167.56	-168.87
407	P	F	4	H	5	680.00	14.00	-474.76	-337.74

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA P**
BUILDING 1081 **Lab 1**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
408	P	F	4	I	5	730.00	14.00	-335.12	-337.74
409	P	F	4	J	5	760.00	32.00	-251.34	168.87
410	P	F	5	D	5	620.00	24.00	-642.32	-56.29
411	P	F	5	E	5	700.00	20.00	-418.90	-168.87
412	P	F	5	F	5	750.00	18.00	-279.27	-225.16
413	P	F	5	G	5	710.00	24.00	-390.98	-56.29
414	P	F	5	H	5	750.00	20.00	-279.27	-168.87
415	P	F	5	I	5	700.00	26.00	-418.90	0.00
416	P	F	5	J	5	690.00	14.00	-446.83	-337.74
417	P	F	6	D	5	730.00	10.00	-335.12	-450.32
418	P	F	6	E	5	670.00	28.00	-502.68	56.29
419	P	F	6	F	5	660.00	36.00	-530.61	281.45
420	P	F	6	G	5	690.00	30.00	-446.83	112.58
421	P	F	6	H	5	640.00	44.00	-586.46	506.61
422	P	F	6	I	5	740.00	22.00	-307.20	-112.58
423	P	F	6	J	5	730.00	34.00	-335.12	225.16
424	P	F	7	D	5	680.00	32.00	-474.76	168.87
425	P	F	7	E	5	730.00	28.00	-335.12	56.29
426	P	F	7	F	5	670.00	16.00	-502.68	-281.45
427	P	F	7	G	5	720.00	26.00	-363.05	0.00
428	P	F	7	H	5	660.00	34.00	-530.61	225.16
429	P	F	7	I	5	770.00	44.00	-223.41	506.61
430	P	F	7	J	5	730.00	32.00	-335.12	168.87
431	P	F	8	D	5	680.00	42.00	-474.76	450.32
432	P	F	8	E	5	760.00	20.00	-251.34	-168.87
433	P	F	8	F	5	730.00	24.00	-335.12	-56.29
434	P	F	8	G	5	740.00	28.00	-307.20	56.29
435	P	F	8	H	5	750.00	36.00	-279.27	281.45
436	P	F	8	I	5	770.00	14.00	-223.41	-337.74
437	P	F	8	J	5	750.00	24.00	-279.27	-56.29
438	P	F	9	D	5	740.00	30.00	-307.20	112.58
439	P	F	9	E	5	640.00	24.00	-586.46	-56.29
440	P	F	9	F	5	760.00	26.00	-251.34	0.00
441	P	F	9	G	5	750.00	34.00	-279.27	225.16
442	P	F	9	H	5	770.00	22.00	-223.41	-112.58
443	P	F	9	I	5	720.00	36.00	-363.05	281.45
444	P	F	9	J	5	740.00	28.00	-307.20	56.29
445	P	F	10	D	5	690.00	30.00	-446.83	112.58
446	P	F	10	E	5	760.00	18.00	-251.34	-225.16
447	P	F	10	F	5	700.00	14.00	-418.90	-337.74
448	P	F	10	G	5	820.00	20.00	-83.78	-168.87
449	P	F	10	H	5	710.00	52.00	-390.98	731.78
450	P	F	10	I	5	770.00	22.00	-223.41	-112.58
451	P	F	10	J	5	740.00	20.00	-307.20	-168.87
452	P	F	11	D	5	670.00	22.00	-502.68	-112.58
453	P	F	11	E	5	690.00	34.00	-446.83	225.16
454	P	F	11	F	5	740.00	22.00	-307.20	-112.58
455	P	F	11	G	5	740.00	32.00	-307.20	168.87

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA P**
BUILDING 1081 **Lab 1**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
456	P	F	11	H	5	660.00	36.00	-530.61	281.45
457	P	F	11	I	5	750.00	26.00	-279.27	0.00
458	P	F	11	J	5	710.00	26.00	-390.98	0.00
459	P	F	12	D	5	750.00	26.00	-279.27	0.00
460	P	F	12	E	5	700.00	26.00	-418.90	0.00
461	P	F	12	F	5	740.00	22.00	-307.20	-112.58
462	P	F	12	G	5	710.00	24.00	-390.98	-56.29
463	P	F	12	H	5	730.00	14.00	-335.12	-337.74
464	P	F	12	I	5	730.00	26.00	-335.12	0.00
465	P	F	12	J	5	720.00	22.00	-363.05	-112.58
466	P	F	13	D	5	710.00	22.00	-390.98	-112.58
467	P	F	13	E	5	770.00	32.00	-223.41	168.87
468	P	F	13	F	5	680.00	32.00	-474.76	168.87
469	P	F	13	G	5	770.00	46.00	-223.41	562.91
470	P	F	13	H	5	780.00	34.00	-195.49	225.16
471	P	F	13	I	5	790.00	26.00	-167.56	0.00
472	P	F	13	J	5	730.00	10.00	-335.12	-450.32
473	P	F	14	D	5	760.00	32.00	-251.34	168.87
474	P	F	14	E	5	780.00	14.00	-195.49	-337.74
475	P	F	14	F	5	740.00	26.00	-307.20	0.00
476	P	F	14	G	5	660.00	30.00	-530.61	112.58
477	P	F	14	H	5	780.00	26.00	-195.49	0.00
478	P	F	14	I	5	750.00	34.00	-279.27	225.16
479	P	F	14	J	5	710.00	20.00	-390.98	-168.87
480	P	F	15	D	5	760.00	32.00	-251.34	168.87
481	P	F	15	E	5	760.00	26.00	-251.34	0.00
482	P	F	15	F	5	730.00	26.00	-335.12	0.00
483	P	F	15	G	5	700.00	16.00	-418.90	-281.45
484	P	F	15	H	5	720.00	38.00	-363.05	337.74
485	P	F	15	I	5	810.00	30.00	-111.71	112.58
486	P	F	15	J	5	730.00	30.00	-335.12	112.58
487	P	F	16	D	5	810.00	34.00	-111.71	225.16
488	P	F	16	E	5	750.00	20.00	-279.27	-168.87
489	P	F	16	F	5	750.00	32.00	-279.27	168.87
490	P	F	16	G	5	740.00	40.00	-307.20	394.03
491	P	F	16	H	5	800.00	18.00	-139.63	-225.16
492	P	F	16	I	5	770.00	30.00	-223.41	112.58
493	P	F	16	J	5	790.00	16.00	-167.56	-281.45
494	P	F	17	D	5	730.00	32.00	-335.12	168.87
495	P	F	17	E	5	790.00	38.00	-167.56	337.74
496	P	F	17	F	5	730.00	14.00	-335.12	-337.74
497	P	F	17	G	5	750.00	18.00	-279.27	-225.16
498	P	F	17	H	5	800.00	40.00	-139.63	394.03
499	P	F	17	I	5	780.00	24.00	-195.49	-56.29
500	P	F	17	J	5	800.00	24.00	-139.63	-56.29

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
501	P	C	4	D	5	800.00	44.00	-139.63	506.61
502	P	C	4	E	5	780.00	40.00	-195.49	394.03
503	P	C	4	F	5	700.00	32.00	-418.90	168.87
504	P	C	4	G	5	880.00	30.00	83.78	112.58
505	P	C	4	H	5	820.00	42.00	-83.78	450.32
506	P	C	4	I	5	800.00	44.00	-139.63	506.61
507	P	C	4	J	5	780.00	40.00	-195.49	394.03
508	P	C	5	D	5	700.00	32.00	-418.90	168.87
509	P	C	5	E	5	880.00	30.00	83.78	112.58
510	P	C	5	F	5	820.00	42.00	-83.78	450.32
511	P	C	5	G	5	800.00	44.00	-139.63	506.61
512	P	C	5	H	5	780.00	40.00	-195.49	394.03
513	P	C	5	I	5	700.00	32.00	-418.90	168.87
514	P	C	5	J	5	880.00	30.00	83.78	112.58

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: FLOOR, WALL, CEILING
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA P**
BUILDING 1081 **Lab 1**
CLASS 1

Instrument Data	Berthold LB123 with LB 1231 detector	Eberline ESP-2 with HP-210 detector	Survey Date: 6 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm^2	228	15.5	Survey Area: P
Count time in minutes	0.5	0.5	Lab1
Source Self Absorption	22%	22%	Class 1
Tc-99 Source dpm	91020	91020	
Background (cpm)	740	28	Survey Performed By:
Meter reading (cpm)	12000	17300	SSG Ronald DeGumbia
Meter Efficiency	15.86%	24.33%	
Scaler MDA in dpm/$100cm^2$	509.69	1066.53	

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/$100cm^2$ LB123	DPM/$100cm^2$ ESP-2
501	P	C	4	D	5	800.00	44.00	165.92	424.30
502	P	C	4	E	5	840.00	38.00	276.54	265.19
503	P	C	4	F	5	770.00	42.00	82.96	371.27
504	P	C	4	G	5	840.00	48.00	276.54	530.38
505	P	C	4	H	5	770.00	28.00	82.96	0.00
506	P	C	4	I	5	870.00	36.00	359.50	212.15
507	P	C	4	J	5	800.00	44.00	165.92	424.30
508	P	C	5	D	5	790.00	48.00	138.27	530.38
509	P	C	5	E	5	640.00	26.00	-276.54	-53.04
510	P	C	5	F	5	840.00	28.00	276.54	0.00
511	P	C	5	G	5	800.00	38.00	165.92	265.19
512	P	C	5	H	5	740.00	36.00	0.00	212.15
513	P	C	5	I	5	870.00	34.00	359.50	159.11
514	P	C	5	J	5	77.00	41.00	-1833.46	344.75
515	P	C	6	D	5	750.00	33.00	27.65	132.59
516	P	C	6	E	5	830.00	25.00	248.89	-79.56
517	P	C	6	F	5	800.00	26.00	165.92	-53.04
518	P	C	6	G	5	740.00	26.00	0.00	-53.04
519	P	C	6	H	5	700.00	30.00	-110.62	53.04
520	P	C	6	I	5	680.00	40.00	-165.92	318.23
521	P	C	6	J	5	810.00	25.00	193.58	-79.56
522	P	C	7	D	5	750.00	48.00	27.65	530.38
523	P	C	7	E	5	810.00	36.00	193.58	212.15
524	P	C	7	F	5	630.00	46.00	-304.19	477.34
525	P	C	7	G	5	760.00	33.00	55.31	132.59
526	P	C	7	H	5	690.00	37.00	-138.27	238.67
527	P	C	7	I	5	730.00	26.00	-27.65	-53.04
528	P	C	7	J	5	840.00	34.00	276.54	159.11
529	P	C	8	D	5	880.00	44.00	387.16	424.30
530	P	C	8	E	5	900.00	52.00	442.46	636.46
531	P	C	8	F	5	870.00	33.00	359.50	132.59
532	P	C	8	G	5	860.00	38.00	331.85	265.19
533	P	C	8	H	5	680.00	25.00	-165.92	-79.56
534	P	C	8	I	5	840.00	43.00	276.54	397.78
535	P	C	8	J	5	810.00	26.00	193.58	-53.04

