

Hematite  
Decommissioning  
Project

Procedure: HDP-PR-HP-311, Radiological Surveys

Revision: 02

FORM HDP-PR-HP-311-1 RADIOLOGICAL SURVEY REPORT

<b>Purpose of Survey:</b>	LSA 05-01 Spring House Foundation Survey Lower Portion							<b>Log Number:</b>	3298 C 130829		
<b>Technician(s):</b>	S. Jenkins / A. Schooley				<b>Reviewed by:</b>	Michelle Bresnahan					
<b>Print/Sign/Date</b>	9/3/13				<b>Print/Sign/Date</b>	9/6/13					
<b>Instrument &amp; Probe</b>	<b>Serial Number</b>	<b>Calibration Due</b>	<b>Probe Area (cm<sup>2</sup>)</b>	<b>Alpha Bkg (cpm)</b>	<b>Alpha Efficiency</b>	<b>Alpha MDA (dpm)</b>	<b>Beta Bkg (cpm)</b>	<b>Beta Efficiency</b>	<b>Beta MDA (dpm)</b>	<b>Date:</b>	8/29/2013
Tennelec LB 1 GFPC	68819	9/25/13	N/A	0.8	26.3%	23.0	4.1	31.0%	31	<b>Time:</b>	18:00
Lud 2360 43-89 B	248161	6/25/14	125	0.0	14.8%	16.2	229.0	8.5%	691	<b>Smear Area:</b>	~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>Batch #:</b>	33156
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>RWP:</b>	RP-13-G009
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>Misc:</b>	N/A

**Remarks:** Survey was performed on lower portion of the Spring House Foundation, in accordance with FSS instructions, using 2360 "B" with an average GA BKG of 3 alpha and 244 beta. Per FSS instructions, the IAL was 18 alpha and 462 beta. Meter passed post use source check successfully.

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact uR/hr	Gen. Area uR/hr	
1	Foundation - See map	1.0	<MDA	11.5	37.2	3	16	253	<MDA	N/A	N/A	N/A
2	Foundation - See map	0.2	<MDA	-0.2	<MDA	5	27	221	<MDA	N/A	N/A	N/A
3	Foundation - See map	0.0	<MDA	9.9	31.8	4	22	253	<MDA	N/A	N/A	N/A
4	Foundation - See map	4.1	<MDA	1.5	<MDA	1	<MDA	268	<MDA	N/A	N/A	N/A
5	Foundation - See map	1.1	<MDA	4.5	<MDA	4	22	270	<MDA	N/A	N/A	N/A
6	Foundation - See map	1.1	<MDA	2.5	<MDA	3	16	298	<MDA	N/A	N/A	N/A
7	Foundation - See map	1.2	<MDA	-1.5	<MDA	8	43	291	<MDA	N/A	N/A	N/A
8	Foundation - See map	0.1	<MDA	2.8	<MDA	5	27	254	<MDA	N/A	N/A	N/A
9	Foundation - See map	0.2	<MDA	-0.2	<MDA	4	22	271	<MDA	N/A	N/A	N/A
10	Foundation - See map	-0.8	<MDA	0.1	<MDA	6	32	307	735	N/A	N/A	N/A
11	Foundation - See map	-0.8	<MDA	1.1	<MDA	2	<MDA	271	<MDA	N/A	N/A	N/A
12	Foundation - See map	-0.9	<MDA	4.2	<MDA	3	16	237	<MDA	N/A	N/A	N/A
13	Foundation - See map	2.2	<MDA	-0.9	<MDA	5	27	269	<MDA	N/A	N/A	N/A
14	Foundation - See map	-0.9	<MDA	2.2	<MDA	6	32	285	<MDA	N/A	N/A	N/A
15	Foundation - See map	1.1	<MDA	1.5	<MDA	10	54	309	753	N/A	N/A	N/A
16	Foundation - See map	0.1	<MDA	4.8	<MDA	2	<MDA	299	<MDA	N/A	N/A	N/A
17	Foundation - See map	0.2	<MDA	0.8	<MDA	1	<MDA	258	<MDA	N/A	N/A	N/A
18	Foundation - See map	1.1	<MDA	6.5	<MDA	6	32	270	<MDA	N/A	N/A	N/A
19	Foundation - See map	0.1	<MDA	2.8	<MDA	4	22	274	<MDA	N/A	N/A	N/A
20	Foundation - See map	-0.8	<MDA	1.1	<MDA	2	<MDA	310	763	N/A	N/A	N/A

