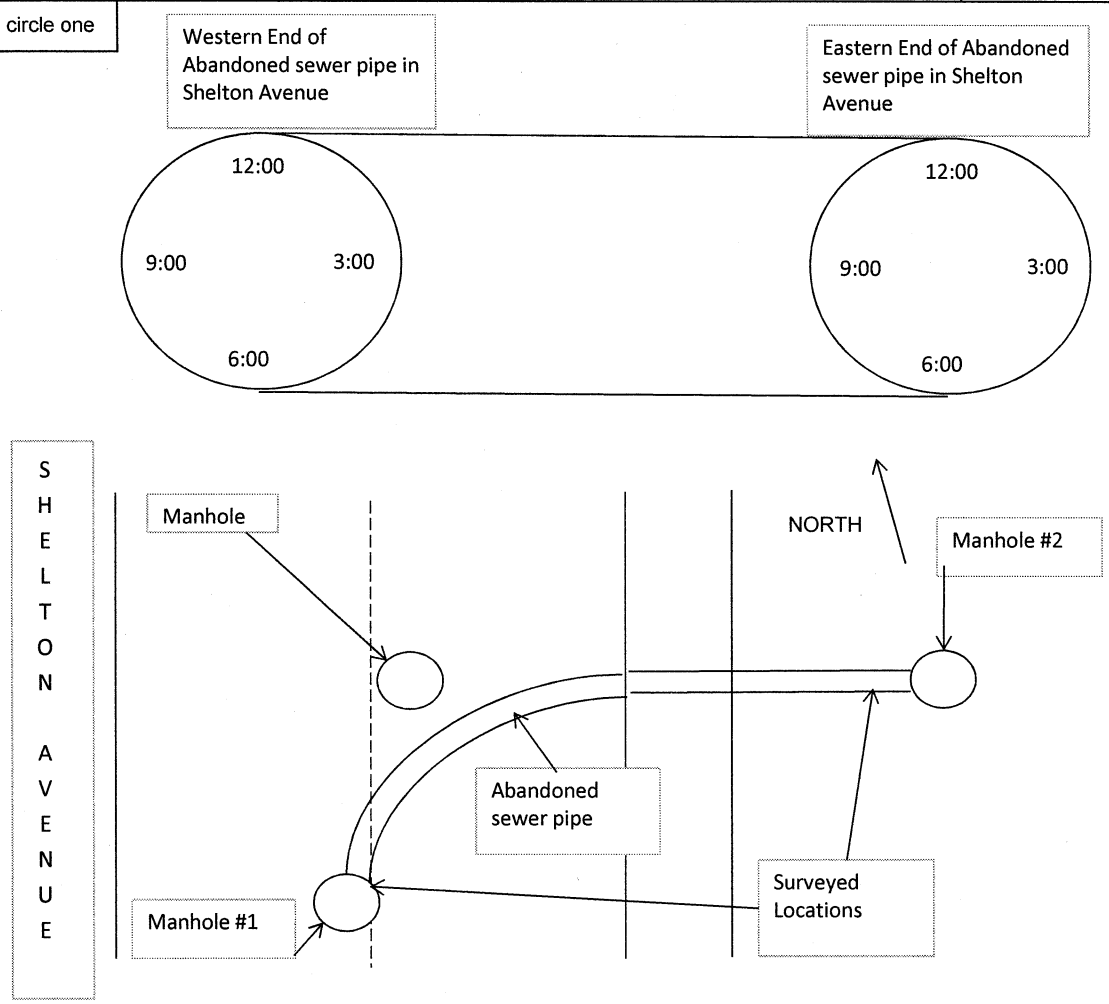
Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-135	Survey Type: FSS - Abandoned Pipe	pg. 1 of 2

Smear (DPM/100 cm²) / Direct Count (DPM/100 cm2) — circle one

No.	α	β	No.	α	β
1	8	43	26	2	-2
2	-1	9	27	-1	42
3	13	-20	28	-1	-6
4	2	-9	29		
5	-1	-28	30		
6	-1	-32	31		
7	-1	17	32		
8	2	58	33		
9	-1	28	34		
10	-1	-24	35		
11	2	17	36		
12	2	20	37		
13	2	-24	38		
14	2	-9	39		
15	-1	6	40		
16	2	-9	41		
17	-1	24	42		
18	-1	24	43		
19	2	13	44		
20	-1	-13	45		
21	-1	-17	46		
22	2	9	47		
23	2	-13	48		
24	2	13	49		
25	-1	35	50		



Pipe Measurements:
1) E End, 0 ft, 6:00
2) E End, 0 ft, 9:00
3) E End, 0 ft, 12:00
4) E End, 0 ft, 3:00
5) E End, 1 ft, 6:00
6) E End, 1 ft, 9:00
7) E End, 1 ft, 12:00
8) E End, 1 ft, 3:00
9) E End, 2 ft, 6:00
10) E End, 2 ft, 9:00
11) E End, 2 ft, 12:00
12) E End, 2 ft, 3:00
13) E End, 3 ft, 6:00
14) E End, 3 ft, 9:00
15) E End, 3 ft, 12:00
16) E End, 3 ft, 3:00
17) W End, 0 ft, 6:00
18) W End, 0 ft, 9:00
19) W End, 0 ft, 12:00
20) W End, 0 ft, 3:00
21) W End, 1 ft, 6:00
22) W End, 1 ft, 9:00
23) W End, 1 ft, 12:00
24) W End, 1 ft, 3:00
25) W End, 2 ft, 6:00
26) W End, 2 ft, 9:00
27) W End, 2 ft, 12:00
28) W End, 2 ft, 3:00
NOTES: E End = East end of pipe
0 ft = 0 feet inside pipe
6:00 = bottom of pipe as shown above

Comments

Smears and statics performed inside eastern and western end of pipe. Survey was performed after internal surfaces of pipe were powerwashed. FIDLER readings 1 foot inside eastern end of pipe after powerwashing were 15,000 - 18,000 cpm (background of 15,000 cpm). Soil samples were collected from both ends of pipe and of soils washed out of pipe. Samples were counted in on site gamma spec lab.

Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
Greg Bright	14-Nov-11	3030E/ 43-10-1	217611/ PR232046	0.3561	0.2691	0.2	49.5	N/A	06-Apr-12
Reviewed By:	Date:								
Patty Retka	14-Nov-11								

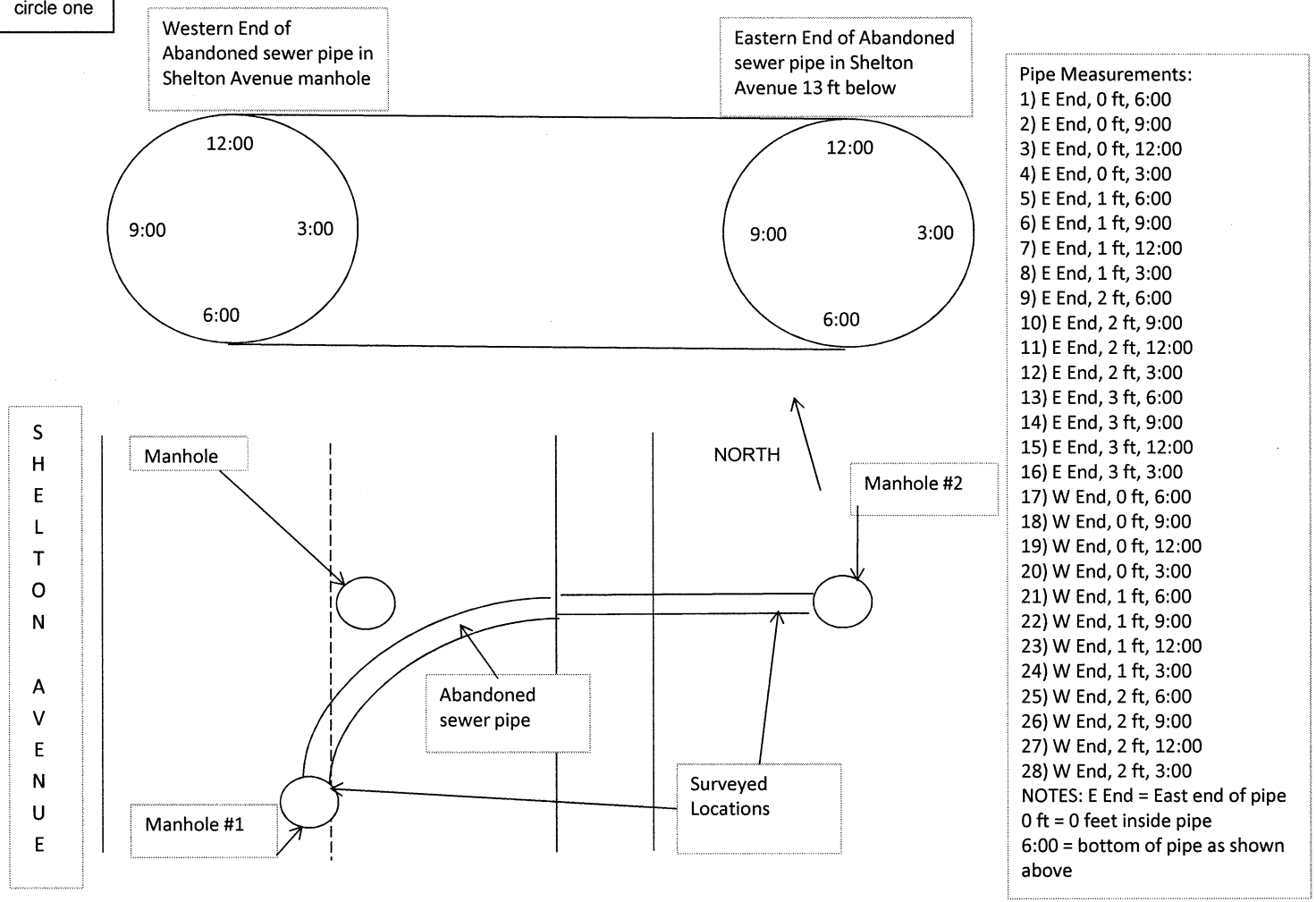
Key

■	A/S Location
-	Boundary
○	Smear
□	Dose Rate _____ /hr
*	Direct Reading CPM/direct frisk
△	Grab Sample

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-135	Survey Type: FSS - Abandoned Pipe	pg. 2 of 2

Smear (DPM/100 cm²) / Direct Count (DPM/100 cm2) — circle one

No.	α	β	No.	α	β
1	-41	-72	26	27	432
2	0	936	27	-27	-696
3	14	1403	28	14	-744
4	-54	600	29		
5	-41	156	30		
6	-14	924	31		
7	54	1427	32		
8	-54	936	33		
9	0	-84	34		
10	0	1008	35		
11	-14	1751	36		
12	-27	1523	37		
13	0	888	38		
14	-14	1943	39		
15	-14	120	40		
16	-14	924	41		
17	27	948	42		
18	122	168	43		
19	14	-504	44		
20	68	-348	45		
21	54	468	46		
22	0	-72	47		
23	-14	-288	48		
24	-14	12	49		
25	-54	-1344	50		



Pipe Measurements:
1) E End, 0 ft, 6:00
2) E End, 0 ft, 9:00
3) E End, 0 ft, 12:00
4) E End, 0 ft, 3:00
5) E End, 1 ft, 6:00
6) E End, 1 ft, 9:00
7) E End, 1 ft, 12:00
8) E End, 1 ft, 3:00
9) E End, 2 ft, 6:00
10) E End, 2 ft, 9:00
11) E End, 2 ft, 12:00
12) E End, 2 ft, 3:00
13) E End, 3 ft, 6:00
14) E End, 3 ft, 9:00
15) E End, 3 ft, 12:00
16) E End, 3 ft, 3:00
17) W End, 0 ft, 6:00
18) W End, 0 ft, 9:00
19) W End, 0 ft, 12:00
20) W End, 0 ft, 3:00
21) W End, 1 ft, 6:00
22) W End, 1 ft, 9:00
23) W End, 1 ft, 12:00
24) W End, 1 ft, 3:00
25) W End, 2 ft, 6:00
26) W End, 2 ft, 9:00
27) W End, 2 ft, 12:00
28) W End, 2 ft, 3:00
NOTES: E End = East end of pipe
0 ft = 0 feet inside pipe
6:00 = bottom of pipe as shown above

Comments

Smears and statics performed inside eastern and western end of pipe. Survey was performed after internal surfaces of pipe were powerwashed. FIDLER readings 1 foot inside eastern end of pipe after powerwashing were 15,000 - 18,000 cpm (background of 15,000 cpm). Soil samples were collected from both ends of pipe and of soils washed out of pipe. Samples were counted in on site gamma spec lab.

Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
Greg Bright	14-Nov-11	2360/43-93	202398/ 211706	0.0735	0.0834	5	455	N/A	06-Sep-12
Reviewed By:	Date:								
Patty Retka	14-Nov-11								