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA P**
BUILDING 1081 **Lab 1**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
536	P	C	9	D	5	630.00	39.00	-304.19	291.71
537	P	C	9	E	5	770.00	33.00	82.96	132.59
538	P	C	9	F	5	850.00	41.00	304.19	344.75
539	P	C	9	G	5	720.00	49.00	-55.31	556.90
540	P	C	9	H	5	720.00	30.00	-55.31	53.04
541	P	C	9	I	5	780.00	24.00	110.62	-106.08
542	P	C	9	J	5	840.00	34.00	276.54	159.11
543	P	C	10	D	5	790.00	33.00	138.27	132.59
544	P	C	10	E	5	770.00	25.00	82.96	-79.56
545	P	C	10	F	5	690.00	24.00	-138.27	-106.08
546	P	C	10	G	5	700.00	26.00	-110.62	-53.04
547	P	C	10	H	5	680.00	20.00	-165.92	-212.15
548	P	C	10	I	5	770.00	20.00	82.96	-212.15
549	P	C	10	J	5	760.00	22.00	55.31	-159.11
550	P	C	11	D	5	780.00	38.00	110.62	265.19
551	P	C	11	E	5	730.00	30.00	-27.65	53.04
552	P	C	11	F	5	740.00	32.00	0.00	106.08
553	P	C	11	G	5	800.00	44.00	165.92	424.30
554	P	C	11	H	5	720.00	45.00	-55.31	450.82
555	P	C	11	I	5	840.00	43.00	276.54	397.78
556	P	C	11	J	5	880.00	26.00	387.16	-53.04
557	P	C	12	D	5	820.00	24.00	221.23	-106.08
558	P	C	12	E	5	840.00	42.00	276.54	371.27
559	P	C	12	F	5	780.00	32.00	110.62	106.08
560	P	C	12	G	5	770.00	40.00	82.96	318.23
561	P	C	12	H	5	840.00	38.00	276.54	265.19
562	P	C	12	I	5	820.00	38.00	221.23	265.19
563	P	C	12	J	5	810.00	32.00	193.58	106.08
564	P	C	13	D	5	840.00	26.00	276.54	-53.04
565	P	C	13	E	5	780.00	22.00	110.62	-159.11
566	P	C	13	F	5	720.00	40.00	-55.31	318.23
567	P	C	13	G	5	900.00	46.00	442.46	477.34
568	P	C	13	H	5	770.00	43.00	82.96	397.78
569	P	C	13	I	5	790.00	30.00	138.27	53.04
570	P	C	13	J	5	800.00	41.00	165.92	344.75
571	P	C	14	D	5	880.00	24.00	387.16	-106.08
572	P	C	14	E	5	870.00	27.00	359.50	-26.52
573	P	C	14	F	5	840.00	33.00	276.54	132.59
574	P	C	14	G	5	840.00	46.00	276.54	477.34
575	P	C	14	H	5	800.00	28.00	165.92	0.00
576	P	C	14	I	5	810.00	27.00	193.58	-26.52
577	P	C	14	J	5	840.00	37.00	276.54	238.67
578	P	C	15	D	5	790.00	36.00	138.27	212.15
579	P	C	15	E	5	780.00	32.00	110.62	106.08
580	P	C	15	F	5	770.00	36.00	82.96	212.15
581	P	C	15	G	5	740.00	27.00	0.00	-26.52
582	P	C	15	H	5	760.00	37.00	55.31	238.67
583	P	C	15	I	5	720.00	44.00	-55.31	424.30

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA P**
BUILDING 1081 **Lab 1**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
584	P	C	15	J	5	880.00	40.00	387.16	318.23
585	P	C	16	D	5	900.00	41.00	442.46	344.75
586	P	C	16	E	5	880.00	42.00	387.16	371.27
587	P	C	16	F	5	840.00	34.00	276.54	159.11
588	P	C	16	G	5	770.00	38.00	82.96	265.19
589	P	C	16	H	5	740.00	28.00	0.00	0.00
590	P	C	16	I	5	730.00	32.00	-27.65	106.08
591	P	C	16	J	5	840.00	28.00	276.54	0.00
592	P	C	17	D	5	820.00	45.00	221.23	450.82
593	P	C	17	E	5	880.00	27.00	387.16	-26.52
594	P	C	17	F	5	840.00	44.00	276.54	424.30
595	P	C	17	G	5	900.00	35.00	442.46	185.63
596	P	C	17	H	5	840.00	38.00	276.54	265.19
597	P	C	17	I	5	900.00	35.00	442.46	185.63
598	P	C	17	J	5	700.00	40.00	-110.62	318.23

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: FLOOR, WALL, CEILING
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY**
BUILDING 1081

AREA R
Prep Lab
CLASS 1

Instrument Data	**Berthold LB123 with LB 1231 detector**	**Eberline ESP-2 with HP-210 detector**	**Survey Date:** 4 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm^2	228	15.5	**Survey Area: R**
Count time in minutes	0.5	0.5	Preparation Lab
Source Self Absorption	22%	22%	Class 1
Tc-99 Source dpm	91020	91020	
Background (cpm)	780	26	**Survey Performed By:**
Meter reading (cpm)	11900	16900	SSG Ronald DeGumbia
Meter Efficiency	15.66%	23.77%	
Scaler MDA in dpm/100cm^2	529.47	1057.32	

seq	DIGIT CODE					CPM	CPM	DPM/100cm^2	DPM/100cm^2
#	1	2	3	4	5	LB123	ESP-2	LB123	ESP-2
600	R	W	1	D	5	810.00	40.00	84.01	380.02
601	R	W	1	E	5	860.00	28.00	224.02	54.29
602	R	W	1	F	5	900.00	46.00	336.03	542.89
603	R	W	1	G	5	860.00	26.00	224.02	0.00
604	R	W	1	H	5	860.00	24.00	224.02	-54.29
605	R	W	1	I	5	870.00	32.00	252.02	162.87
606	R	W	1	J	5	780.00	32.00	0.00	162.87
607	R	W	1	K	5	900.00	26.00	336.03	0.00
608	R	W	2	D	5	860.00	18.00	224.02	-217.16
609	R	W	2	E	5	860.00	42.00	224.02	434.31
610	R	W	2	F	5	800.00	38.00	56.00	325.73
611	R	W	2	G	5	790.00	28.00	28.00	54.29
612	R	W	2	H	5	780.00	38.00	0.00	325.73
613	R	W	2	I	5	850.00	36.00	196.02	271.44
614	R	W	2	J	5	600.00	22.00	-504.04	-108.58
615	R	W	2	K	5	820.00	34.00	112.01	217.16
616	R	W	3	D	5	810.00	44.00	84.01	488.60
617	R	W	3	E	5	850.00	30.00	196.02	108.58
618	R	W	3	F	5	880.00	32.00	280.02	162.87
619	R	W	3	G	5	900.00	26.00	336.03	0.00
620	R	W	3	H	5	780.00	24.00	0.00	-54.29
621	R	W	3	I	5	880.00	28.00	280.02	54.29
622	R	W	3	J	5	610.00	22.00	-476.04	-108.58
623	R	W	3	K	5	850.00	18.00	196.02	-217.16
624	R	W	4	N	5	900.00	42.00	336.03	434.31
625	R	W	5	N	5	810.00	28.00	84.01	54.29
626	R	W	6	N	5	760.00	28.00	-56.00	54.29
627	R	W	7	N	5	740.00	36.00	-112.01	271.44
628	R	W	8	N	5	840.00	38.00	168.01	325.73
629	R	W	9	N	5	840.00	24.00	168.01	-54.29
630	R	W	10	N	5	840.00	32.00	168.01	162.87
631	R	W	11	N	5	910.00	46.00	364.03	542.89
632	R	W	4	M	5	770.00	38.00	-28.00	325.73
633	R	W	5	M	5	570.00	20.00	-588.05	-162.87
634	R	W	6	M	5	890.00	46.00	308.02	542.89

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA R**
BUILDING 1081 **Prep Lab**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
635	R	W	7	M	5	890.00	42.00	308.02	434.31
636	R	W	8	M	5	840.00	34.00	168.01	217.16
637	R	W	9	M	5	900.00	26.00	336.03	0.00
638	R	W	10	M	5	780.00	40.00	0.00	380.02
639	R	W	11	M	5	820.00	36.00	112.01	271.44
640	R	W	4	L	5	820.00	32.00	112.01	162.87
641	R	W	5	L	5	820.00	32.00	112.01	162.87
642	R	W	6	L	5	770.00	32.00	-28.00	162.87
643	R	W	7	L	5	830.00	30.00	140.01	108.58
644	R	W	8	L	5	830.00	34.00	140.01	217.16
645	R	W	9	L	5	870.00	44.00	252.02	488.60
646	R	W	10	L	5	860.00	30.00	224.02	108.58
647	R	W	11	L	5	850.00	42.00	196.02	434.31
648	R	W	14	K	5	800.00	36.00	56.00	271.44
649	R	W	14	J	5	850.00	34.00	196.02	217.16
650	R	W	14	I	5	900.00	44.00	336.03	488.60
651	R	W	14	H	5	840.00	34.00	168.01	217.16
652	R	W	14	G	5	840.00	36.00	168.01	271.44
653	R	W	14	F	5	870.00	28.00	252.02	54.29
654	R	W	14	E	5	870.00	18.00	252.02	-217.16
655	R	W	14	D	5	910.00	28.00	364.03	54.29
656	R	W	13	K	5	890.00	24.00	308.02	-54.29
657	R	W	13	J	5	590.00	16.00	-532.04	-271.44
658	R	W	13	I	5	860.00	34.00	224.02	217.16
659	R	W	13	H	5	840.00	42.00	168.01	434.31
660	R	W	13	G	5	910.00	50.00	364.03	651.47
661	R	W	13	F	5	870.00	24.00	252.02	-54.29
662	R	W	13	E	5	830.00	42.00	140.01	434.31
663	R	W	13	D	5	960.00	22.00	504.04	-108.58
664	R	W	12	K	5	810.00	26.00	84.01	0.00
665	R	W	12	J	5	580.00	16.00	-560.04	-271.44
666	R	W	12	I	5	810.00	32.00	84.01	162.87
667	R	W	12	H	5	860.00	32.00	224.02	162.87
668	R	W	12	G	5	890.00	60.00	308.02	922.91
669	R	W	12	F	5	900.00	36.00	336.03	271.44
670	R	W	12	E	5	850.00	26.00	196.02	0.00
671	R	W	12	D	5	880.00	44.00	280.02	488.60
672	R	W	11	A	5	850.00	28.00	196.02	54.29
673	R	W	10	A	5	820.00	32.00	112.01	162.87
674	R	W	9	A	5	860.00	24.00	224.02	-54.29
675	R	W	8	A	5	610.00	28.00	-476.04	54.29
676	R	W	7	A	5	530.00	22.00	-700.05	-108.58
677	R	W	6	A	5	710.00	30.00	-196.02	108.58
678	R	W	5	A	5	840.00	20.00	168.01	-162.87
679	R	W	4	A	5	790.00	20.00	28.00	-162.87
680	R	W	11	B	5	780.00	24.00	0.00	-54.29
681	R	W	10	B	5	600.00	22.00	-504.04	-108.58
682	R	W	9	B	5	850.00	30.00	196.02	108.58

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA R**
BUILDING 1081 **Prep Lab**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
683	R	W	8	B	5	700.00	34.00	-224.02	217.16
684	R	W	7	B	5	720.00	18.00	-168.01	-217.16
685	R	W	6	B	5	800.00	38.00	56.00	325.73
686	R	W	5	B	5	820.00	26.00	112.01	0.00
687	R	W	4	B	5	850.00	20.00	196.02	-162.87
688	R	W	11	C	5	860.00	24.00	224.02	-54.29
689	R	W	10	C	5	540.00	20.00	-672.05	-162.87
690	R	W	9	C	5	560.00	24.00	-616.05	-54.29
691	R	W	8	C	5	810.00	26.00	84.01	0.00
692	R	W	7	C	5	510.00	20.00	-756.06	-162.87
693	R	W	6	C	5	500.00	28.00	-784.06	54.29
694	R	W	5	C	5	890.00	34.00	308.02	217.16
695	R	W	4	C	5	820.00	32.00	112.01	162.87
696	R	F	4	D	5	740.00	22.00	-112.01	-108.58
697	R	F	4	E	5	720.00	26.00	-168.01	0.00
698	R	F	4	F	5	750.00	14.00	-84.01	-325.73
699	R	F	4	G	5	690.00	12.00	-252.02	-380.02
700	R	F	4	H	5	710.00	32.00	-196.02	162.87
701	R	F	4	I	5	750.00	26.00	-84.01	0.00
702	R	F	4	J	5	660.00	36.00	-336.03	271.44
703	R	F	4	K	5	680.00	26.00	-280.02	0.00
704	R	F	5	D	5	710.00	26.00	-196.02	0.00
705	R	F	5	E	5	700.00	28.00	-224.02	54.29
706	R	F	5	F	5	650.00	18.00	-364.03	-217.16
707	R	F	5	G	5	700.00	34.00	-224.02	217.16
708	R	F	5	H	5	680.00	32.00	-280.02	162.87
709	R	F	5	I	5	700.00	34.00	-224.02	217.16
710	R	F	5	J	5	710.00	22.00	-196.02	-108.58
711	R	F	5	K	5	740.00	26.00	-112.01	0.00
712	R	F	6	D	5	640.00	28.00	-392.03	54.29
713	R	F	6	E	5	650.00	32.00	-364.03	162.87
714	R	F	6	F	5	700.00	14.00	-224.02	-325.73
715	R	F	6	G	5	760.00	26.00	-56.00	0.00
716	R	F	6	H	5	700.00	42.00	-224.02	434.31
717	R	F	6	I	5	720.00	28.00	-168.01	54.29
718	R	F	6	J	5	700.00	40.00	-224.02	380.02
719	R	F	6	K	5	700.00	16.00	-224.02	-271.44
720	R	F	7	D	5	680.00	28.00	-280.02	54.29
721	R	F	7	E	5	690.00	20.00	-252.02	-162.87
722	R	F	7	F	5	720.00	18.00	-168.01	-217.16
723	R	F	7	G	5	730.00	18.00	-140.01	-217.16
724	R	F	7	H	5	700.00	39.00	-224.02	352.88
725	R	F	7	I	5	740.00	24.00	-112.01	-54.29
726	R	F	7	J	5	760.00	28.00	-56.00	54.29
727	R	F	7	K	5	680.00	30.00	-280.02	108.58
728	R	F	8	D	5	700.00	26.00	-224.02	0.00
729	R	F	8	E	5	660.00	20.00	-336.03	-162.87
730	R	F	8	F	5	720.00	26.00	-168.01	0.00