α - removable alpha  
β - removable beta  
φ - direct reading



Hematite  
Decommissioning  
Project

Procedure: HDP-PR-HP-311, Radiological Surveys

Revision: 0

6-10-14

FORM HDP-PR-HP-311-1 RADIOLOGICAL SURVEY REPORT

<b>Purpose of Survey:</b>	LSA 05-01 Spring House Foundation Survey Lower Portion							<b>Log Number:</b>	3298 C 130829	
<b>Technician(s):</b>	S. Jenkins / A. Schooley				<b>Reviewed by:</b>	Michelle Buesnahan				
<b>Print/Sign/Date</b>	9/3/13				<b>Print/Sign/Date</b>	9/6/13				
<b>Instrument &amp; Probe</b>	<b>Serial Number</b>	<b>Calibration Due</b>	<b>Probe Area (cm<sup>2</sup>)</b>	<b>Alpha Bkg (cpm)</b>	<b>Alpha Efficiency</b>	<b>Alpha MDA (dpm)</b>	<b>Beta Bkg (cpm)</b>	<b>Beta Efficiency</b>	<b>Beta MDA (dpm)</b>	<b>Date:</b> 8/29/2013
Tennelec LB 1 GFPC	68819	9/25/13	N/A	0.8	26.3%	23.0	4.1	31.0%	31	<b>Time:</b> 18:00
Lud 2360 43-89 B	248161	6/25/14	125	0.0	14.8%	16.2	229.0	8.5%	691	<b>Smear Area:</b> ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>Batch #:</b> 33156
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>RWP:</b> RP-13-G009
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>Misc:</b> N/A

**Remarks:** Survey was performed on lower portion of the Spring House Foundation, in accordance with FSS instructions, using 2360 "B" with an average GA BKG of 3 alpha and 244 beta. Per FSS instructions, the IAL was 18 alpha and 462 beta. Meter passed post use source check successfully.

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact uR/hr	Gen. Area uR/hr	
21	Foundation - See map	2.1	<MDA	4.2	<MDA	3	16	266	<MDA	N/A	N/A	N/A
22	Foundation - See map	1.2	<MDA	0.5	<MDA	7	38	272	<MDA	N/A	N/A	N/A
23	Foundation - See map	2.1	<MDA	6.2	<MDA	7	38	264	<MDA	N/A	N/A	N/A
24	Foundation - See map	2.2	<MDA	0.1	<MDA	4	22	340	1045	N/A	N/A	N/A
25	Foundation - See map	0.1	<MDA	7.8	<MDA	8	43	292	<MDA	N/A	N/A	N/A
26	Foundation - See map	0.1	<MDA	4.8	<MDA	2	<MDA	264	<MDA	N/A	N/A	N/A
27	Foundation - See map	0.2	<MDA	0.8	<MDA	2	<MDA	244	<MDA	N/A	N/A	N/A
28	Foundation - See map	0.2	<MDA	-0.2	<MDA	10	54	236	<MDA	N/A	N/A	N/A
29	Foundation - See map	2.1	<MDA	8.2	<MDA	10	54	284	<MDA	N/A	N/A	N/A
30	Foundation - See map	-0.8	<MDA	0.1	<MDA	8	43	226	<MDA	N/A	N/A	N/A
31	Foundation - See map	-0.9	<MDA	3.2	<MDA	4	22	224	<MDA	N/A	N/A	N/A
32	Foundation - See map	0.2	<MDA	-1.2	<MDA	2	<MDA	250	<MDA	N/A	N/A	N/A
33	Foundation - See map	0.1	<MDA	2.8	<MDA	8	43	242	<MDA	N/A	N/A	N/A
34	Foundation - See map	-0.8	<MDA	1.1	<MDA	8	43	232	<MDA	N/A	N/A	N/A
35	Foundation - See map	-0.8	<MDA	0.1	<MDA	8	43	258	<MDA	N/A	N/A	N/A
36	Foundation - See map	0.2	<MDA	-1.2	<MDA	8	43	250	<MDA	N/A	N/A	N/A
37	Foundation - See map	-0.8	<MDA	1.1	<MDA	2	<MDA	228	<MDA	N/A	N/A	N/A
38	Foundation - See map	-0.8	<MDA	1.1	<MDA	1	<MDA	252	<MDA	N/A	N/A	N/A
39	Foundation - See map	-0.8	<MDA	-0.9	<MDA	2	<MDA	264	<MDA	N/A	N/A	N/A
40	Foundation - See map	0.2	<MDA	-1.2	<MDA	1	<MDA	242	<MDA	N/A	N/A	N/A