Key

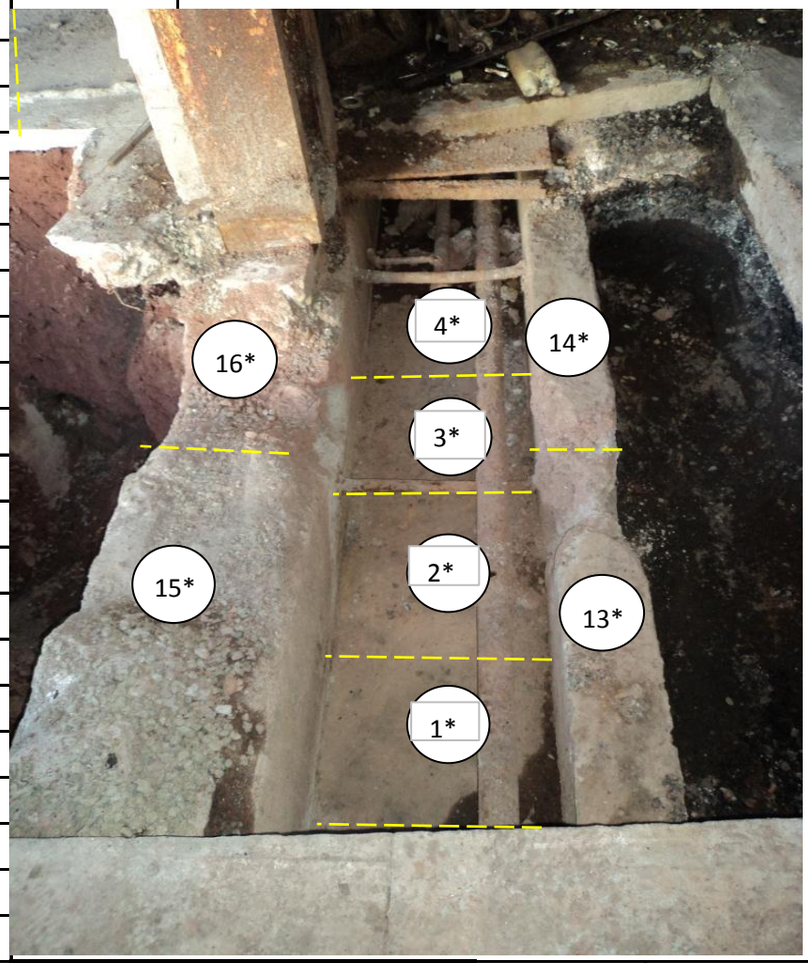
■	A/S Location
-	Boundary
○	Smear
□	Dose Rate _____ /hr
*	Direct Reading CPM/direct frisk
△	Grab Sample

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-145 Rev. 1	Survey Type: Decon Pit Pipe Chase FSS	pg. 1 of 2

Smear (DPM/100 cm²) — circle one

Direct Count (DPM/100 cm2)

No.	α	β	No.	α	β
1	11	27	26		
2	-1	1	27		
3	2	50	28		
4	5	31	29		
5	2	20	30		
6	-1	-32	31		
7	2	5	32		
8	5	87	33		
9	-1	9	34		
10	2	-25	35		
11	8	-2	36		
12	2	-47	37		
13	5	9	38		
14	11	-10	39		
15	-1	27	40		
16	-1	-21	41		
17			42		
18			43		
19			44		
20			45		
21			46		
22			47		
23			48		
24			49		
25			50		



Scan Results in cpm

Floor 2' X 2' Grids, 1-4, from west to east

1) 3/244
2) 5/253
3) 7/247
4) 5/302

South Wall 2' X 2' Grids, 1-4, from west to east

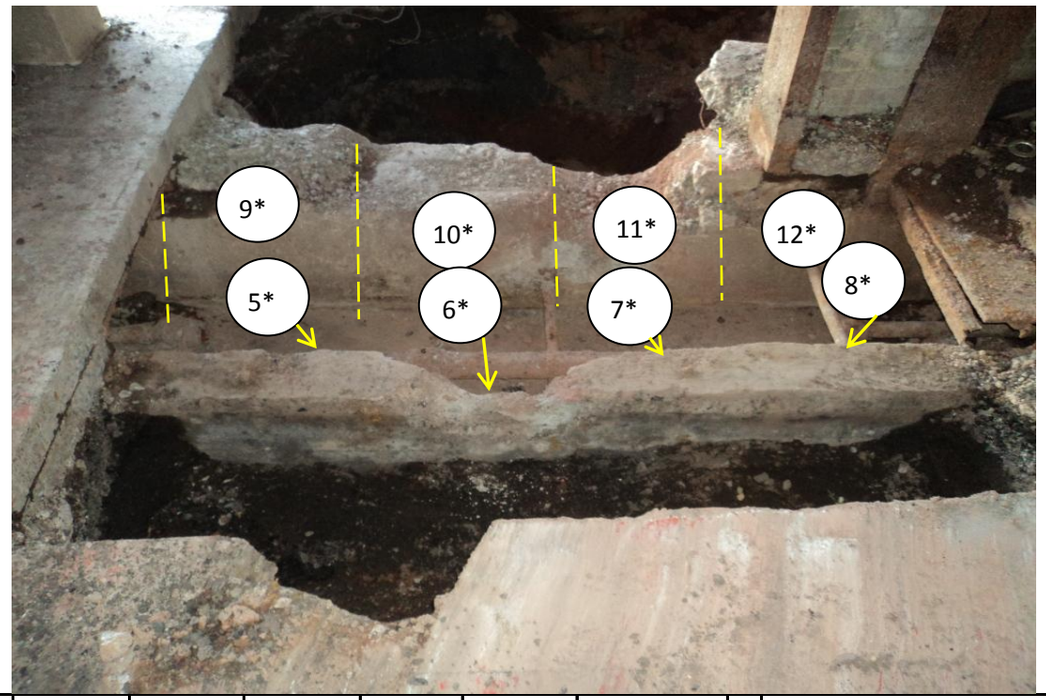
1) 10/234
2) 14/255
3) 4/249
4) 8/240

North Wall 2' X 2' Grids, 1-4, from W to E

1) 8/230
2) 2/265
3) 7/263
4) 7/281

South Wall top 1 X 4' Grids, 1-2, from W to E

1) 3/248
2) 5/237



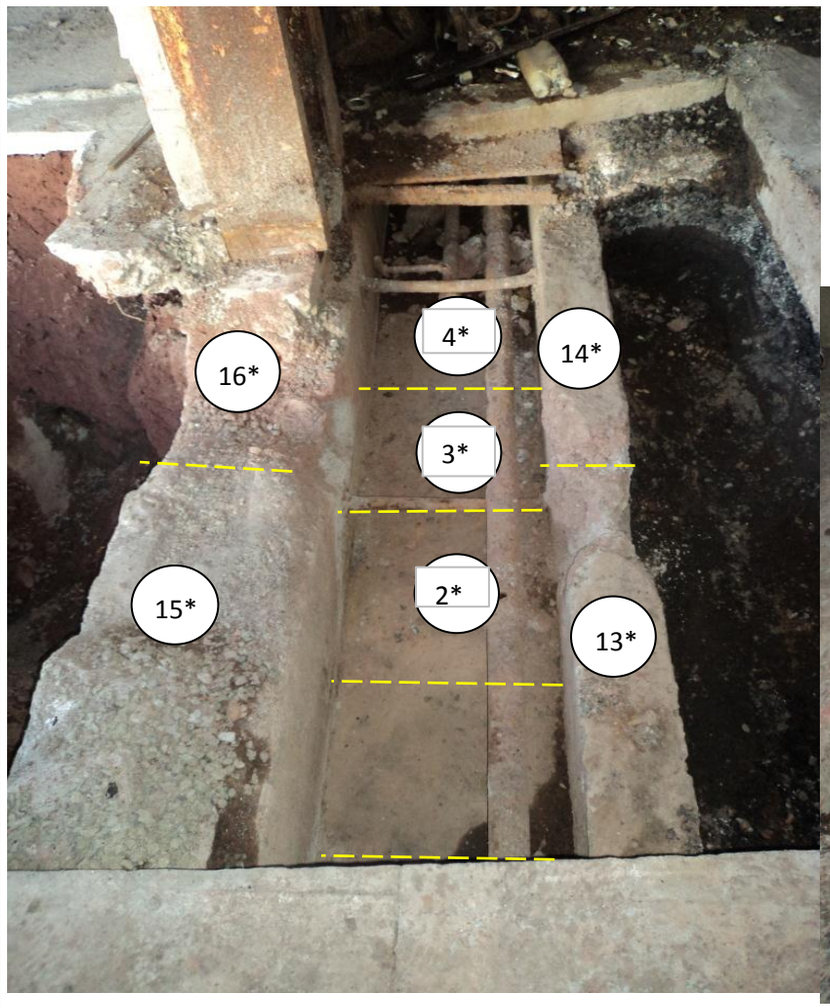
Comments	Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
Scans were performed using a 2 min scaler count and moving the detector 1 in/sec inside each 2 ft X 2ft grid. Elevated areas were investigated further. Statics/smears were performed in biased locations. Original survey performed on 12/2/11, 2224-1 / 43-93 efficiencies updated on 9/25/12.	Steve Devlin	25-Sep-12	3030E/ 43-10-1	217611/ PR232046	0.3561	0.2691	0.1	49.1	N/A	06-Apr-12
	Reviewed By:	Date:								
	Greg Bright	25-Sep-12								