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA R**
BUILDING 1081 **Prep Lab**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
731	R	F	8	G	5	720.00	22.00	-168.01	-108.58
732	R	F	8	H	5	730.00	16.00	-140.01	-271.44
733	R	F	8	I	5	720.00	14.00	-168.01	-325.73
734	R	F	8	J	5	740.00	22.00	-112.01	-108.58
735	R	F	8	K	5	660.00	26.00	-336.03	0.00
736	R	F	9	D	5	640.00	18.00	-392.03	-217.16
737	R	F	9	E	5	670.00	26.00	-308.02	0.00
738	R	F	9	F	5	730.00	26.00	-140.01	0.00
739	R	F	9	G	5	690.00	22.00	-252.02	-108.58
740	R	F	9	H	5	630.00	22.00	-420.03	-108.58
741	R	F	9	I	5	690.00	18.00	-252.02	-217.16
742	R	F	9	J	5	660.00	34.00	-336.03	217.16
743	R	F	9	K	5	750.00	20.00	-84.01	-162.87
744	R	F	10	D	5	580.00	30.00	-560.04	108.58
745	R	F	10	E	5	640.00	16.00	-392.03	-271.44
746	R	F	10	F	5	690.00	28.00	-252.02	54.29
747	R	F	10	G	5	680.00	34.00	-280.02	217.16
748	R	F	10	H	5	720.00	24.00	-168.01	-54.29
749	R	F	10	I	5	700.00	30.00	-224.02	108.58
750	R	F	10	J	5	680.00	32.00	-280.02	162.87
751	R	F	10	K	5	720.00	24.00	-168.01	-54.29
752	R	F	11	D	5	670.00	34.00	-308.02	217.16
753	R	F	11	E	5	680.00	18.00	-280.02	-217.16
754	R	F	11	F	5	780.00	20.00	0.00	-162.87
755	R	F	11	G	5	690.00	20.00	-252.02	-162.87
756	R	F	11	H	5	760.00	22.00	-56.00	-108.58
757	R	F	11	I	5	720.00	38.00	-168.01	325.73
758	R	F	11	J	5	700.00	26.00	-224.02	0.00
759	R	F	11	K	5	640.00	32.00	-392.03	162.87

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: FLOOR, WALL, CEILING
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

FIXED POINT MEASUREMENTS

CLOSEOUT SURVEY
BUILDING 1081

AREA R
Prep Lab
CLASS 1

Instrument Data	**Berthold LB123 with LB 1231 detector**	**Eberline ESP-2 with HP-210 detector**	**Survey Date:** 5 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm^2	228	15.5	**Survey Area: R**
Count time in minutes	0.5	0.5	Preparation Lab
Source Self Absorption	22%	22%	Class 1
Tc-99 Source dpm	91020	91020	
Background (cpm)	780	28	**Survey Performed By:**
Meter reading (cpm)	12200	17300	SSG Ronald DeGumbia
Meter Efficiency	16.09%	24.33%	
Scaler MDA in dpm/$100cm^2$	515.56	1066.53	

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/$100cm^2$ LB123	DPM/$100cm^2$ ESP-2
760	R	C	4	D	5	920.00	46.00	381.73	477.34
761	R	C	4	E	5	900.00	66.00	327.20	1007.72
762	R	C	4	F	5	910.00	28.00	354.47	0.00
763	R	C	4	G	5	910.00	38.00	354.47	265.19
764	R	C	4	H	5	820.00	58.00	109.07	795.57
765	R	C	4	I	5	910.00	52.00	354.47	636.46
766	R	C	4	J	5	890.00	33.00	299.93	132.59
767	R	C	4	K	5	780.00	44.00	0.00	424.30
768	R	C	5	D	5	840.00	35.00	163.60	185.63
769	R	C	5	E	5	710.00	28.00	-190.87	0.00
770	R	C	5	F	5	820.00	60.00	109.07	848.61
771	R	C	5	G	5	850.00	46.00	190.87	477.34
772	R	C	5	H	5	840.00	61.00	163.60	875.13
773	R	C	5	I	5	760.00	34.00	-54.53	159.11
774	R	C	5	J	5	850.00	58.00	190.87	795.57
775	R	C	5	K	5	900.00	59.00	327.20	822.09
776	R	C	6	D	5	890.00	48.00	299.93	530.38
777	R	C	6	E	5	870.00	40.00	245.40	318.23
778	R	C	6	F	5	770.00	26.00	-27.27	-53.04
779	R	C	6	G	5	740.00	33.00	-109.07	132.59
780	R	C	6	H	5	720.00	28.00	-163.60	0.00
781	R	C	6	I	5	700.00	40.00	-218.13	318.23
782	R	C	6	J	5	710.00	43.00	-190.87	397.78
783	R	C	6	K	5	720.00	41.00	-163.60	344.75
784	R	C	7	D	5	700.00	38.00	-218.13	265.19
785	R	C	7	E	5	770.00	37.00	-27.27	238.67
786	R	C	7	F	5	680.00	46.00	-272.67	477.34
787	R	C	7	G	5	700.00	48.00	-218.13	530.38
788	R	C	7	H	5	670.00	28.00	-299.93	0.00
789	R	C	7	I	5	770.00	30.00	-27.27	53.04
790	R	C	7	J	5	680.00	30.00	-272.67	53.04
791	R	C	7	K	5	710.00	36.00	-190.87	212.15
792	R	C	8	D	5	720.00	38.00	-163.60	265.19
793	R	C	8	E	5	770.00	48.00	-27.27	530.38
794	R	C	8	F	5	780.00	53.00	0.00	662.97

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA R**
BUILDING 1081 **Prep Lab**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
795	R	C	8	G	5	800.00	47.00	54.53	503.86
796	R	C	8	H	5	680.00	41.00	-272.67	344.75
797	R	C	8	I	5	820.00	44.00	109.07	424.30
798	R	C	8	J	5	780.00	48.00	0.00	530.38
799	R	C	8	K	5	750.00	46.00	-81.80	477.34
800	R	C	9	D	5	760.00	44.00	-54.53	424.30
801	R	C	9	E	5	750.00	56.00	-81.80	742.53
802	R	C	9	F	5	750.00	28.00	-81.80	0.00
803	R	C	9	G	5	730.00	28.00	-136.33	0.00
804	R	C	9	H	5	820.00	48.00	109.07	530.38
805	R	C	9	I	5	720.00	24.00	-163.60	-106.08
806	R	C	9	J	5	790.00	34.00	27.27	159.11
807	R	C	9	K	5	800.00	44.00	54.53	424.30
808	R	C	10	D	5	680.00	46.00	-272.67	477.34
809	R	C	10	E	5	700.00	44.00	-218.13	424.30
810	R	C	10	F	5	660.00	38.00	-327.20	265.19
811	R	C	10	G	5	740.00	34.00	-109.07	159.11
812	R	C	10	H	5	780.00	30.00	0.00	53.04
813	R	C	10	I	5	740.00	28.00	-109.07	0.00
814	R	C	10	J	5	800.00	26.00	54.53	-53.04
815	R	C	10	K	5	820.00	48.00	109.07	530.38
816	R	C	11	D	5	770.00	50.00	-27.27	583.42
817	R	C	11	E	5	750.00	48.00	-81.80	530.38
818	R	C	11	F	5	750.00	49.00	-81.80	556.90
819	R	C	11	G	5	800.00	36.00	54.53	212.15
820	R	C	11	H	5	780.00	30.00	0.00	53.04
821	R	C	11	I	5	770.00	34.00	-27.27	159.11
822	R	C	11	J	5	790.00	28.00	27.27	0.00
823	R	C	11	K	5	800.00	29.00	54.53	26.52

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: FLOOR, WALL, CEILING
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY**
BUILDING 1081

AREA V
VAULT
CLASS 1

Instrument Data	**Berthold LB123 with LB 1231 detector**	**Eberline ESP-2 with HP-210 detector**	**Survey Date:** 4 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm^2	228	15.5	**Survey Area: V**
Count time in minutes	0.5	0.5	VAULT
Source Self Absorption	22%	22%	Class 1
Tc-99 Source dpm	91020	91020	
Background (cpm)	870	28	**Survey Performed By:**
Meter reading (cpm)	12300	17400	SSG Ronald DeGumbia
Meter Efficiency	16.10%	24.47%	
Scaler MDA in dpm/$100cm^2$	543.18	1060.39	

seq	DIGIT CODE					CPM	CPM	DPM/$100cm^2$	DPM/$100cm^2$
#	1	2	3	4	5	LB123	ESP-2	LB123	ESP-2
823	V	W	1	D	5	810.00	18.00	-163.46	-263.66
824	V	W	1	E	5	830.00	44.00	-108.97	421.86
825	V	W	1	F	5	850.00	28.00	-54.49	0.00
826	V	W	1	G	5	900.00	38.00	81.73	263.66
827	V	W	1	H	5	870.00	28.00	0.00	0.00
828	V	W	1	I	5	930.00	42.00	163.46	369.13
829	V	W	1	J	5	930.00	40.00	163.46	316.40
830	V	W	1	K	5	840.00	28.00	-81.73	0.00
831	V	W	2	D	5	740.00	26.00	-354.16	-52.73
832	V	W	2	E	5	850.00	32.00	-54.49	105.47
833	V	W	2	F	5	900.00	38.00	81.73	263.66
834	V	W	2	G	5	870.00	36.00	0.00	210.93
835	V	W	2	H	5	880.00	44.00	27.24	421.86
836	V	W	2	I	5	830.00	34.00	-108.97	158.20
837	V	W	2	J	5	930.00	30.00	163.46	52.73
838	V	W	2	K	5	820.00	36.00	-136.21	210.93
839	V	W	3	D	5	800.00	28.00	-190.70	0.00
840	V	W	3	E	5	810.00	28.00	-163.46	0.00
841	V	W	3	F	5	870.00	54.00	0.00	685.52
842	V	W	3	G	5	830.00	24.00	-108.97	-105.47
843	V	W	3	H	5	860.00	38.00	-27.24	263.66
844	V	W	3	I	5	860.00	38.00	-27.24	263.66
845	V	W	3	J	5	870.00	34.00	0.00	158.20
846	V	W	3	K	5	820.00	22.00	-136.21	-158.20
847	V	W	4	N	5	820.00	26.00	-136.21	-52.73
848	V	W	5	N	5	850.00	46.00	-54.49	474.59
849	V	W	6	N	5	870.00	44.00	0.00	421.86
850	V	W	7	N	5	850.00	42.00	-54.49	369.13
851	V	W	8	N	5	870.00	40.00	0.00	316.40
852	V	W	9	N	5	830.00	44.00	-108.97	421.86
853	V	W	10	N	5	850.00	32.00	-54.49	105.47
854	V	W	11	N	5	880.00	56.00	27.24	738.26
855	V	W	4	M	5	860.00	48.00	-27.24	527.33
856	V	W	5	M	5	920.00	28.00	136.21	0.00
857	V	W	6	M	5	870.00	36.00	0.00	210.93