α - removable alpha

β - removable beta

φ - direct reading



## FORM HDP-PR-HP-311-1 RADIOLOGICAL SURVEY REPORT

Purpose of Survey: LSA 05-01 Spring House Foundation Survey Lower Portion

Log Number:

3298 C 130829

Technician(s):  
Print/Sign/Date

S. Jenkins / A. Schooley

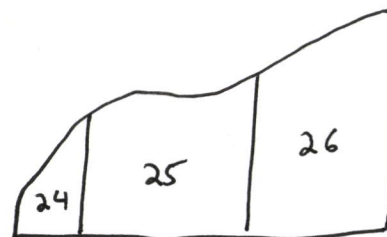
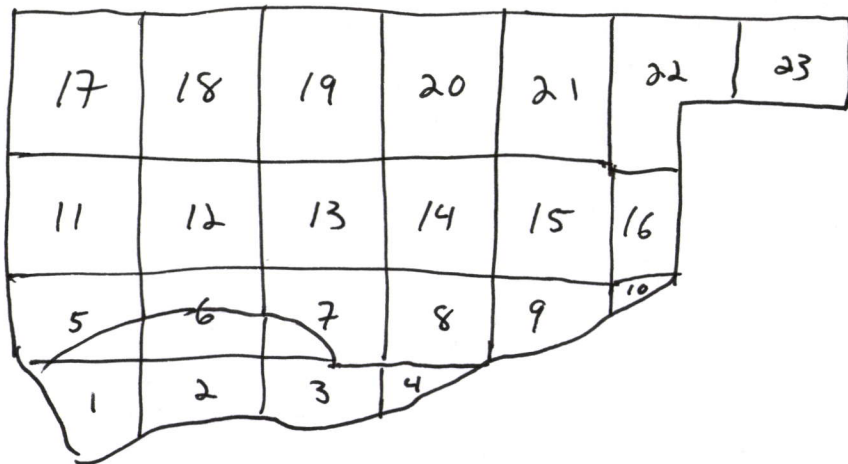
Reviewed by:  
Print/Sign/Date

Michelle Bresnahan / Phil Allen 9/6/13

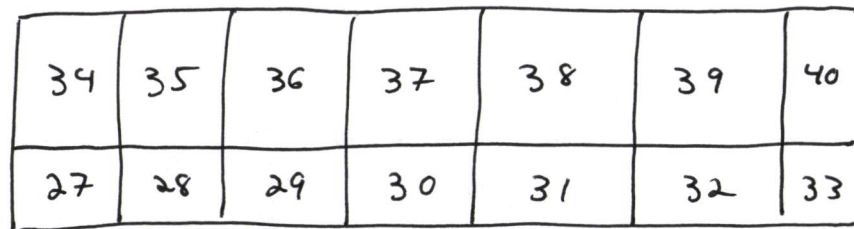
Instrument	Serial Number	Calibration Due	Probe Area (cm <sup>2</sup> )	Alpha Bkg (cpm)	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkg (cpm)	Beta Efficiency	Beta MDA (dpm)	Date:
Tennelec LB 1 GFPC	68819	9/25/13	N/A	0.8	26.3%	23.0	4.1	31.0%	31	08/29/13
Lud 2360 43-89 B	248161	6/25/14	125	0.0	14.8%	16.2	229.0	8.5%	691	Time: 18:00
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Smear Area: ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #: 33156
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: RP-13-G009
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc: N/A

