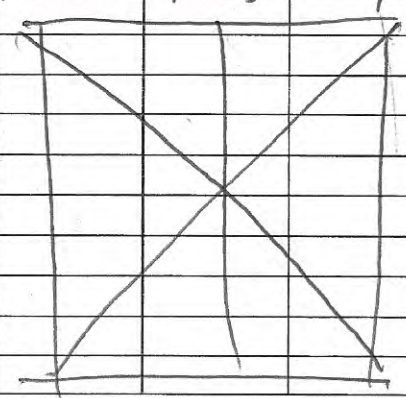


Dade Moeller  
Radiological Survey Report

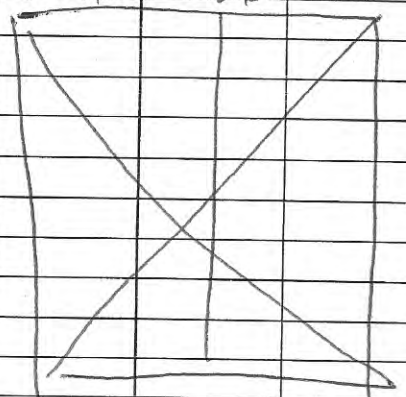
Laboratory Description: <u>PNPF</u>				Date: <u>6/10/2020</u>				
Purpose of Survey: <u>Staircase - 1-1 Floor</u>				Performed By: _____ Print: <u>Clark Barton</u> Sign: <u>[Signature]</u>				
<b>Sketch of Area</b> Stair treads and flights noted, starting at top as FIT1. 8 flights, Landings numbered from the top. <del>11</del> Scanned 100% of Landings & treads picked random spots if no potential elevation found Nat scans done when main floor areas done				<b>Direct Results</b> cpm/100cm <sup>2</sup>				
				Direct #	Beta	Alpha		
				FIT5-1	138	0		
				FIT9-2	145	6		
				F2T3-3	144	3		
				F2T6-4	171	7		
				F3T7-5	155	2		
				F3L3-6	138	4		
				F4T2-7	109	5		
				F4T5-8	140	5		
				F5T5-9	127	6		
				F5L5-10	105	6		
				F6T1-11	113	4		
				F6T8-12	141	3		
				F7T4-13	103	9		
				F7L7-14	109	4		
				F8T4-15	120	7		
				F8T7-16	128	4		
Legend: # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location								
				<b>Instrumentation</b>				<b>Source Check (pre/post)</b>
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units		
43-68	260445	0.42 1496	232/29.32	14-236 1-129	434/376	CPM	Pre	
"	"	"	"	"	404/414	CPM	Post	
Comments, including corrective actions if any: _____								
Critical values 102 3046								

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	Stair Case Floor CSS	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

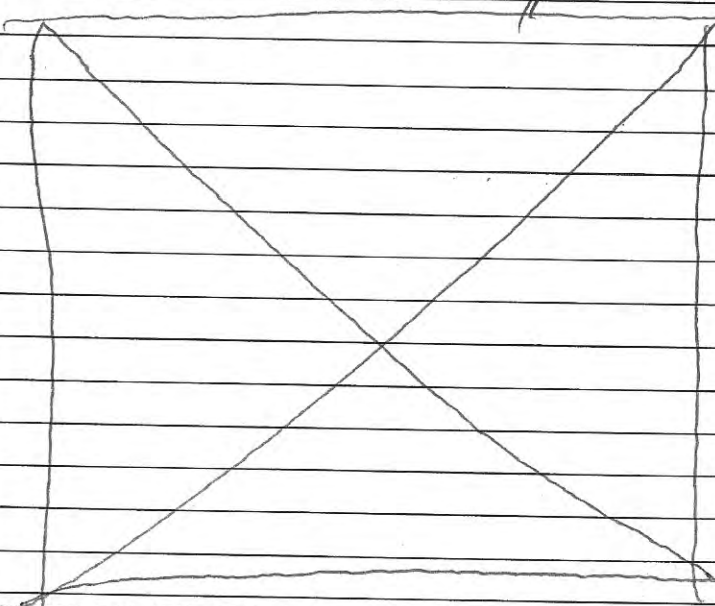
DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	54
Background	Background Count #2	1	52
1	See Direct Survey Form	0	60
2		0	47
3		0	59
4		0	52
5		0	49
6		1	68
7		0	43
8		0	54
9		1	64
10		0	60
11		1	52
12		0	52
13		0	61
14		0	60
15		0	62
16		0	59
Additional Comment:		Ludlum 6/10/2020	
Analyzed by/date: (name/date)			

Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>PNPF</u>				Date: <u>6/10/2020</u>			
Purpose of Survey: <u>Rx Stair Wall - 1-1</u>				Performed By:			
				Print: <u>Clark Barton</u>			
				Sign: <u>[Signature]</u> 6/14/2020			
<b>Sketch of Area</b> Wall of Stair well, sections numbered from top to bottom from top to bottom. Surveyed 100% of reachable wall for first 2 meters, picked random spot if no potential elevation. NAI scans done when wet - Main wall areas done				<b>Direct Results</b> cpm/100cm <sup>2</sup>			
				Direct #	Beta	Alpha	
				1	1-1	185	4
				1	1-2	188	3
				2	2-3	157	4
				2	2-4	117	1
				3	3-5	181	1
				3	3-6	162	3
				4	4-7	119	7
				4	4-8	136	4
				5	5-9	181	1
				5	5-10	170	3
				6	6-11	111	7
				6	6-12	103	2
				7	7-13	157	3
				7	7-14	161	7
				8	8-15	121	9
				8	8-16	86	5
Legend: # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location							
<b>Instrumentation</b>				<b>Source Check (pre/post)</b>			
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units	
43-68	260445	0.42 / 149B	23% / 29.3B	Th 230	434 / 376	cpm	
11	11	11	11	1-129	404 / 414	cpm	
Comments, including corrective actions if any: _____ _____ _____							

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	Staircase Wall CSS	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

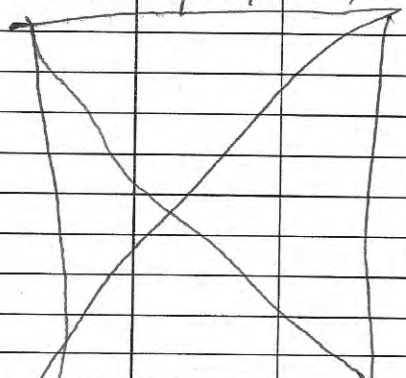
DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	69
Background	Background Count #2	0	80
1		2	52
2		1	52
3		1	48
4		0	46
5		0	51
6		0	42
7		0	52
8		0	53
9		0	59
10		0	48
11		0	51
12		0	59
13		0	45
14		0	48
15		0	65
16		1	64
Additional Comment:			
Analyzed by/date: (name/date)		C. H. H. 6/10/2020	

Dade Moeller  
Radiological Survey Report

Laboratory Description: PNUF  
 Purpose of Survey: Spiral Stair  
 Date: 6/9/2020  
 Performed By: Clark Barton  
 Print: Clark Barton  
 Sign: [Signature] 6/10/2020

**Sketch of Area**  
 Stairs are in poor condition, only surveyed what can be reached without getting on stairs, S6 level - everything is wet ~~no scan~~ 79 level - everything damp but not as bad. Surveyed 100% of reachable surfaces; picked random spots if no elevated areas identified. Nat done when main floors & walls done.

Direct Results cpm/100cm <sup>2</sup>		
Direct #	Beta	Alpha
1	129	3
2	114	2
3	119	6
4	167	7
5	109	2
6	172	7
7	168	4
8	109	2
9	164	8
10	203	4
11	173	1
12	169	2
13	118	3
14	134	4
15	159	5
16	129	6



Legend: # - Direct Measurement  
 # - Scan Direct Measurement  
 ⊕ - Smear Location

Instrumentation				Source Check (pre/post)		
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
43-68	260445	0.42, 149p	23α/29.3β	Tl230	439/376	Cpm
11	11	11	11	11	404/414	Cpm

pre  
post

Comments, including corrective actions if any: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