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY**
BUILDING 1081

AREA V
VAULT
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
858	V	W	7	M	5	890.00	30.00	54.49	52.73
859	V	W	8	M	5	850.00	18.00	-54.49	-263.66
860	V	W	9	M	5	970.00	26.00	272.43	-52.73
861	V	W	10	M	5	830.00	38.00	-108.97	263.66
862	V	W	11	M	5	900.00	30.00	81.73	52.73
863	V	W	4	L	5	890.00	30.00	54.49	52.73
864	V	W	5	L	5	850.00	28.00	-54.49	0.00
865	V	W	6	L	5	900.00	42.00	81.73	369.13
866	V	W	7	L	5	900.00	30.00	81.73	52.73
867	V	W	8	L	5	840.00	42.00	-81.73	369.13
868	V	W	9	L	5	900.00	28.00	81.73	0.00
869	V	W	10	L	5	880.00	18.00	27.24	-263.66
870	V	W	11	L	5	820.00	20.00	-136.21	-210.93
871	V	W	14	K	5	890.00	40.00	54.49	316.40
872	V	W	14	J	5	710.00	12.00	-435.88	-421.86
873	V	W	14	I	5	900.00	48.00	81.73	527.33
874	V	W	14	H	5	980.00	36.00	299.67	210.93
875	V	W	14	G	5	890.00	26.00	54.49	-52.73
876	V	W	14	F	5	900.00	18.00	81.73	-263.66
877	V	W	14	E	5	860.00	40.00	-27.24	316.40
878	V	W	14	D	5	810.00	28.00	-163.46	0.00
879	V	W	13	K	5	960.00	27.00	245.18	-26.37
880	V	W	13	J	5	670.00	24.00	-544.85	-105.47
881	V	W	13	I	5	910.00	28.00	108.97	0.00
882	V	W	13	H	5	990.00	54.00	326.91	685.52
883	V	W	13	G	5	910.00	36.00	108.97	210.93
884	V	W	13	F	5	900.00	40.00	81.73	316.40
885	V	W	13	E	5	920.00	30.00	136.21	52.73
886	V	W	13	D	5	950.00	38.00	217.94	263.66
887	V	W	12	K	5	990.00	36.00	326.91	210.93
888	V	W	12	J	5	670.00	18.00	-544.85	-263.66
889	V	W	12	I	5	930.00	40.00	163.46	316.40
890	V	W	12	H	5	940.00	40.00	190.70	316.40
891	V	W	12	G	5	920.00	30.00	136.21	52.73
892	V	W	12	F	5	940.00	24.00	190.70	-105.47
893	V	W	12	E	5	950.00	22.00	217.94	-158.20
894	V	W	12	D	5	910.00	40.00	108.97	316.40
895	V	W	11	A	5	820.00	36.00	-136.21	210.93
896	V	W	10	A	5	870.00	32.00	0.00	105.47
897	V	W	9	A	5	920.00	28.00	136.21	0.00
898	V	W	8	A	5	860.00	54.00	-27.24	685.52
899	V	W	7	A	5	760.00	28.00	-299.67	0.00
900	V	W	6	A	5	840.00	30.00	-81.73	52.73
901	V	W	5	A	5	930.00	34.00	163.46	158.20
902	V	W	4	A	5	840.00	36.00	-81.73	210.93
903	V	W	11	B	5	910.00	34.00	108.97	158.20
904	V	W	10	B	5	900.00	28.00	81.73	0.00
905	V	W	9	B	5	890.00	32.00	54.49	105.47

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA V**
BUILDING 1081 **VAULT**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
906	V	W	8	B	5	780.00	30.00	-245.18	52.73
907	V	W	7	B	5	770.00	32.00	-272.43	105.47
908	V	W	6	B	5	900.00	32.00	81.73	105.47
909	V	W	5	B	5	870.00	34.00	0.00	158.20
910	V	W	4	B	5	930.00	32.00	163.46	105.47
911	V	W	11	C	5	900.00	32.00	81.73	105.47
912	V	W	10	C	5	870.00	32.00	0.00	105.47
913	V	W	9	C	5	870.00	30.00	0.00	52.73
914	V	W	8	C	5	900.00	28.00	81.73	0.00
915	V	W	7	C	5	890.00	32.00	54.49	105.47
916	V	W	6	C	5	930.00	32.00	163.46	105.47
917	V	W	5	C	5	940.00	36.00	190.70	210.93
918	V	W	4	C	5	950.00	26.00	217.94	-52.73
919	V	F	4	D	5	740.00	56.00	-354.16	738.26
920	V	F	4	E	5	750.00	36.00	-326.91	210.93
921	V	F	4	F	5	760.00	22.00	-299.67	-158.20
922	V	F	4	G	5	710.00	14.00	-435.88	-369.13
923	V	F	4	H	5	750.00	28.00	-326.91	0.00
924	V	F	4	I	5	760.00	31.00	-299.67	79.10
925	V	F	4	J	5	710.00	14.00	-435.88	-369.13
926	V	F	4	K	5	750.00	28.00	-326.91	0.00
927	V	F	5	D	5	640.00	26.00	-626.58	-52.73
928	V	F	5	E	5	690.00	16.00	-490.37	-316.40
929	V	F	5	F	5	780.00	16.00	-245.18	-316.40
930	V	F	5	G	5	810.00	26.00	-163.46	-52.73
931	V	F	5	H	5	690.00	28.00	-490.37	0.00
932	V	F	5	I	5	780.00	34.00	-245.18	158.20
933	V	F	5	J	5	820.00	24.00	-136.21	-105.47
934	V	F	5	K	5	640.00	36.00	-626.58	210.93
935	V	F	6	D	5	710.00	34.00	-435.88	158.20
936	V	F	6	E	5	670.00	40.00	-544.85	316.40
937	V	F	6	F	5	720.00	30.00	-408.64	52.73
938	V	F	6	G	5	820.00	32.00	-136.21	105.47
939	V	F	6	H	5	760.00	28.00	-299.67	0.00
940	V	F	6	I	5	690.00	14.00	-490.37	-369.13
941	V	F	6	J	5	670.00	20.00	-544.85	-210.93
942	V	F	6	K	5	670.00	20.00	-544.85	-210.93
943	V	F	7	D	5	720.00	28.00	-408.64	0.00
944	V	F	7	E	5	770.00	28.00	-272.43	0.00
945	V	F	7	F	5	730.00	34.00	-381.40	158.20
946	V	F	7	G	5	750.00	26.00	-326.91	-52.73
947	V	F	7	H	5	720.00	28.00	-408.64	0.00
948	V	F	7	I	5	740.00	20.00	-354.16	-210.93
949	V	F	7	J	5	740.00	22.00	-354.16	-158.20
950	V	F	7	K	5	670.00	14.00	-544.85	-369.13
951	V	F	8	D	5	750.00	18.00	-326.91	-263.66
952	V	F	8	E	5	750.00	24.00	-326.91	-105.47
953	V	F	8	F	5	700.00	22.00	-463.13	-158.20

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA V**
BUILDING 1081 **VAULT**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
954	V	F	8	G	5	760.00	20.00	-299.67	-210.93
955	V	F	8	H	5	660.00	22.00	-572.10	-158.20
956	V	F	8	I	5	730.00	22.00	-381.40	-158.20
957	V	F	8	J	5	710.00	22.00	-435.88	-158.20
958	V	F	8	K	5	770.00	28.00	-272.43	0.00
959	V	F	9	D	5	760.00	26.00	-299.67	-52.73
960	V	F	9	E	5	750.00	28.00	-326.91	0.00
961	V	F	9	F	5	750.00	46.00	-326.91	474.59
962	V	F	9	G	5	810.00	30.00	-163.46	52.73
963	V	F	9	H	5	760.00	22.00	-299.67	-158.20
964	V	F	9	I	5	750.00	18.00	-326.91	-263.66
965	V	F	9	J	5	740.00	30.00	-354.16	52.73
966	V	F	9	K	5	770.00	18.00	-272.43	-263.66
967	V	F	10	D	5	830.00	26.00	-108.97	-52.73
968	V	F	10	E	5	910.00	34.00	108.97	158.20
969	V	F	10	F	5	720.00	36.00	-408.64	210.93
970	V	F	10	G	5	790.00	38.00	-217.94	263.66
971	V	F	10	H	5	750.00	28.00	-326.91	0.00
972	V	F	10	I	5	790.00	26.00	-217.94	-52.73
973	V	F	10	J	5	770.00	26.00	-272.43	-52.73
974	V	F	10	K	5	810.00	34.00	-163.46	158.20
975	V	F	11	D	5	770.00	18.00	-272.43	-263.66
976	V	F	11	E	5	790.00	26.00	-217.94	-52.73
977	V	F	11	F	5	750.00	40.00	-326.91	316.40
978	V	F	11	G	5	720.00	14.00	-408.64	-369.13
979	V	F	11	H	5	840.00	24.00	-81.73	-105.47
980	V	F	11	I	5	670.00	36.00	-544.85	210.93
981	V	F	11	J	5	650.00	26.00	-599.34	-52.73
982	V	F	11	K	5	680.00	14.00	-517.61	-369.13
983	V	Wx	9	K	1-4	950.00	44.00	217.94	421.86
984	V	Wx	9	J	1-4	890.00	40.00	54.49	316.40
985	V	Wx	9	I	1-4	840.00	28.00	-81.73	0.00
986	V	Wx	9	H	1-4	900.00	32.00	81.73	105.47
987	V	Wx	9	G	1-4	900.00	30.00	81.73	52.73
988	V	Wx	9	F	1-4	890.00	46.00	54.49	474.59
989	V	Wx	9	E	1-4	870.00	44.00	0.00	421.86
990	V	Wx	9	K	6-9	840.00	26.00	-81.73	-52.73
991	V	Wx	9	J	6-9	960.00	42.00	245.18	369.13
992	V	Wx	9	I	6-9	870.00	36.00	0.00	210.93
993	V	Wx	9	H	6-9	830.00	38.00	-108.97	263.66
994	V	Wx	9	G	6-9	910.00	44.00	108.97	421.86
995	V	Wx	9	F	6-9	890.00	38.00	54.49	263.66
996	V	Wx	9	E	6-9	850.00	30.00	-54.49	52.73
997	V	Wx	9	K	11-14	870.00	38.00	0.00	263.66
998	V	Wx	9	J	11-14	850.00	30.00	-54.49	52.73
999	V	Wx	9	I	11-14	840.00	26.00	-81.73	-52.73
1000	V	Wx	9	H	11-14	780.00	46.00	-245.18	474.59
1001	V	Wx	9	G	11-14	870.00	38.00	0.00	263.66

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
1002	V	Wx	9	F	11-14	870.00	40.00	0.00	316.40
1003	V	Wx	9	E	11-14	840.00	48.00	-81.73	527.33
1004	V	Wx	10	E	1-3	940.00	34.00	190.70	158.20
1005	V	Wx	10	E	6-8	990.00	36.00	326.91	210.93
1006	V	Wx	10	E	11-13	980.00	32.00	299.67	105.47
1007	V	Wx	10	E	1-4	970.00	32.00	272.43	105.47
1008	V	Wx	10	F	1-4	980.00	36.00	299.67	210.93
1009	V	Wx	10	G	1-4	880.00	26.00	27.24	-52.73
1010	V	Wx	10	H	1-4	950.00	38.00	217.94	263.66
1011	V	Wx	10	I	1-4	900.00	38.00	81.73	263.66
1012	V	Wx	10	J	1-4	950.00	44.00	217.94	421.86
1013	V	Wx	10	K	1-4	900.00	36.00	81.73	210.93
1014	V	Wx	10	E	6-9	910.00	38.00	108.97	263.66
1015	V	Wx	10	F	6-9	930.00	42.00	163.46	369.13
1016	V	Wx	10	G	6-9	890.00	26.00	54.49	-52.73
1017	V	Wx	10	H	6-9	900.00	40.00	81.73	316.40
1018	V	Wx	10	I	6-9	920.00	38.00	136.21	263.66
1019	V	Wx	10	J	6-9	910.00	34.00	108.97	158.20
1020	V	Wx	10	K	6-9	990.00	26.00	326.91	-52.73
1021	V	Wx	10	E	11-14	910.00	42.00	108.97	369.13
1022	V	Wx	10	F	11-14	950.00	10.00	217.94	-474.59
1023	V	Wx	10	G	11-14	870.00	34.00	0.00	158.20
1024	V	Wx	10	H	11-14	910.00	28.00	108.97	0.00
1025	V	Wx	10	I	11-14	930.00	36.00	163.46	210.93
1026	V	Wx	10	J	11-14	890.00	36.00	54.49	210.93
1027	V	Wx	10	K	11-14	880.00	20.00	27.24	-210.93

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: FLOOR, WALL, CEILING
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY**
BUILDING 1081

AREA V
Vault
CLASS 1

Instrument Data	**Berthold LB123 with LB 1231 detector**	**Eberline ESP-2 with HP-210 detector**	**Survey Date:** 6 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm²	228	15.5	**Survey Area: V**
Count time in minutes	0.5	0.5	Vault
Source Self Absorption	22%	22%	Class 1
Tc-99 Source dpm	91020	91020	
Background (cpm)	740	28	**Survey Performed By:**
Meter reading (cpm)	12000	17300	SSG Ronald DeGumbia
Meter Efficiency	15.86%	24.33%	
Scaler MDA in dpm/100cm²	509.69	1066.53	