Key	
■	A/S Location
-	Boundary
○	Smear
▭	Dose Rate _____ /hr
*	Direct Reading CPM/direct frisk
△	Grab Sample

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-145 Rev. 1	Survey Type: Decon Pit Pipe Chase FSS	pg. 2 of 2

Smear (DPM/100 cm^2) / Direct Count (DPM/100 cm2) — circle one

No.	α	β	No.	α	β
1	33	-232	26		
2	-72	-170	27		
3	-33	250	28		
4	-59	339	29		
5	-59	125	30		
6	-7	250	31		
7	-33	-27	32		
8	-72	428	33		
9	33	-62	34		
10	72	161	35		
11	-20	-116	36		
12	-59	339	37		
13	-33	-152	38		
14	-59	196	39		
15	-85	303	40		
16	-59	-170	41		
17			42		
18			43		
19			44		
20			45		
21			46		
22			47		
23			48		
24			49		
25			50		



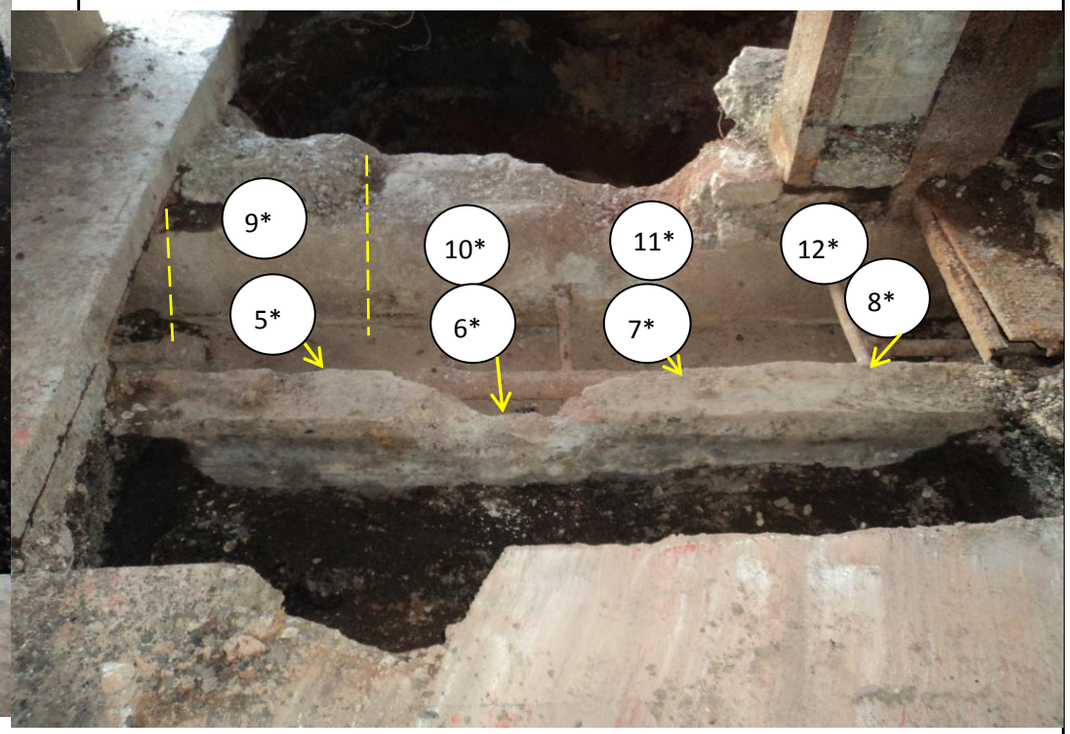
Scan Results in cpm

Floor 2' X 2' Grids, 1-4, fromW to E
1) 3/244
2) 5/253
3) 7/247
4) 5/302

S Wall 2' X 2' Grids, 1-4, from W to E
1) 10/234
2) 14/255
3) 4/249
4) 8/240

North Wall 2' X 2' Grids, 1-4, from W to E
1) 8/230
2) 2/265
3) 7/263
4) 7/281

South Wall top 1 X 4' Grids, 1-2, from W to E
1) 3/248
2) 5/237

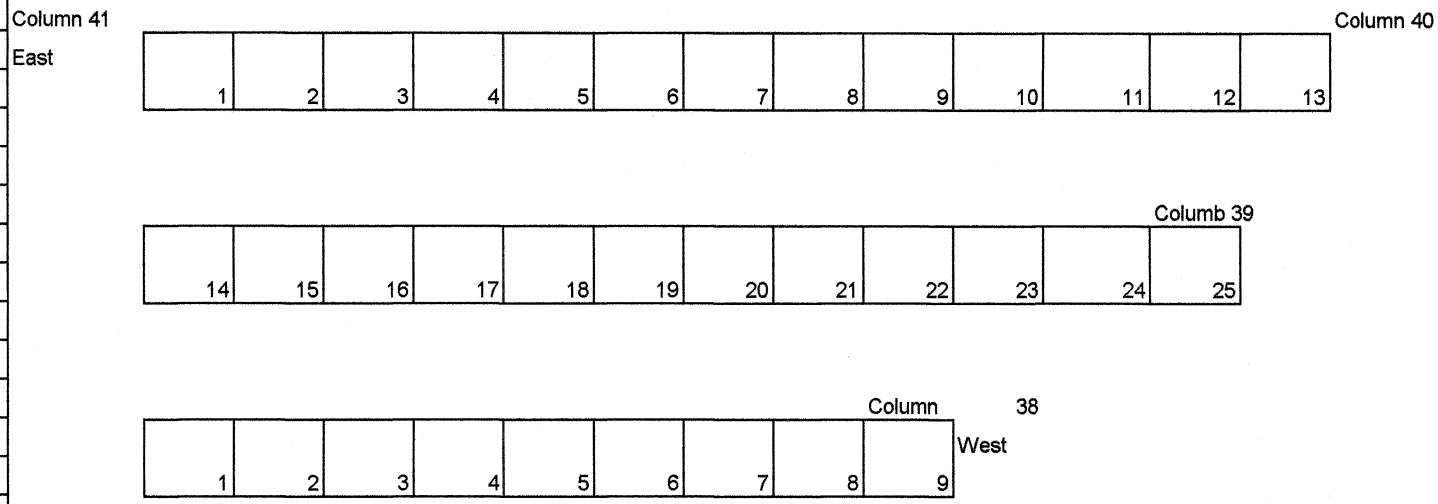


Comments	Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due		Key	
Scans were performed using a 2 min scaler count and moving the detector 1 in/sec inside each 2 ft X 2ft grid. Elevated areas were investigated further. Statics/smears were performed in biased locations. Original survey performed on 12/2/11, 2224-1 / 43-93 efficiencies updated on 9/25/12.	Steve Devlin	25-Sep-12	2224-1 / 43-93	162425/ PR182403	0.0762	0.1120	8.5	263	N/A	01-Aug-12			
												■	A/S Location
												-	Boundary
												○	Smear
												□	Dose Rate _____ /hr
	Reviewed By:	Date:										*	Direct Reading CPM/direct frisk