Survey was performed on lower portion of the Spring House Foundation, in accordance with FSS instructions, using 2360 "B" with an average GA BKG of 3 alpha and 244 beta. Per FSS instructions, the IAL was 18 alpha and 462 beta. Meter passed post use source check successfully.

FLOOR



LEFT WALL



BACK WALL



<b>Hematit Decommissioning Project</b>	<b>Procedure: HDP-PR-HP-311, Radiological Surveys</b>
<b>Revision: 0</b>	

**FORM HDP-PR-HP-311-1 RADIOLOGICAL SURVEY REPORT**

<b>Purpose of Survey:</b>	LSA 05-01 Spring House Foundation Survey Upper Portion	<b>Log Number:</b>	3299 C 130829
<b>Technician(s):</b>	<i>9/3/13</i>	<b>Reviewed by:</b>	<i>Michelle Bnesnahan 9/6/13</i>
<b>Print/Sign/Date</b>	S. Jenkins / A. Schooley <i>9/3/13</i>	<b>Print/Sign/Date</b>	

Instrument & Probe	Serial Number	Calibration Due	Probe Area (cm <sup>2</sup> )	Alpha Bkg (cpm)	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkg (cpm)	Beta Efficiency	Beta MDA (dpm)	Date: 8/29/2013
Tennelec LB 1 GFPC	68819	9/25/13	N/A	0.9	26.3%	23.4	3.6	31.0%	30	<b>Time:</b> 18:00
Lud 2360 43-89 B	248161	6/25/14	125	0.0	14.8%	16.2	229.0	8.5%	691	<b>Smear Area:</b> ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	26.3%	N/A	N/A	31.0%	N/A	<b>Batch #:</b> 33172
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>RWP:</b> RP-13-G009
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>Misc:</b> N/A

**Remarks:** and 244 beta. Per FSS instructions, the IAL was 18 alpha and 462 beta. One elevated area was noted. See survey 3300 C 130829 for more information. Meter passed post use source check successfully. *(See page 2 for full note. -AKS 9/6/13)*

#	Description	Removable Alpha		Removable Beta		Total Alpha		Total Beta		By Dose Rate		Limit Exceeded
		Net CPM	DPM / 100cm <sup>2</sup>	Net CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Gross CPM	DPM / 100cm <sup>2</sup>	Contact uR/hr	Gen. Area uR/hr	
41	Foundation - See map	1.1	<MDA	2.0	<MDA	5	27	258	<MDA	N/A	N/A	N/A
42	Foundation - See map	-1.0	<MDA	7.7	<MDA	7	38	376	1384	N/A	N/A	N/A
43	Foundation - See map	-1.0	<MDA	9.7	31.3	5	27	285	<MDA	N/A	N/A	N/A
44	Foundation - See map	-1.0	<MDA	6.7	<MDA	6	32	290	<MDA	N/A	N/A	N/A
45	Foundation - See map	1.1	<MDA	0.0	<MDA	2	<MDA	281	<MDA	N/A	N/A	N/A
46	Foundation - See map	1.1	<MDA	2.0	<MDA	7	38	302	<MDA	N/A	N/A	N/A
47	Foundation - See map	1.0	<MDA	8.0	<MDA	7	38	264	<MDA	N/A	N/A	N/A
48	Foundation - See map	-0.9	<MDA	3.7	<MDA	6	32	255	<MDA	N/A	N/A	N/A
49	Foundation - See map	1.0	<MDA	5.0	<MDA	9	49	258	<MDA	N/A	N/A	N/A
50	Foundation - See map	1.1	<MDA	2.0	<MDA	3	16	268	<MDA	N/A	N/A	N/A
51	Foundation - See map	0.1	<MDA	1.3	<MDA	3	16	263	<MDA	N/A	N/A	N/A
52	Foundation - See map	1.1	<MDA	0.0	<MDA	12	65	250	<MDA	N/A	N/A	N/A
53	Foundation - See map	0.1	<MDA	-0.7	<MDA	6	32	294	<MDA	N/A	N/A	N/A
54	Foundation - See map	-1.0	<MDA	5.7	<MDA	7	38	302	<MDA	N/A	N/A	N/A
55	Foundation - See map	-0.9	<MDA	-1.3	<MDA	5	27	289	<MDA	N/A	N/A	N/A
56	Foundation - See map	1.0	<MDA	5.0	<MDA	5	27	297	<MDA	N/A	N/A	N/A
N/A	N/A	N/A		N/A		N/A		N/A		N/A	N/A	N/A
N/A	N/A	N/A		N/A		N/A		N/A		N/A	N/A	N/A
N/A	N/A	N/A		N/A		N/A		N/A		N/A	N/A	N/A
N/A	N/A	N/A		N/A		N/A		N/A		N/A	N/A	N/A