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm² LB123	DPM/100cm² ESP-2
1028	V	C	4	D	5	840.00	34.00	276.54	159.11
1029	V	C	4	E	5	800.00	36.00	165.92	212.15
1030	V	C	4	F	5	880.00	46.00	387.16	477.34
1031	V	C	4	G	5	840.00	42.00	276.54	371.27
1032	V	C	4	H	5	840.00	40.00	276.54	318.23
1033	V	C	4	I	5	820.00	41.00	221.23	344.75
1034	V	C	4	J	5	800.00	36.00	165.92	212.15
1035	V	C	4	K	5	850.00	40.00	304.19	318.23
1036	V	C	5	D	5	840.00	36.00	276.54	212.15
1037	V	C	5	E	5	770.00	38.00	82.96	265.19
1038	V	C	5	F	5	780.00	34.00	110.62	159.11
1039	V	C	5	G	5	790.00	35.00	138.27	185.63
1040	V	C	5	H	5	880.00	37.00	387.16	238.67
1041	V	C	5	I	5	860.00	38.00	331.85	265.19
1042	V	C	5	J	5	790.00	38.00	138.27	265.19
1043	V	C	5	K	5	840.00	36.00	276.54	212.15
1044	V	C	6	D	5	820.00	28.00	221.23	0.00
1045	V	C	6	E	5	750.00	16.00	27.65	-318.23
1046	V	C	6	F	5	730.00	22.00	-27.65	-159.11
1047	V	C	6	G	5	660.00	24.00	-221.23	-106.08
1048	V	C	6	H	5	680.00	33.00	-165.92	132.59
1049	V	C	6	I	5	810.00	30.00	193.58	53.04
1050	V	C	6	J	5	800.00	24.00	165.92	-106.08
1051	V	C	6	K	5	780.00	28.00	110.62	0.00
1052	V	C	7	D	5	770.00	33.00	82.96	132.59
1053	V	C	7	E	5	840.00	32.00	276.54	106.08
1054	V	C	7	F	5	860.00	33.00	331.85	132.59
1055	V	C	7	G	5	820.00	34.00	221.23	159.11
1056	V	C	7	H	5	860.00	40.00	331.85	318.23
1057	V	C	7	I	5	840.00	45.00	276.54	450.82
1058	V	C	7	J	5	790.00	48.00	138.27	530.38
1059	V	C	7	K	5	770.00	46.00	82.96	477.34
1060	V	C	8	D	5	830.00	27.00	248.89	-26.52

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **AREA V**
BUILDING 1081 **Vault**
CLASS 1

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
1061	V	C	8	E	5	850.00	34.00	304.19	159.11
1062	V	C	8	F	5	770.00	31.00	82.96	79.56
1063	V	C	8	G	5	730.00	29.00	-27.65	26.52
1064	V	C	8	H	5	770.00	35.00	82.96	185.63
1065	V	C	8	I	5	810.00	30.00	193.58	53.04
1066	V	C	8	J	5	840.00	33.00	276.54	132.59
1067	V	C	8	K	5	850.00	28.00	304.19	0.00
1068	V	C	9	D	5	860.00	37.00	331.85	238.67
1069	V	C	9	E	5	800.00	18.00	165.92	-265.19
1070	V	C	9	F	5	790.00	33.00	138.27	132.59
1071	V	C	9	G	5	870.00	34.00	359.50	159.11
1072	V	C	9	H	5	830.00	30.00	248.89	53.04
1073	V	C	9	I	5	810.00	40.00	193.58	318.23
1074	V	C	9	J	5	770.00	22.00	82.96	-159.11
1075	V	C	9	K	5	790.00	37.00	138.27	238.67
1076	V	C	10	D	5	840.00	30.00	276.54	53.04
1077	V	C	10	E	5	870.00	41.00	359.50	344.75
1078	V	C	10	F	5	850.00	28.00	304.19	0.00
1079	V	C	10	G	5	790.00	35.00	138.27	185.63
1080	V	C	10	H	5	770.00	43.00	82.96	397.78
1081	V	C	10	I	5	710.00	28.00	-82.96	0.00
1082	V	C	10	J	5	820.00	31.00	221.23	79.56
1083	V	C	10	K	5	840.00	30.00	276.54	53.04
1084	V	C	11	D	5	790.00	34.00	138.27	159.11
1085	V	C	11	E	5	770.00	32.00	82.96	106.08
1086	V	C	11	F	5	870.00	27.00	359.50	-26.52
1087	V	C	11	G	5	830.00	29.00	248.89	26.52
1088	V	C	11	H	5	840.00	34.00	276.54	159.11
1089	V	C	11	I	5	770.00	30.00	82.96	53.04
1090	V	C	11	J	5	810.00	24.00	193.58	-106.08
1091	V	C	11	K	5	830.00	27.00	248.89	-26.52

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: FLOOR, WALL, CEILING
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

Instrument Data	Berthold LB123 with LB 1231 detector	Eberline ESP-2 with HP-210 detector	Survey Date: 5 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm^2	228	15.5	Survey Area: CLASS 2 AREAS
Count time in minutes	0.5	0.5	
Source Self Absorption	22%	22%	
Tc-99 Source dpm	91020	91020	
Background (cpm)	790	30	Survey Performed By: SSG Ronald DeGumbia
Meter reading (cpm)	12400	17200	
Meter Efficiency	16.35%	24.18%	
Scaler MDA in dpm/$100cm^2$	510.27	1105.44	

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/$100cm^2$ LB123	DPM/$100cm^2$ ESP-2
101	Q	F	5	D	5	710.00	20.00	-214.56	-266.77
102	Q	F	7	E	5	720.00	20.00	-187.74	-266.77
103	Q	F	10	D	5	730.00	28.00	-160.92	-53.35
104	Q	F	13	E	5	790.00	30.00	0.00	0.00
105	Q	F	16	D	5	750.00	38.00	-107.28	213.41
106	Q	F	10	F	5	690.00	28.00	-268.20	-53.35
107	Q	F	11	I	5	790.00	26.00	0.00	-106.71
108	Q	F	10	M	5	770.00	28.00	-53.64	-53.35
109	Q	F	11	Q	5	740.00	32.00	-134.10	53.35
110	Q	F	10	U	5	750.00	42.00	-107.28	320.12
111	U	F	6	E	5	700.00	28.00	-241.38	-53.35
112	U	F	6	J	5	710.00	36.00	-214.56	160.06
113	U	F	8	I	5	720.00	20.00	-187.74	-266.77
114	U	F	10	E	5	660.00	34.00	-348.66	106.71
115	U	F	10	H	5	710.00	32.00	-214.56	53.35
116	U	F	10	K	5	650.00	26.00	-375.48	-106.71
117	U	F	13	J	5	750.00	24.00	-107.28	-160.06
118	U	F	14	H	5	700.00	38.00	-241.38	213.41
119	U	F	15	R	5	660.00	34.00	-348.66	106.71
120	U	F	15	D	5	740.00	18.00	-134.10	-320.12
121	W	F	8	E	5	710.00	28.00	-214.56	-53.35
122	W	F	6	F	5	730.00	32.00	-160.92	53.35
123	W	F	8	I	5	670.00	26.00	-321.84	-106.71
124	W	F	11	K	5	790.00	40.00	0.00	266.77
125	W	F	6	M	5	700.00	24.00	-241.38	-160.06
126	W	F	8	O	5	790.00	22.00	0.00	-213.41
127	W	F	6	P	5	700.00	24.00	-241.38	-160.06
128	W	F	7	R	5	710.00	26.00	-214.56	-106.71
129	W	F	5	T	5	640.00	30.00	-402.31	0.00
130	W	F	8	S	5	680.00	12.00	-295.02	-480.18
131	X	F	4	D	5	700.00	26.00	-241.38	-106.71
132	X	F	4	E	5	770.00	38.00	-53.64	213.41
133	X	F	5	D	5	750.00	40.00	-107.28	266.77
134	X	F	5	E	5	750.00	32.00	-107.28	53.35
135	X	F	6	D	5	700.00	36.00	-241.38	160.06

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
136	X	F	6	E	5	770.00	36.00	-53.64	160.06
137	X	F	7	E	5	680.00	28.00	-295.02	-53.35
138	X	F	8	D	5	770.00	46.00	-53.64	426.82
139	X	F	8	E	5	700.00	34.00	-241.38	106.71
140	X	F	9	E	5	800.00	42.00	26.82	320.12
1093	Q	F	5	E	5	820.00	30.00	80.46	0.00
1094	Q	F	8	D	5	760.00	20.00	-80.46	-266.77
1095	Q	F	11	D	5	760.00	36.00	-80.46	160.06
1096	Q	F	15	E	5	810.00	22.00	53.64	-213.41
1097	Q	W	17	B	5	930.00	26.00	375.48	-106.71
1098	Q	W	7	F	5	870.00	48.00	214.56	480.18
1099	Q	W	7	B	5	830.00	36.00	107.28	160.06
1100	Q	W	10	C	5	910.00	20.00	321.84	-266.77

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: FLOOR
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

FIXED POINT MEASUREMENTS

CLOSEOUT SURVEY
BUILDING 1081

CLASS 3 AREAS
NON-IMPACT AREAS

Instrument Data	Berthold LB123 with LB 1231 detector	Eberline ESP-2 with HP-210 detector	Survey Date: 2 MAY 2000
Instrument Serial Number	116107	2076	
Probe Surface Area cm^2	228	15.5	Survey Area:
Count time in minutes	0.5	0.5	CLASS 3 AND
Source Self Absorption	22%	22%	NON-IMPACT AREAS
Tc-99 Source dpm	91020	91020	
Background (cpm)	870	28	Survey Performed By:
Meter reading (cpm)	12200	16900	SSG Ronald DeGumbia
Meter Efficiency	15.96%	23.76%	
Scaler MDA in dpm/100cm^2	547.98	1091.81	

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
1	A	F	5	C	5	740.00	38.00	-357.28	271.48
2	A	F	3	G	5	790.00	34.00	-219.87	162.89
3	A	F	4	M	5	820.00	26.00	-137.42	-54.30
4	A	F	3	K	5	800.00	32.00	-192.38	108.59
5	A	F	4	AA	5	710.00	32.00	-439.73	108.59
6	B	F	5	C	5	730.00	22.00	-384.76	-162.89
7	B	F	6	E	5	840.00	42.00	-82.45	380.07
8	B	F	7	F	5	860.00	20.00	-27.48	-217.18
9	B	F	5	G	5	790.00	30.00	-219.87	54.30
10	B	F	3	F	5	840.00	18.00	-82.45	-271.48
11	C	F	4	D	5	680.00	26.00	-522.18	-54.30
12	C	F	5	F	5	740.00	22.00	-357.28	-162.89
13	C	F	3	F	5	730.00	20.00	-384.76	-217.18
14	C	F	3	D	5	760.00	38.00	-302.31	271.48
15	C	F	5	C	5	750.00	30.00	-329.80	54.30
16	D	F	4	C	5	790.00	20.00	-219.87	-217.18
17	D	F	5	D	5	710.00	42.00	-439.73	380.07
18	D	F	6	F	5	700.00	34.00	-467.21	162.89
19	D	F	3	G	5	680.00	38.00	-522.18	271.48
20	D	F	4	E	5	740.00	44.00	-357.28	434.36
21	E	F	5	D	5	890.00	32.00	54.97	108.59
22	E	F	4	F	5	880.00	48.00	27.48	542.95
23	E	F	7	F	5	860.00	34.00	-27.48	162.89
24	E	F	5	I	5	900.00	50.00	82.45	597.25
25	E	F	3	K	5	930.00	40.00	164.90	325.77
26	F	F	13	D	5	730.00	34.00	-384.76	162.89
27	F	F	11	F	5	710.00	16.00	-439.73	-325.77
28	F	F	9	H	5	740.00	26.00	-357.28	-54.30
29	F	F	7	G	5	710.00	32.00	-439.73	108.59
30	F	F	6	D	5	720.00	32.00	-412.25	108.59
31	G	F	3	C	5	800.00	20.00	-192.38	-217.18
32	G	F	3	D	5	800.00	18.00	-192.38	-271.48
33	G	F	4	C	5	780.00	20.00	-247.35	-217.18
34	G	F	4	D	5	810.00	24.00	-164.90	-108.59
35	G	F	3	F	5	920.00	42.00	137.42	380.07

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **CLASS 3 AREAS**
BUILDING 1081 **NON-IMPACT AREAS**