	Greg Bright	25-Sep-12										△	Grab Sample

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-3	Survey # UNC-29 6 Floor Trench	Survey Type: Scan/Static/Smear	pg. 1 of 2

Smear (DPM/100 cm²) / Direct Count (DPM/100 cm2)					
No.	α	β	No.	α	β
1	-1	35	1	5	-32
2	2	46	2	11	24
3	2	13	3	16	27
4	2	1	4	8	76
5	-1	54	5	11	-21
6	-1	27	6	2	20
7	-1	-21	7	16	-32
8	2	16	8	8	-21
9	13	-39	9	11	50
10	2	24	35		
11	-1	-13	36		
12	-1	1	37		
13	5	16	38		
14	-1	-2	39		
15	-1	-17	40		
16	5	13	41	N/A	
17	2	1	42		
18	2	46	43		
19	-1	20	44		
20	-1	-13	45		
21	8	-2	46		
22	2	-10	47		
23	5	31	48		
24	-1	20	49		
25	-1	42	50		

circle one



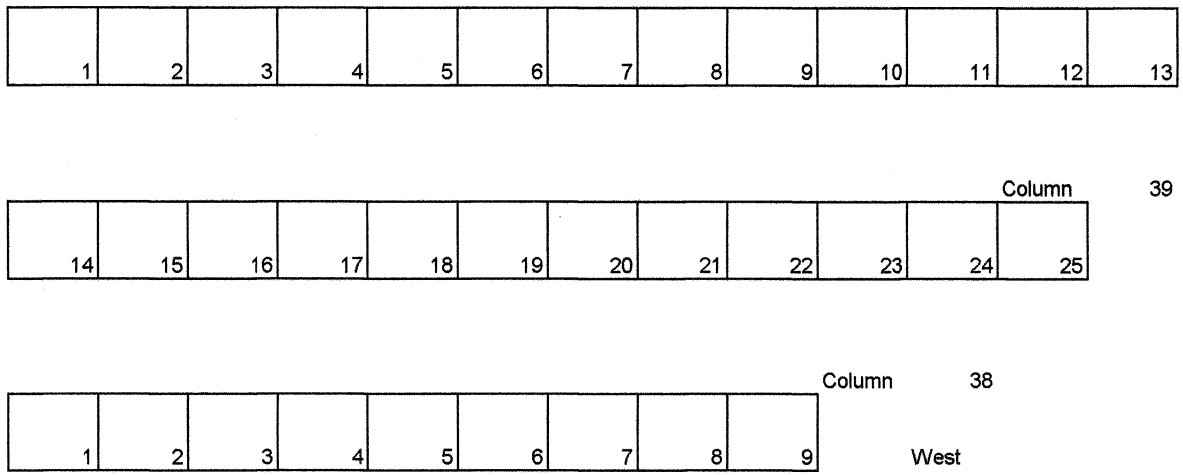
Comments	Surveyed By:	Date:	Instrumen	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
	Bill Gardner	19-Mar-12	3030/43-10-1	217611/232046	0.3561	0.2691	0.2	50.6	N/A	06-Apr-12
	Reviewed By:	Date:								
	Dave Davis	19-Mar-12								

Key	
■	A/S Location
-	Boundary
○	Smear
□	Dose Rate _____ /hr
*	Direct Reading CPM/direct frisk
△	Grab Sample

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-3	Survey # UNC-29[illegible] Floor Trench	Survey Type: Scan/Static/Smear	pg. 2 of 2

Smear (DPM/100 cm²) / Direct Count (DPM/100 cm2) — circle one

No.	α	β	No.	α	β
1	70	106	1	-14	646
2	112	453	2	84	415
3	112	1003	3	196	502
4	196	772	4	28	260
5	28	280	5	84	367
6	70	453	6	168	704
7	98	646	7	70	-106
8	56	299	8	112	482
9	112	251	9	70	531
10	56	222	35		
11	210	299	36		
12	210	376	37		
13	140	434	38		
14	98	328	39		
15	112	714	40		
16	0	193	41		
17	56	251	42		
18	84	598	43		
19	238	627	44		
20	182	463	45		
21	42	174	46		
22	84	328	47		
23	28	48	48		
24	14	-29	49		
25	56	-116	50		