α - removable alpha  
β - removable beta  
φ - direct reading



Hematit  
Decommissioning  
Project

Procedure: HDP-PR-HP-311, Radiological Surveys

Revision: 0

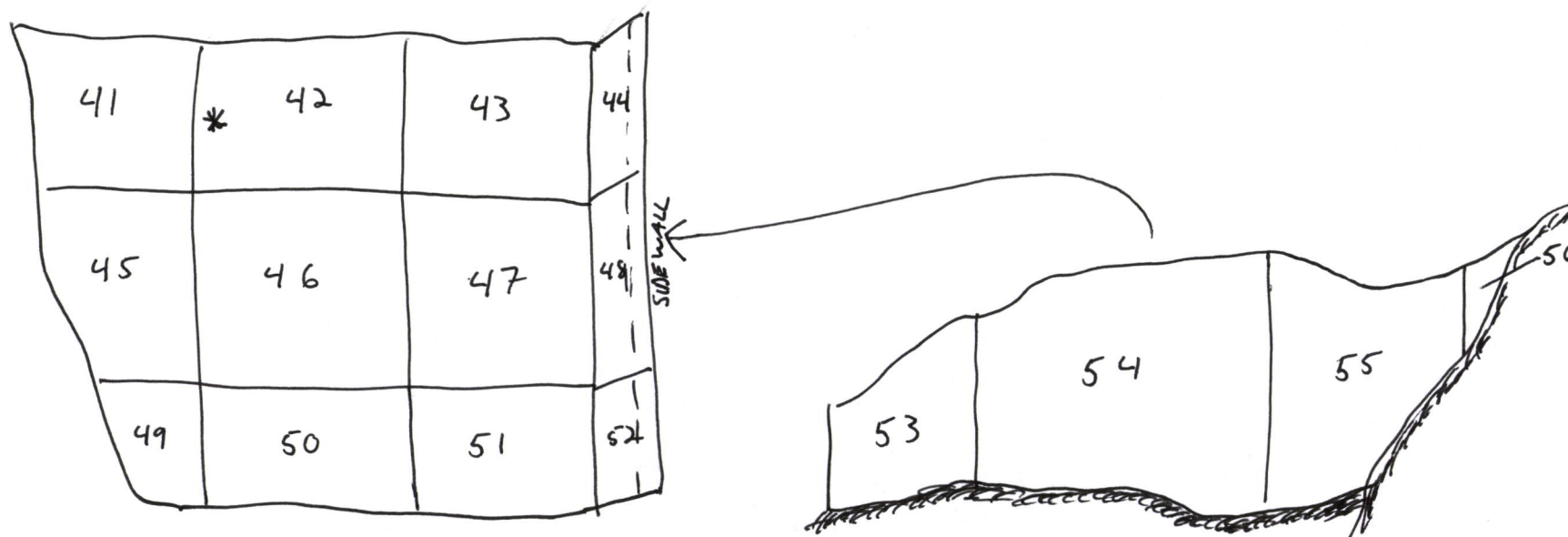
**FORM HDP-PR-HP-311-1 RADIOLOGICAL SURVEY REPORT**