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
36	H	F	3	D	5	740.00	18.00	-357.28	-271.48
37	H	F	3	F	5	800.00	34.00	-192.38	162.89
38	H	F	4	E	5	770.00	36.00	-274.83	217.18
39	H	F	4	D	5	790.00	22.00	-219.87	-162.89
40	H	F	4	C	5	810.00	26.00	-164.90	-54.30
41	I	F	3	C	5	790.00	32.00	-219.87	108.59
42	I	F	3	D	5	790.00	24.00	-219.87	-108.59
43	I	W	4	G	5	940.00	34.00	192.38	162.89
44	I	W	5	C	5	930.00	46.00	164.90	488.66
45	I	W	2	D	5	650.00	16.00	-604.63	-325.77
46	J	F	5	J	5	640.00	42.00	-632.11	380.07
47	J	F	3	H	5	750.00	36.00	-329.80	217.18
48	J	F	4	E	5	820.00	28.00	-137.42	0.00
49	J	F	4	C	5	730.00	26.00	-384.76	-54.30
50	J	F	5	F	5	780.00	26.00	-247.35	-54.30
51	K	F	3	C	5	650.00	28.00	-604.63	0.00
52	K	F	4	C	5	680.00	24.00	-522.18	-108.59
53	K	F	3	D	5	850.00	26.00	-54.97	-54.30
54	K	F	4	D	5	770.00	14.00	-274.83	-380.07
55	K	W	6	C	5	890.00	32.00	54.97	108.59
56	L	F	3	D	5	800.00	36.00	-192.38	217.18
57	L	F	3	F	5	790.00	14.00	-219.87	-380.07
58	L	F	4	G	5	830.00	20.00	-109.93	-217.18
59	L	F	4	E	5	830.00	42.00	-109.93	380.07
60	L	F	4	C	5	740.00	26.00	-357.28	-54.30
61	M	F	4	D	5	730.00	14.00	-384.76	-380.07
62	M	F	5	F	5	690.00	34.00	-494.70	162.89
63	M	F	6	H	5	740.00	26.00	-357.28	-54.30
64	M	F	9	K	5	700.00	20.00	-467.21	-217.18
65	M	F	9	G	5	770.00	28.00	-274.83	0.00
66	N	F	4	C	5	760.00	20.00	-302.31	-217.18
67	N	F	3	F	5	740.00	28.00	-357.28	0.00
68	N	F	4	H	5	770.00	32.00	-274.83	108.59
69	N	F	5	J	5	700.00	20.00	-467.21	-217.18
70	N	F	5	E	5	860.00	20.00	-27.48	-217.18
71	S	F	4	C	5	620.00	38.00	-687.08	271.48
72	S	F	3	E	5	730.00	18.00	-384.76	-271.48
73	S	F	5	F	5	620.00	24.00	-687.08	-108.59
74	S	F	7	D	5	620.00	16.00	-687.08	-325.77
75	S	F	7	G	5	610.00	16.00	-714.56	-325.77
76	T	F	7	D	5	780.00	38.00	-247.35	271.48
77	T	F	4	C	5	740.00	42.00	-357.28	380.07
78	T	F	3	E	5	750.00	20.00	-329.80	-217.18
79	T	F	5	G	5	740.00	20.00	-357.28	-217.18
80	T	F	7	E	5	820.00	36.00	-137.42	217.18
81	Y	F	9	H	5	780.00	30.00	-247.35	54.30
82	Y	F	11	G	5	770.00	46.00	-274.83	488.66
83	Y	F	12	B	5	780.00	36.00	-247.35	217.18

FIXED POINT MEASUREMENTS **CLOSEOUT SURVEY** **CLASS 3 AREAS**
BUILDING 1081 **NON-IMPACT AREAS**

seq #	DIGIT CODE 1	2	3	4	5	CPM LB123	CPM ESP-2	DPM/100cm^2 LB123	DPM/100cm^2 ESP-2
84	Y	F	7	H	5	870.00	38.00	0.00	271.48
85	Y	F	2	H	5	720.00	26.00	-412.25	-54.30
86	Z	F	2	B	5	820.00	40.00	-137.42	325.77
87	Z	F	2	C	5	870.00	50.00	0.00	597.25
88	Z	F	2	D	5	850.00	36.00	-54.97	217.18
89	Z	F	3	B	5	820.00	34.00	-137.42	162.89
90	Z	W	3	D	5	940.00	40.00	192.38	325.77
91	AA	F	3	A	5	690.00	22.00	-494.70	-162.89
92	AA	F	4	B	5	670.00	32.00	-549.66	108.59
93	AA	F	6	B	5	710.00	18.00	-439.73	-271.48
94	AA	F	7	B	5	830.00	32.00	-109.93	108.59
95	AA	F	9	B	5	770.00	20.00	-274.83	-217.18
96	AB	W	6	A	5	610.00	32.00	-714.56	108.59
97	AB	W	5	C	5	550.00	22.00	-879.46	-162.89
98	AB	W	5	E	5	640.00	22.00	-632.11	-162.89
99	AB	F	6	E	5	830.00	30.00	-109.93	54.30
100	AB	F	7	C	5	620.00	30.00	-687.08	54.30

NO ACTIVITY DETECTED ABOVE THE MDA.

NOTE: FIRST DIGIT = AREA CODE:
SECOND DIGIT = SURFACE BEING SURVEYED: F=FLOOR, W=WALL
THIRD DIGIT = Y AXIS QUADRANT:
FOURTH DIGIT = X AXIS QUADRANT:
FIFTH DIGIT = SMEAR LOCATION IN QUADRANT: 5 (RANDOM CENTER)

REVIEWED BY: JOHN W. MAY
Health Physics Manager

Status of alpha sources for NRC license SNM-1877
Addendum 3 to Final Survey Report, Building 1081,Fort McClellan, AL

The alpha sources covered by NRC license number SNM-1877 were 450 plated U-233 sources and 8 Eberline S-94 (Pu-239) calibration sets.

50 of the U-233 sources and all 8 S-94 calibration sets were shipped to the Chemical School at Fort Leonard Wood Missouri in July 1999 and are covered under NRC license number 24-32221-01. Attached find copies of the last leak test results prior to the sources being crated for shipment to Leonard Wood and the leak test results once the sources were uncrated at Leonard Wood. Also find copies of the shipping forms showing wipe results of the crates.

The remaining 400 U-233 plates were disposed of through the Army Radiological Waste Office. The plates for disposal were picked up by a waste broker on 21 May 1999. Attached is a copy of the waste manifest and waste inventory.

John W. May
Health Physics Manager

Attachments

WIPE SURVEY SAMPLE ANALYSIS RECORD

PURPOSE: [ ] SPECIAL [ ] SCHEDULED [X] OTHER (SPECIFY) S-94 LEAK TEST

DATE: 19 FEB 99 | SURVEY #: 99-048 | LOCATION: PREP LAB

INSTRUMENT

Contamination				Instrument Survey			
Tennelec LB5100, S/N 64169				Meter:	N/A		
	Alpha	Beta	Gamma	Probe:		Cal Due:	
Efficiency	57.70%	15.51%	25.24%				
Bkg CPM	0.10	17.70	56.30	Background:		(mR/hr)(CPM)(µR/hr)	

Sensitivity (CPM)	L_C	LLD	L_D	L_Q
Alpha	0.23	0.47	3.18	100.20
Beta	3.10	6.20	8.90	102.59
Gamma	5.53	11.06	13.74	104.54

DISPOSITION

[ ] HIGHLIGHTED READINGS RESURVEYED
ALPHA > 220 DPM/100 cm²
BETA/GAMMA > 2200 DPM/100 cm²

[X] NO ACTION REQUIRED

SURVEYOR: SFC. APGRANT

REVIEWED BY: HEALTH PHYSICS MANAGER

#	LOCATION	AREA (cm²)	Dose Rate	Gross CPM			Net CPM			Net DPM/100 cm²		
				Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
1	S-94 #2 S/N P-1177			0.00	19.40	54.80	-0.1	1.7	-1.50	-0.2	11.0	-5.9
2	S-94 #2 S/N P-1478			0.10	20.10	56.20	0.0	2.4	-0.10	0.0	15.5	-0.4
3	S-94 #2 S/N P-1425			0.00	18.10	60.60	-0.1	0.4	4.30	-0.2	2.6	17.0
4	S-94 #2 S/N P-1411			0.10	18.60	55.30	0.0	0.9	-1.00	0.0	5.8	-4.0
5	S-94 #2 SCREEN			0.10	19.30	56.00	0.0	1.6	-0.30	0.0	10.3	-1.2
6	S-94 #13 S/N P-1266			0.20	17.50	55.40	0.1	-0.2	-0.90	0.2	-1.3	-3.6
7	S-94 #13 S/N P-1079			0.00	17.30	59.60	-0.1	-0.4	3.30	-0.2	-2.6	13.1
8	S-94 #13 S/N P-1354			0.00	17.10	56.90	-0.1	-0.6	0.60	-0.2	-3.9	2.4
9	S-94 #13 S/N P-1417			0.30	17.30	57.20	0.2	-0.4	0.90	0.3	-2.6	3.6
10	S-94 #14 S/N P-1207			0.10	19.20	57.70	0.0	1.5	1.40	0.0	9.7	5.5
11	S-94 #14 S/N P-1479			0.10	16.60	59.00	0.0	-1.1	2.70	0.0	-7.1	10.7
12	S-94 #14 S/N P-1375			0.00	18.10	56.60	-0.1	0.4	0.30	-0.2	2.6	1.2

#	LOCATION	AREA (cm^2)	Dose Rate	Gross CPM			Net CPM			Net DPM/100 cm^2		
				Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
13	S-94 #14 S/N P-1440			0.40	18.60	60.50	0.3	0.9	4.20	0.5	5.8	16.6
14	S-94 #14 SCREEN			0.20	20.60	63.30	0.1	2.9	7.00	0.2	18.7	27.7
15	S-94 #15 S/N P-1527			0.00	17.50	52.80	-0.1	-0.2	-3.50	-0.2	-1.3	-13.9
16	S-94 #15 S/N P-1508			0.10	20.10	59.70	0.0	2.4	3.40	0.0	15.5	13.5
17	S-94 #15 S/N P-1493			0.10	20.60	53.50	0.0	2.9	-2.80	0.0	18.7	-11.1
18	S-94 #15 S/N P-1504			0.10	19.20	55.60	0.0	1.5	-0.70	0.0	9.7	-2.8
19	S-94 #15 SCREEN			0.30	20.40	59.00	0.2	2.7	2.70	0.3	17.4	10.7
20	S-94 #16 S/N P-1140			0.10	16.10	60.80	0.0	-1.6	4.50	0.0	-10.3	17.8
21	S-94 #16 S/N P-1446			0.00	19.00	54.10	-0.1	1.3	-2.20	-0.2	8.4	-8.7
22	S-94 #16 S/N P-1424			0.00	17.20	57.60	-0.1	-0.5	1.30	-0.2	-3.2	5.2
23	S-94 #16 S/N P-1438			0.00	15.70	56.60	-0.1	-2.0	0.30	-0.2	-12.9	1.2
24	S-94 #16 SCREEN			0.10	17.60	59.50	0.0	-0.1	3.20	0.0	-0.6	12.7
25	S-94 #19 S/N P-1821			0.10	17.00	62.40	0.0	-0.7	6.10	0.0	-4.5	24.2
26	S-94 #19 S/N P-1881			0.00	18.40	57.90	-0.1	0.7	1.60	-0.2	4.5	6.3
27	S-94 #19 S/N P-1838			0.00	16.90	59.30	-0.1	-0.8	3.00	-0.2	-5.2	11.9
28	S-94 #19 S/N P-1891			0.00	18.20	59.10	-0.1	0.5	2.80	-0.2	3.2	11.1
29	S-94 #19 SCREEN			0.00	18.50	56.20	-0.1	0.8	-0.10	-0.2	5.2	-0.4
30	S-94 #21 S/N P-1841			0.00	17.30	57.60	-0.1	-0.4	1.30	-0.2	-2.6	5.2
31	S-94 #21 S/N P-1918			0.10	19.80	57.20	0.0	2.1	0.90	0.0	13.5	3.6

WIPE SURVEY SAMP ANALYSIS RECORD

#	LOCATION	AREA (cm^2)	Dose Rate	Gross CPM			Net CPM			Net DPM/100 cm^2		
				Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
32	S-94 #21 S/N P-1911			0.00	16.60	56.30	-0.1	-1.1	0.00	-0.2	-7.1	0.0
33	S-94 #21 S/N P-1939			0.10	19.40	58.30	0.0	1.7	2.00	0.0	11.0	7.9
34	S-94 #21 SCREEN			0.10	18.50	57.00	0.0	0.8	0.70	0.0	5.2	2.8
35	S-94 #23 S/N P-622			0.00	18.20	54.30	-0.1	0.5	-2.00	-0.2	3.2	-7.9
36	S-94 #23 S/N P-1497			0.10	19.20	55.50	0.0	1.5	-0.80	0.0	9.7	-3.2
37	S-94 #23 S/N P-1494			0.10	17.00	56.90	0.0	-0.7	0.60	0.0	-4.5	2.4
38	S-94 #23 S/N P-1501			0.00	18.70	51.70	-0.1	1.0	-4.60	-0.2	6.4	-18.2
39	S-94 #23 SCREEN			0.30	17.70	58.70	0.2	0.0	2.40	0.3	0.0	9.5