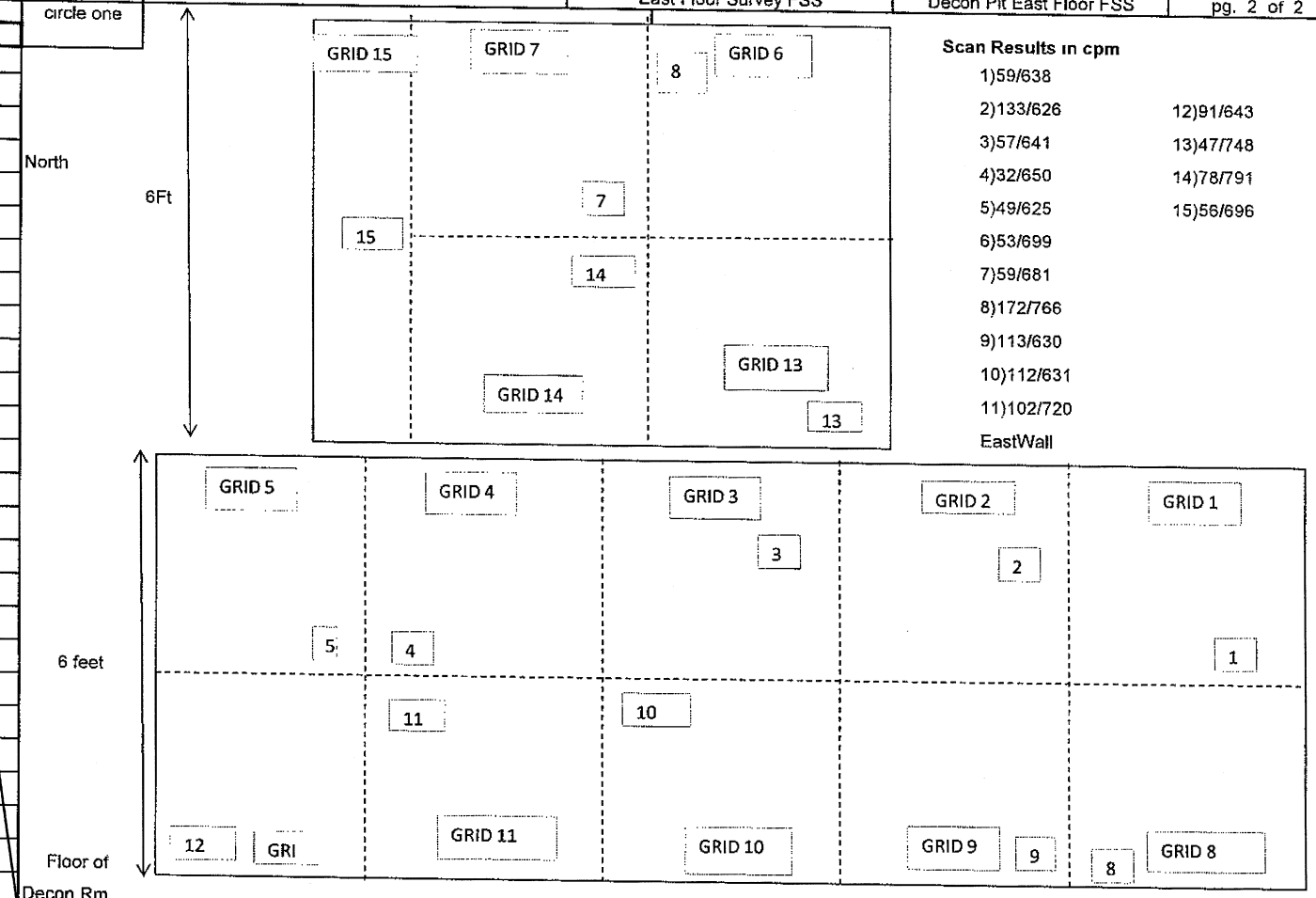
Comments	Surveyed By:	Date:	Instrumen	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due	Key
	Bill Gardner	19-Mar-12	2224-1 /43-93	162426/ 193921	0.07135	0.10367	2	206	N/A	9/7/2012	
											■ A/S Location
											- Boundary
											○ Smear
											□ Dose Rate _____/hr
	Reviewed By:	Date:									* Direct Reading CPM/direct frisk
	Dave Davis	19-Mar-12									△ Grab Sample

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-301-Decon Pit Rev. 1 East Floor Survey FSS	Survey Type: Decon Pit East Floor FSS

Smear (DPM/100 cm²) | Direct Count (DPM/100 cm2) — circle one

No.	α	β	No.	α	β
1	2,192	514	26		
2	4,240	719	27		
3	1,142	1,576	28		
4	880	871	29		
5	656	211	30		
6	1,378	353	31		
7	1,168	478	32		
8	3,216	1,130	33		
9	2,612	648	34		
10	2,507	755	35		
11	1,142	-129	36		
12	761	157	37		
13	866	371	38		
14	433	264	39		
15	1,680	907	40		
16			41		
17			42		
18			43		
19			44		
20			45		
21			46		
22			47		
23			48		
24			49		
25			50		

A N A N



Scan Results in cpm

1)59/638
2)133/626
3)57/641
4)32/650
5)49/625
6)53/699
7)59/681
8)172/766
9)113/630
10)112/631
11)102/720
EastWall
12)91/643
13)47/748
14)78/791
15)56/696

Comments

Scans were performed using a 2 min scaler count and moving the detector 1 in/sec inside each 3 ft X 3ft grid. Elevated areas were investigated further. Statics were performed in biased locations. Smears were collected from the center of each grid. Original survey performed on 3/26/12, 2224-1/ 43-93 efficiencies updated on 9/25/12.

Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
Dave Davis	25-Sep-12	2224-1 / 43-93	162425/ PR182403	0.0762	0.1120	5	359.4	N/A	01-Aug-12
Dave Davis	9-25-12								
Nicholas Berliner	9/25/12								
Reviewed By:	Date:								
Nick Berliner	25-Sep-12								

A N A N A N A N

Key

- ■ A/S Location
- *-* Boundary
- ○ Smear
- □ Dose Rate _____ /hr
- * Direct Reading CPM/direct frisk
- △ Grab Sample