<b>Purpose of Survey:</b> LSA 05-01 Spring House Foundation Survey Upper Portion				<b>Log Number:</b> 3299 C 130829						
<b>Technician(s):</b> <i>WJ</i> 9/3/13 <i>AS</i> 9-3-13 Print/Sign/Date S. Jenkins / A. Schooley				<b>Reviewed by:</b> <i>Michelle Bresnahan</i> 9/6/13 Print/Sign/Date						
Instrument	Serial Number	Calibration Due	Probe Area (cm <sup>2</sup> )	Alpha Bkg (cpm)	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkg (cpm)	Beta Efficiency	Beta MDA (dpm)	Date:
Tennelec LB 1 GFPC	68819	9/25/13	N/A	0.9	26.3%	23.4	3.6	31.0%	30	08/29/13
Lud 2360 43-89 B	248161	6/25/14	125	0.0	14.8%	16.2	229.0	8.5%	691	Time: 18:00
N/A	N/A	N/A	N/A	N/A	26.3%	N/A	N/A	31.0%	N/A	Smear Area: ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #: 33172
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: RP-13-G009
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc: N/A

Survey was performed on upper portion of the Spring House Foundation, in accordance with FSS instructions, using 2360 "B" with an average GA BKG of 3 alpha and 244 beta. Per FSS instructions, the IAL was 18 alpha and 462 beta. One elevated area was noted. See survey 3300 C 130829 for more information.

**Remarks:** Meter passed post use source check successfully.

\* ELEVATED AREA



Note: a composite sample was collected from the sidewall. Sample ID: L0501104TUB00







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Procedure: HDP-PR-HP-311, Radiological Surveys

Revision: 0

**FORM HDP-PR-HP-311-1 RADIOLOGICAL SURVEY REPORT**

<b>Purpose of Survey:</b> LSA 05-01 Spring House Foundation Survey Elevated Area				<b>Log Number:</b> 3300 C 130829						
<b>Technician(s):</b> <b>Print/Sign/Date</b> S. Jenkins / A. Schooley <i>9-3-13</i>		<b>Reviewed by:</b> <b>Print/Sign/Date</b> Michelle Bresnahan <i>9/6/13</i>								
Instrument	Serial Number	Calibration Due	Probe Area (cm <sup>2</sup> )	Alpha Bkg (cpm)	Alpha Efficiency	Alpha MDA (dpm)	Beta Bkg (cpm)	Beta Efficiency	Beta MDA (dpm)	Date: 08/29/13
Tennelec LB 1 GFPC	68819	9/25/13	N/A	0.9	26.3%	23.4	3.6	31.0%	30	Time: 18:00
Lud 2360 43-89 B	248161	6/25/14	125	0.0	14.8%	16.2	229.0	8.5%	691	Smear Area: ~ 100 cm <sup>2</sup>
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Batch #: 33171
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RWP: RP-13-G009
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Misc: N/A

Survey was performed on an elevated area found during surface scan, in accordance with FSS instructions, using 2360 "B" with an average GA BKG of 3 alpha and 244 beta. The IAL was 18 alpha and 462 beta. The beta IAL of 462 cpm was surpassed with an initial reading of 490 cpm. A one minute static reading and additional smear were taken at the location. Per FSS instructions, a composite concrete sample was taken and sent to the lab for analysis. After removing the surface sample an additional one minute static reading was taken with a result of 5 cpm alpha and 273 cpm beta, therefore falling below the IAL and the

**Remarks:** contamination was considered previously fixed and therefore removed.

\* = ELEVATED AREA (sample ID from composite concrete sample: L0501108TUB00) *9/6/13*  
ON UPPER SLAB