WIPE SURVEY SAMPLE ANALYSIS RECORD

PURPOSE: [ ] SPECIAL [ ] SCHEDULED [X] OTHER (SPECIFY) U-233 PLATE BOX LEAK TEST

DATE: 19 Feb 99 | SURVEY #: Q012-1 | LOCATION: VAULT

INSTRUMENT

Contamination

Tennelec LB5100 / Packard2400CA

	Alpha	Beta	Gamma
Efficiency %	38.62	18.51	
Bkg CPM	0.20	0.90	

Instrument Survey

Meter: N/A

Probe: Cal Due:

Background: (mR/hr)(CPM)(µR/hr)

DISPOSITION

[ ] HIGHLIGHTED READINGS RESURVEYED
ALPHA > 220 DPM/100 cm²
BETA/GAMMA > 2200 DPM/100 cm²

[X] NO ACTION REQUIRED

Sensitivity (CPM)	L_C	LLD	L_D	L_Q
Alpha	0.33	0.66	3.37	100.28
Beta	0.70	1.40	4.11	100.00
Gamma				

SURVEYOR: SFC AMERAN J

REVIEWED BY: HEALTH PHYSICS MANAGER

#	LOCATION	AREA (cm²)	Dose Rate	Gross CPM			Net CPM			Net DPM/100 cm²		
				Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	µC ~~Gamma~~ µ/β
1	U-233 PLATE BOX TOP, BACK, LT SIDE	300	—	0.60	2.00		0.40	1.10		0.35	3.60	1.57E-7/1.62E-6
2	U-233 PLATE BOX FRONT, BOTTOM, LT SIDE	300	—	1.10	2.00		0.98	1.10		0.78	3.68	3.51E-7/1.62E-6
3												
4												
5												
6												
7												
8												
9												
10												

PURPOSE: [ ] SPECIAL [ ] SCHEDULED [X] OTHER (SPECIFY) S-94 LEAK TEST

DATE: 20 Dec 99 | SURVEY #: 9354-2 | LOCATION: Prep Lab, ERB Rad Labs

INSTRUMENT

Contamination

Tennelec LB5100	Packard 2500TR		
	Alpha	Beta	Gamma
Efficiency	38.62%	18.51%	
Bkg CPM	0.20	1.20	

Instrument Survey

Meter:	N/A		
Probe:		Cal Due:	
Background:		(mR/hr)(CPM)(μR/hr)	

DISPOSITION

[ ] HIGHLIGHTED READINGS RESURVEYED
ALPHA > 220 DPM/100 cm²
BETA/GAMMA > 2200 DPM/100 cm²

[X] NO ACTION REQUIRED

Sensitivity (CPM)	L_C	LLD	L_D	L_Q
Alpha	0.33	0.66	3.37	
Beta	0.81	1.61	4.32	
Gamma				

SURVEYOR: SFC ARGANS

REVIEWED BY: HEALTH PHYSICS MANAGER

#	LOCATION	AREA (cm²)	Dose Rate	Gross CPM			Net CPM			Net DPM/100 cm²		
				Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
1	S-94 #14, P-1207			0.30	1.00		0.1	-0.2		0.3	-1.1	
2	S-94 #14, P-1479			0.20	1.50		0.0	0.3		0.0	1.6	
3	S-94 #14, P-1375			0.10	2.00		-0.1	0.8		-0.3	4.3	
4	S-94 #14, P-1440			0.20	1.10		0.0	-0.1		0.0	-0.5	
5	S-94 #14, Screen			0.10	1.80		-0.1	0.6		-0.3	3.2	
6	S-94 #23, P-622			0.40	1.70		0.2	0.5		0.5	2.7	
7	S-94 #23, P-1497			0.00	1.60		-0.2	0.4		-0.5	2.2	
8	S-94 #23, P-1494			0.10	1.10		-0.1	-0.1		-0.3	-0.5	
9	S-94 #23, P-1501			0.00	1.60		-0.2	0.4		-0.5	2.2	
10	S-94 #23, Screen		N/A	0.20	0.70		0.0	-0.5		0.0	-2.7	
11	S-94 #19, P-1821			0.20	1.50		0.0	0.3		0.0	1.6	
12	S-94 #19, P-1881			0.20	1.20		0.0	0.0		0.0	0.0	
13	S-94 #19, P-1838			0.00	1.20		-0.2	0.0		-0.5	0.0	
14	S-94 #19, P-1891			0.00	1.70		-0.2	0.5		-0.5	2.7	
15	S-94 #19, Screen			0.10	1.20		-0.1	0.0		-0.3	0.0	
16	S-94 #13, P-1266			0.00	0.50		-0.2	-0.7		-0.5	-3.8	
17	S-94 #13, P-1079			0.10	0.80		-0.1	-0.4		-0.3	-2.2	
18	S-94 #13, P-1354			0.10	1.10		-0.1	-0.1		-0.3	-0.5	
19	S-94 #13, P-1417			0.10	1.40		-0.1	0.2		-0.3	1.1	
20	S-94 #16, P-1140			0.00	1.10		-0.2	-0.1		-0.5	-0.5	
21	S-94 #16, P-1446			0.20	1.40		0.0	0.2		0.0	1.1	
22	S-94 #16, P-1424			0.40	1.50		0.2	0.3		0.5	1.6	

#	LOCATION	AREA (cm^2)	Dose Rate	Gross CPM			Net CPM			Net DPM/100 cm^2		
				Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
23	S-94 #16, P-1438			0.20	1.70		0.0	0.5		0.0	2.7	
24	S-94 #16, Screen			0.10	1.10		-0.1	-0.1		-0.3	-0.5	
25	S-94 #02, P-1177			0.00	0.70		-0.2	-0.5		-0.5	-2.7	
26	S-94 #02, P-1478			0.00	1.90		-0.2	0.7		-0.5	3.8	
27	S-94 #02, P-1425			0.10	1.50		-0.1	0.3		-0.3	1.6	
28	S-94 #02, P-1411			0.00	0.70		-0.2	-0.5		-0.5	-2.7	
29	S-94 #02, Screen			0.10	0.80		-0.1	-0.4		-0.3	-2.2	
30	S-94 #21, P-1841			0.20	0.50		0.0	-0.7		0.0	-3.8	
31	S-94 #21, P-1918			0.00	1.40		-0.2	0.2		-0.5	1.1	
32	S-94 #21, P-1911			0.00	1.20		-0.2	0.0		-0.5	0.0	
33	S-94 #21, P-1939			0.00	1.60		-0.2	0.4		-0.5	2.2	
34	S-94 #21, Screen			0.10	1.40		-0.1	0.2		-0.3	1.1	
35	S-94 #15, P-1527			0.20	1.30		0.0	0.1		0.0	0.5	
36	S-94 #15, P-1508			0.00	0.60		-0.2	-0.6		-0.5	-3.2	
37	S-94 #15, P-1493			0.00	1.40		-0.2	0.2		-0.5	1.1	
38	S-94 #15, P-1504			0.00	1.50		-0.2	0.3		-0.5	1.6	
39	S-94 #15, Screen			0.40	1.20		0.2	0.0		0.5	0.0	

WIPE SURVEY SAMPLE ANALYSIS RECORD

PURPOSE: [ ] SPECIAL [ ] SCHEDULED [X] OTHER (SPECIFY) SEALED SOURCE LEAK TEST

DATE: 28 Sep 99 | SURVEY #: 9271 | LOCATION: VAULT, LAB 3, LAB 4

INSTRUMENT

Contamination: Tennelec LB5100 Packard2400CA

	Alpha	Beta	Gamma
Efficiency	39.2	4.6	
Bkg CPM	0.13	1.47	

Instrument Survey: Meter: N/A Probe: Cal Due: Background: (mR/hr)(CPM)(µR/hr)

DISPOSITION

[ ] HIGHLIGHTED READINGS RESURVEYED
ALPHA > 220 DPM/100 cm²
BETA/GAMMA > 2200 DPM/100 cm²

[X] NO ACTION REQUIRED

Sensitivity (CPM)	L_C	LLD	L_D	L_Q
Alpha	0.26	0.53	3.24	
Beta	0.89	1.79	4.49	
Gamma				

SURVEYOR: SFC APERANS

REVIEWED BY: HEALTH PHYSICS MANAGER

#	LOCATION	AREA (cm²)	Dose Rate	Gross CPM			Net CPM			Net DPM/100 cm²		
				Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
1	U-233 PLATE BOX			1.00	1.50		0.47	0.03		1.11E-6µCi 2.47	2.94E-7µCi 0.65	
2	Cs-137 S/N K-183			0.10	2.90		-0.03	1.43		~~8.04E-8µCi~~ -0.07	1.48E-5µCi 31.89 DPM ~~3.55~~	
3	Sr-90 3 FIG SOURCE #00002			0	1.80		-0.13	0.33		-1.44E-7µCi -0.33	3.23E-6µCi 7.17 DPM	
4	Cs-137 VICTOREEN MOD I S/N 70 SHIELD DEMO			0.10	1.90		-0.03	0.43		-8.04E-8µCi -0.07	4.21E-6µCi 9.35 DPM	
5	Cs-137 VICTOREEN MOD I S/N ~~58~~ 53 SHIELD DEMO			0.20	1.00		0.07	-0.47		8.04E-8µCi 0.17	-4.60E-6µCi -10.22 DPM	
6												
7												
8												
9												
10												

FORM 540 CHEM-NUCLEAR CONSOLIDATION FACILITY

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST (SHIPPING PAPER)

1. EMERGENCY TELEPHONE NUMBER (INCLUDE AREA CODE)
1-800-424-9300

ORGANIZATION:
CHEMTREC

2."EXCLUSIVE USE" SHIPMENT?
[X] YES
[ ] NO

3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST: 2

4. Does EPA Regulated waste requiring a manifest accompany this shipment? [ ] YES [X] NO
If "Yes," manifest number-->
EPA MANIFEST NUMBER: N/A

5.Shipper-Name and Facility
AEI @Fort McClellan
US Army Chemical School
Fort McClellan, AL 36205

S.C. TRANSPORT PERMIT #: 4115-27-99 X
SHIPMENT NUMBER: USA 98-074
CONTACT: Robin E Beasley

6. CARRIER-Name and Address
R & R Trucking, Inc.
P.O. Box 545
Duenweg, MO 64841
CONTACT: Don Ritchie
SIGNATURE-Authorized carrier acknowledging waste receipt: Charles Matthews

SHIPMENT ID NUMBER
X COLLECTOR
PROCESSOR
G GENERATOR
TYPE (SPECIFY)
TELEPHONE NUMBER: (702) 645-9292
EPA I.D. NUMBER: N/A
SHIPPING DATE: 21-May-99
TELEPHONE NUMBER: (800) 625-6885
DATE: 21-May-99

7. FORM 540 & 540A PAGE 1 OF 1 PAGE(S)
FORM 541 & 541A 2 PAGE(S)
FORM 542 & 542A 1 PAGE(S)
ADDITIONAL INFORMATION 9 PAGE(S)

8. CONSIGNEE- Name and Facility Address
CHEM-NUCLEAR SYSTEMS, INC. CNCF
HWY 64 (1 MILE WEST OF SNELLING)
BARNWELL,SC 29812
SIGNATURE-Authorized consignee acknowledging waste receipt

9. MANIFEST NUMBER (Use this number on all continuation pages): USA 98-074
CONTACT: INVENTORY CONTROL
TELEPHONE NUMBER (Include Area Code): 803/259-1119
DATE

10. CERTIFICATION — This is to certify that the herein-named materials are properly classified, described, packaged,marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified,packaged,marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.
AUTHORIZED SIGNATURE: P.E. Beasley
TITLE: Broker
DATE: 21-May-99

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12 DOT LABEL RADIOACTIVE*	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES	16 TOTAL PACKAGE ACTIVITY MBq	16 TOTAL PACKAGE ACTIVITY mCi	17 LSA/SCO CLASS	18.TOTAL WEIGHT OR VOLUME (USE APPROPRIATE UNITS)		19 IDENTIFICATION NUMBER OF PACKAGE
RADIOACTIVE MATERIAL, NOS, 7, UN2982 Compasses, Dials, Sources, Solidified Agents, trash	Yellow II	1	Solid/Oxides	H3, Th232, Am241, Ra226, Pm147 C14, Co-60, Kr85, Cs137, Sr90 Ag110m, Na22, Ca45, Mn54 Po210, Tc99, Ni-63, ~~DU, U233~~	104746.698605697	2830.99185420803	n/a	90.8 kg(s)	200 lb(s)	MC-2
RADIOACTIVE MATERIAL, NOS, 7, UN2982 Trash, Alpha plates	White I	n/a	Solid/Oxides	Ca45, DU, C14, H3, U233	6.42727	0.17371	n/a	90.8 kg(s)	200 lb(s)	MC-3

FOR CONSIGNEE USE ONLY

20. "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina Radioactive Material License 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws,rules and regulations."