Revision 2

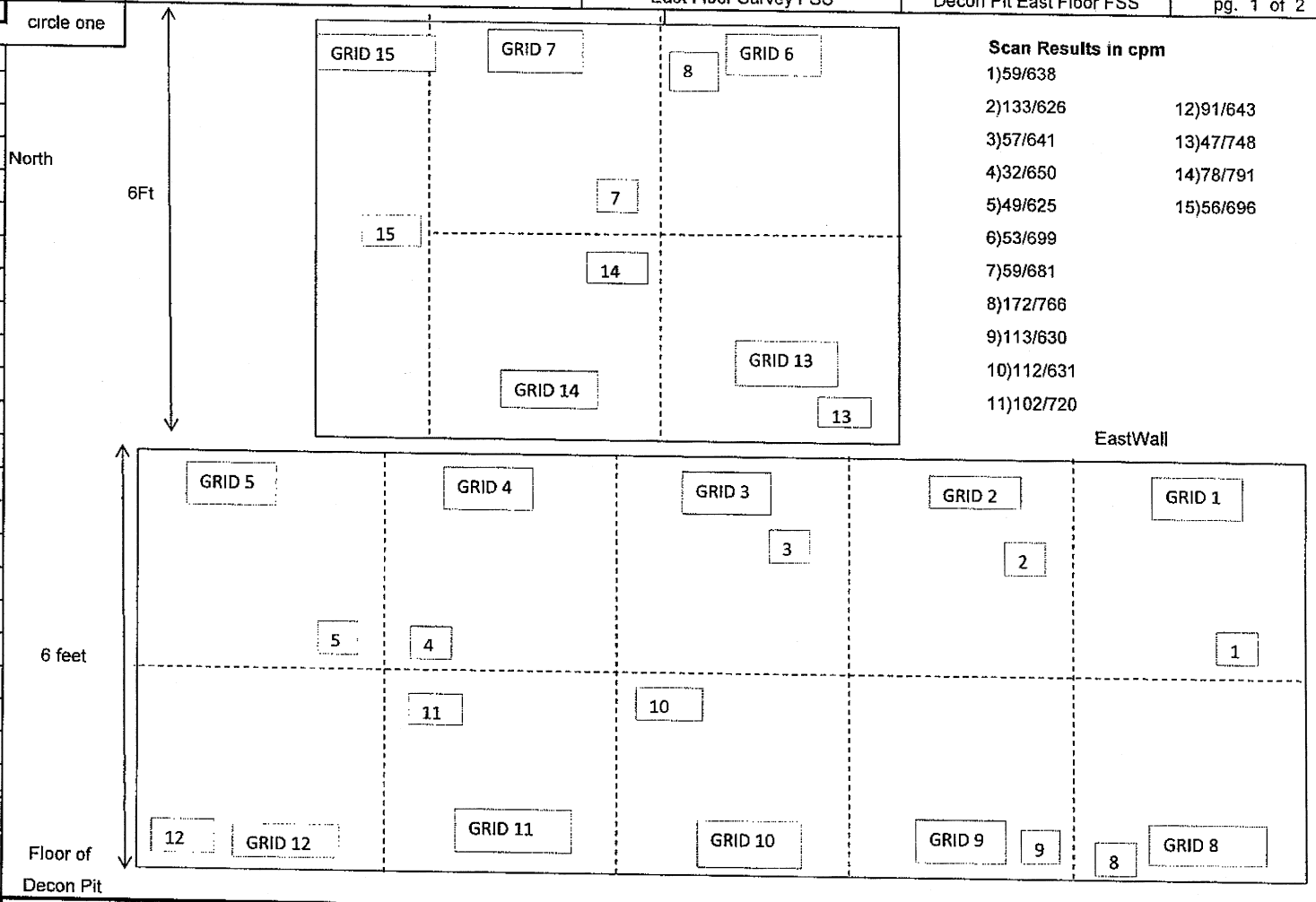
OP-001-02 Radiological Survey Sheet

Radiological Surveys

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-301-Decon Pit Rev. 1 East Floor Survey FSS	Survey Type: Decon Pit East Floor FSS	pg. 1 of 2

Smear (DPM/100 cm²) / Direct Count (DPM/100 cm2) — circle one

No.	α	β	No.	α	β
1	27	55	26		
2	81	40	27		
3	-1	32	28		
4	2	-12	29		
5	13	40	30		
6	5	-5	31		
7	16	62	32		
8	81	-5	33		
9	41	-9	34		
10	13	-27	35		
11	5	-9	36		A
12	30	10	37		N
13	24	17	38		
14	8	3	39		
15	2	55	40		
16			41		
17			42		
18			43		
19		A	44		
20	N		45		
21			46		
22			47		
23			48		
24			49		
25			50		



Scan Results in cpm

1)59/638
2)133/626
3)57/641
4)32/650
5)49/625
6)53/699
7)59/681
8)172/766
9)113/630
10)112/631
11)102/720
12)91/643
13)47/748
14)78/791
15)56/696

Comments

Scans were performed using a 2 min scaler count and moving the detector 1 in/sec inside each 3 ft X 3ft grid. Elevated areas were investigated further. Statics were performed in biased locations. Smears were collected from the center of each grid. Original survey performed on 3/26/12, 2224-1/ 43-93 efficiencies updated on 9/25/12.

Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
Dave Davis	25-Sep-12	3030E/ 43-10-1	217611/ PR232046	0.3561	0.2691	0.3	49.3	N/A	06-Apr-12
Dave Davis	9-25-12								
	9/25/12		A		A		A		A
		N		N		N		N	
Reviewed By:	Date:								
Nick Berliner	25-Sep-12								

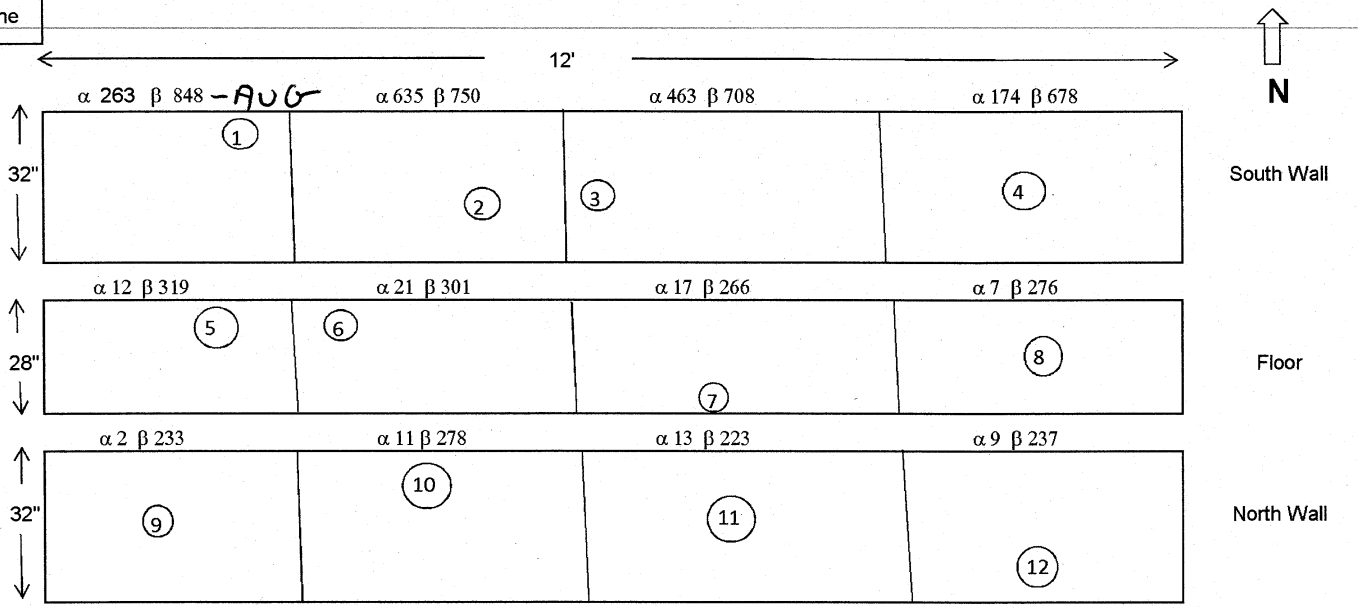
Key

- ■ A/S Location
- *-* Boundary
- ○ Smear
- □ Dose Rate _____/hr
- * Direct Reading CPM/direct frisk
- △ Grab Sample

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-351	Survey Type: Scan/Static/Smear	pg. 1 of 2

~~Smear (DPM/100 cm²)~~
Direct Count (DPM/100 cm2) — circle one

No.	α	β	No.	α	β
1	4041	5098	26		
2	22983	11216	27		
3	27977	42729	28		
4	11852	8577	29		
5	680	1380	30		
6	748	1595	31		
7	109	24	32		
8	136	780	33		
9	14	144	34		
10	82	108	35		
11	299	744	36		
12	136	144	37		
13			38		
14			39		
15			40		
16			41		
17			42		
18			43		
19			44		
20			45		
21			46		
22			47		
23			48		
24			49		
25			50		



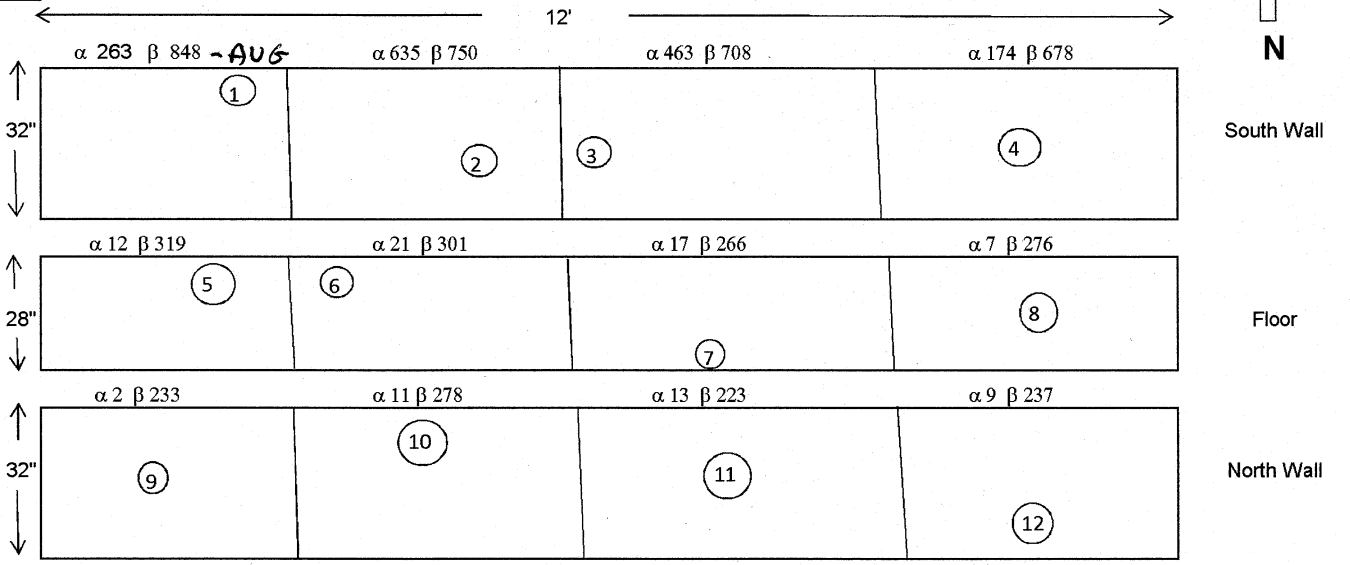
Comments	Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
~~Alpha/beta can survey was performed~~	Dave Slocum	12-Jun-12	2360/43-93	202398/ PR211706	0.0735	0.0834	2	215	N/A	9/6/2012
~~in biased areas according to~~	Dave Slocum	6/13/12								
~~professional judgement. Results were~~										
~~consistent with background levels.~~										
	Reviewed By:	Date:								
	[signature]	6-13-12								

Key	
■	A/S Location
-	Boundary
○	Smear
□	Dose Rate _____/hr
*	Direct Reading CPM/direct frisk
△	Grab Sample

Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-351	Survey Type: Scan/Static/Smear	pg. 2 of 2

~~Smear (DPM/100 cm²)~~
Direct Count (DPM/100 cm2)
circle one

No.	α	β	No.	α	β
1	112	-15	26		
2	120	15	27		
3	556	185	28		
4	140	454	29		
5	92	20	30		
6	70	15	31		
7	8	33	32		
8	22	-54	33		
9	5	-33	34		
10	5	-24	35		
11	22	-2	36		
12	16	-20	37		
13			38		
14			39		
15			40		
16			41		
17			42		
18			43		
19			44		
20			45		
21			46		
22			47		
23			48		
24			49		
25			50		



Comments	Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
~~Alpha/beta can survey was performed~~	Dave Slocum	12-Jun-12	3030/43-10-1	217611/PR23 2046	0.356	0.23	.2	545	N/A	9/6/2012
~~in biased areas according to~~	Dave Slocum	6/13/12								
~~professional judgement. Results were~~										
~~consistent with background levels.~~										
	Reviewed By:	Date:								
	[signature]	6-13-12								

Key	
■	A/S Location
-	Boundary
○	Smear
□	Dose Rate _____/hr
*	Direct Reading CPM/direct frisk
△	Grab Sample

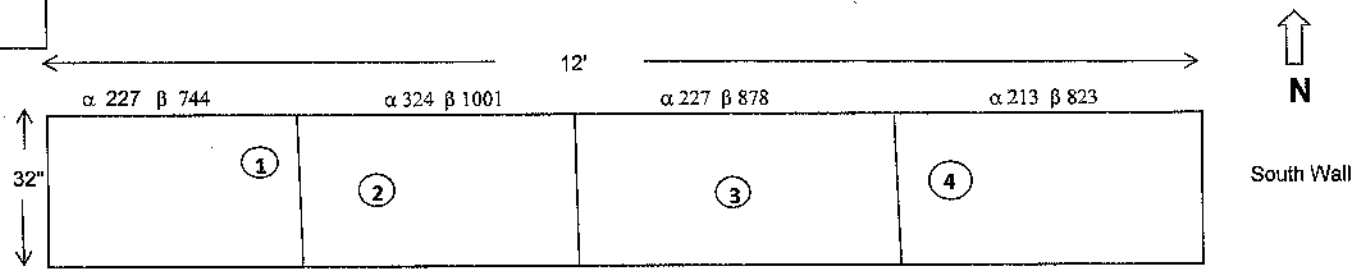
Location: New Haven, CT Site: Former UNC Manufacturing Facility	RWP# 10-1007.00-2	Survey # UNC-383	Survey Type: Scan/Static/Smear	pg. 1 of 1

CPM/100 cm²

Static			Smear		
No.	α	β	No.	α	β
1	198	501	1	1.0	56.0
2	281	594	2	3.0	53.0
3	229	560	3	0.0	55.0
4	264	591	4	2.0	55.0
5			5		
6			6		
7			7		
8			8		
9			9		
10			10		
11			11		
12			12		

DPM/100 cm²

1	956.6	939.0	1	2.2	2.6
2	1361.6	1242.3	2	7.9	-10.4
3	1107.9	1131.4	3	-0.6	-1.7
4	1278.7	1232.5	4	5.1	-1.7
5			5		
6			6		
7			7		
8			8		
9			9		
10			10		
11			11		
12			12		



Comments	Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due
	Steve Devlin	18-Jul-12	2224-1/43-93	227246/PR24 4549	0.2049	0.3067	2	213	N/A	9/7/2012
	[signature]	7/18/12	3030/43-10-1	217611/PR23 2046	0.356	0.23	0.2	55.4	N/A	30-Apr-13
	Reviewed By:	Date:								
	[signature]	7-18-12								

Key

- ■ A/S Location
- *_* Boundary
- ○ Smear
- □ Dose Rate ____/hr
- * Direct Reading CPM/direct frisk
- △ Grab Sample