Date: 21-May-99 Signature: P.E. Beasley
Title and Organization: Broker AEI
Telephone No. 702 645 9292

SHIPPER INVENTORY, INSPECTION, AND SURVEY FORM
CONTINUATION SHEET
PAGE NO. 2 OF _____

NO.	NOMEN	STOCK NUMBER	QTY	ISOTOPE	ACTIVITY PER ITEM (mCi/MBq)	TOTAL ACTIVITY (mCi/MBq)
17	Lab Planchettes	None	3	Ra-226	0.001/0.037	0.003/0.111
18	Compass	None	3	Ra-226	0.007/0.259	0.021/0.777
19	Watch	None	3	Ra-226	0.007/0.259	0.021/0.777
20	Dial	None	1	Ra-226	0.007/0.259	0.007/0.259
21	AN/PDR-27	6665-00-961-0846	2	Kr-85	15/555	30/1110
22	Civil Defense RADIAC	None	1	U-238	0.001/0.037	0.001/0.037
23	German RADIAC Check Source	None	1	Cs-137	0.025/0.925	0.025/0.925
24	Mini-Generator	None	1	Cs-137	0.009/0.333	0.009/0.333
25	Brick	None	1	Co-60	0.002/0.074	0.002/0.074
26	Lead Pig BRICK	None	1	Co-60	0.1/3.7	0.1/3.7
27	Vacuum Tubes	None	2	Co-60	0.001/0.037	0.002/0.074
28	Trash	None	3	Co-60	0.001/0.037	0.003/0.111
29	Trash	None	3	Ca-45	0.001/0.037	0.003/0.111
30	Trash	None	1	Ni-63	0.0001/0.0037	0.0001/0.0037
31	Check Source	None	2	Sr-90	0.00027/0.0098	0.00053/0.0197
32	Mini-Generator	None	1	Sr-90	0.00009/0.00333	0.00009/0.00333
33	Plates	None	188	U-233	0.00018/0.00666	0.0338/1.25
34	Plates	None	87	U-233	0.00037/0.014	0.0137/1.19
35	Plates	None	87	U-233	0.00062/0.023	0.054/2.00
36	Plates	None	38	U-233	0.00123/0.0455	0.0467/1.73
37	Lab Trash	None	1	Mn-54	1/37	1/37
38	Lab Trash	None	1	Cs-137	2/74	2/74
39	Lab Trash	None	1	Na-22	0.5/18.5	0.5/18.5
40	Lab Trash	None	2	Co-60	0.05/1.85	0.05/1.85
41	Lab Trash	None	1	Ag-110m	2/74	2/74

NOT ACCEPTED

SHIPPER INVENTORY, INSPECTION, AND SURVEY FORM

SHIPMENT NO. _____ PAGE NO. 1 OF _____

DRUM NO. _____

CONTAINER SURFACE _____ 1 METER _____

CONTAINER WEIGHT _____ CONTAINER LABELS _____

CONTAMINATION

NO.	NOMEN	STOCK NUMBER	QTY	ISOTOPE	ACTIVITY PER ITEM (mCi/MBq)	TOTAL ACTIVITY (mCi/MBq)
1	Chemical Agent Detector, M43A1	6665-01-081-8140	7	Am-241	0.250/9.25	1.75/64.75
2	Exit Port Filters	6665-01-198-3662	143	Am-241	0.0001/0.0037	0.0143/0.529
3	RADIAC Meter, AN/PDR-56	6665-01-113-9530	5	Th-232	0.0003/0.011	0.0009/0.0333
4	Firing Light	1290-00-257-2769	2	H-3	75/2775	150/5550
5	Watch	6645-00-066-4279	20	H-3	15/555	165/6105
6	Compass	6605-00-151-5337	145	H-3	190/7030	27550/1019350
7	Compass	6605-00-846-7618	10	H-3	75/2775	750/27750
8	Compass	6605-01-196-6971	207	H-3	120/4440	24840/919080
9	M224 Telescope	1010-01-020-5626	1	H-3	30/1110	30/1110
10	NS2-3 Sighting Device	N/A	1	H-3	1000/37000	1000/37000
11	NT-M70 Sighting Point	N/A	1	H-3	2000/74000	2000/74000
12	Muzzle Reference Sight	2350-01-087-1095	2	H-3	10000/370	20000/740
13	M72A1 Sight	1340-01-050-0850	2	Pm-147	3/111	6/222
14	M16A1 Front Sight	1005-00-145-6378	3	Pm-147	1/37	3/111
15	Gauge	5615-01-095-6258	8	Ra-226	0.001/.0.037	0.008/0.296
16	Linkage Arm	None	1	Ra-226	0.545/20.165	0.545/20.165

(11)

RADIOACTIVE MATERIALS MOVEMENT

[X] SHIPMENT [ ] RECEIPT SHIPMENT NUMBER: _____

TO: Ft Leonard Wood FROM: Ft McClellan

COMMODITY DESCRIPTION			MODE OF SHIPMENT
CONTAINERS	# OF ITEMS	ITEM	Air (Surface)
1	3	~~NSN:~~ Nomenclature: S-94 Alpha Calibrator	Rail Water Parcel Post Other: _____

Wipe results= 0.0 dpm RADIOACTIVITY Bg 0.05 mr/hr

ISOTOPE		ACTIVITY	RADIAC LEVELS
H 3	Ra 226	Each 1.4 Ci, mCi, (µCi)	Surface 0.05 mRad/hr
Th 232	Cs 137	# of Items x 3	One Meter 0.05 mRad/hr
Kr 85	Co 60	Total 4.2 Ci, mCi, (µCi)	
Other Pu-239		FORM: Sealed Source (Solid) Liquid Gas	Transport Index N/A

TRANSPORTATION INFORMATION

[X] This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material — excepted package — limited quantity of material, UN 2910

[ ] This package conforms to the conditions and limitations specified in ~~49~~ CFR 173.424 for radioactive material excepted package — instruments or articles, UN 2910

DOT Labeling

[ ] Exempt

License Number

IMCO Class 7

The above named articles are properly classified, described, packaged, marked and labeled, are in the proper condition for transportation according to applicable regulations of the Department of Transportation.

Special Instructions: In the event of an accident, contact the nearest military installation or call:

SIGNATURE OF RADIATION PROTECTION OFFICER	DATE 30 Jan 99
SIGNATURE OF TRANSPORTATION OFFICER	DATE

RADIOACTIVE MATERIALS MOVEMENT

(10)

[X] SHIPMENT [ ] RECEIPT SHIPMENT NUMBER: _____

TO: Ft Leonard Wood Mo FROM: Ft McClellan AL

COMMODITY DESCRIPTION			MODE OF SHIPMENT
CONTAINERS	# OF ITEMS	ITEM	Air (Surface)
1	3	NSN:	Rail Water
		Nomenclature: S-9x Alpha Calibrator	Parcel Post
			Other: _____

WIPE Test = 0.0 dpm/cm² RADIOACTIVITY Bg = 0.05 mr/hr

ISOTOPE		ACTIVITY	RADIAC LEVELS
H 3	Ra 226	Each 1 to 4 Ci, mCi, (µCi)	Surface 0.05 mRad/hr
Th 232	Cs 137	# of Items x 3	One Meter 0.05 mRad/hr
Kr 85	Co 60	Total 4.2 Ci, mCi, (µCi)	
Other Pu-239		FORM: Sealed Source (Solid) Liquid Gas	Transport Index N/A

TRANSPORTATION INFORMATION

[X] This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material excepted package — limited quantity of material, UN 2910

[ ] This package conforms to the conditions and limitations specified in 49 CFR 173.424 for radioactive material excepted package — instruments or articles, UN 2910

DOT Labeling

[X] Exempt

License Number

IMCO Class 7

The above named articles are properly classified, described, packaged, marked and labeled, are in the proper condition for transportation according to applicable regulations of the Department of Transportation.

Special Instructions: In the event of an accident, contact the nearest military installation or call:

SIGNATURE OF RADIATION PROTECTION OFFICER	DATE 30 Jun 99
SIGNATURE OF TRANSPORTATION OFFICER	DATE

RADIOACTIVE MATERIALS MOVEMENT

(5)

[X] SHIPMENT [ ] RECEIPT SHIPMENT NUMBER: _____

TO: Building 3203 Fort Leonard Wood Mo FROM: Fort McClellan, AL

COMMODITY DESCRIPTION			MODE OF SHIPMENT
CONTAINERS	# OF ITEMS	ITEM	Air (Surface) Rail Water Parcel Post Other: _____
1	1	NSN: Non Plated Alpha Sources Nomenclature:	

Wipe test results = 0.0 dpm/cm² RADIOACTIVITY Bg = 0.05 mr/hr

ISOTOPE		ACTIVITY	RADIAC LEVELS
H 3	Ra 226	Each _____ Ci, mCi, µCi	Surface 0.05 mRad/hr
Th 232	Cs 137	# of Items x _____	One Meter 0.05 mRad/hr
Kr 85	Co 60	Total 3 Ci, mCi, (µCi)	
Other U: 233		FORM: Sealed Source (Solid) Liquid Gas	Transport Index N/A

TRANSPORTATION INFORMATION

[X] This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material — excepted package — limited quantity of material, UN 2910

DOT Labeling [X] Exempt

[ ] This package conforms to the conditions and limitations specified in 49 CFR 173.424 for radioactive material excepted package — instruments or articles, UN 2910

License Number

IMCO Class 7

The above named articles are properly classified, described, packaged, marked and labeled, are in the proper condition for transportation according to applicable regulations of the Department of Transportation.

Special Instructions: In the event of an accident, contact the nearest military installation or call: 573-596-1808

SIGNATURE OF RADIATION PROTECTION OFFICER	DATE
John W Mc	30 Jan 98
SIGNATURE OF TRANSPORTATION OFFICER	DATE

Ft McCL FL 1033-R Rev 20 Jan 98 Previous Editions Obsolete

RADIOACTIVE MATERIALS MOVEMENT

(3, 4)

[X] SHIPMENT [ ] RECEIPT SHIPMENT NUMBER: _____

TO: Ft Leonard Wood Mo FROM: Ft McClellan AL

COMMODITY DESCRIPTION			MODE OF SHIPMENT
CONTAINERS	# OF ITEMS	ITEM	Air (Surface) Rail Water Parcel Post Other: _____
1	2	~~NSN:~~ Nomenclature: S-94 Alpha Calibrator	

Wipe Test = 0.0 dpm RADIOACTIVITY By 0.05 mR/hr

ISOTOPE		ACTIVITY	RADIAC LEVELS
H 3	Ra 226	Each 1.4 Ci, mCi, (µCi)	Surface 0.05 mRad/hr
Th 232	Cs 137	# of Items x 2	One Meter 0.05 mRad/hr
Kr 85	Co 60	Total 2.8 Ci, mCi, (µCi)	
Other Pu-239		FORM: Sealed Source (Solid) Liquid Gas	Transport Index N/A

TRANSPORTATION INFORMATION

[X] This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material — excepted package — limited quantity of material, UN 2910

[ ] This package conforms to the conditions and limitations specified in 49 CFR 173.424 for radioactive material excepted package — instruments or articles, UN 2910

DOT Labeling

[X] Exempt

License Number

IMCO Class 7

The above named articles are properly classified, described, packaged, marked and labeled, are in the proper condition for transportation according to applicable regulations of the Department of Transportation.

Special Instructions: In the event of an accident, contact the nearest military installation or call:

SIGNATURE OF RADIATION PROTECTION OFFICER	DATE
John W Mc	30 Jan 98
SIGNATURE OF TRANSPORTATION OFFICER	DATE

COPY TO:

Richard G. Button, Jr.
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30365

James T. Williams
Division of Radiation Control
State of Alabama
Department of Public Health
201 Monroe Street, Suite 700
Montgomery, AL 36104

Lisa Kingsberry
Directorate of Environment
Building 141A 13th Avenue
ATTN: ATZN-EM
Fort McClellan, AL 36205