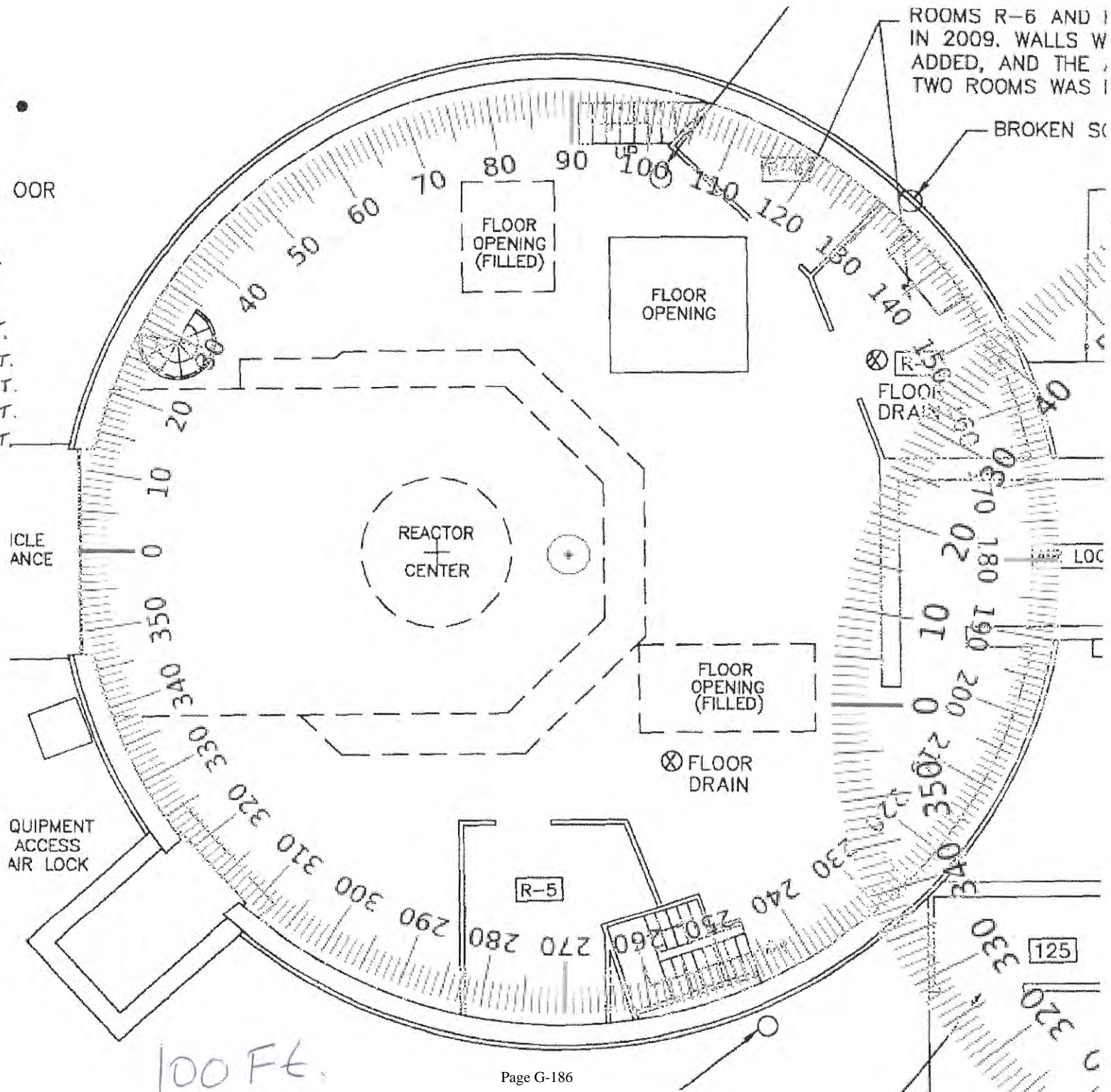
## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	Spiral Staircase C55	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	61
Background	Background Count #2	0	53
1	see Direct Survey FORM	0	51
2		1	54
3		1	45
4		0	53
5		0	62
6		0	59
7		0	64
8		0	61
9		0	65
10		0	55
11		0	60
12		0	66
13		0	50
14		0	58
15		0	48
16		0	61
Additional Comment:			
Analyzed by/date: (name/date)			



1. 12° 50 FT.
2. 23° 8.6 FT.
3. 68° 40 FT.
4. 102° 35 FT.
5. 113° 55 FT.
6. 136° 24 FT.
7. 158° 3.5 FT. OOR
8. 192° 11 FT.
9. 203° 32 FT.
10. 226° 1 FT.
11. 248° 63 FT.
12. 282° 58 FT.
13. 293° 16 FT.
14. 316° 48 FT.
15. 338° 27 FT.



ROOMS R-6 AND R-5 WERE ADDED IN 2009. WALLS WERE ADDED, AND THE TWO ROOMS WERE...

BROKEN SC...

Pg. 2/3 JMM

100 FT.

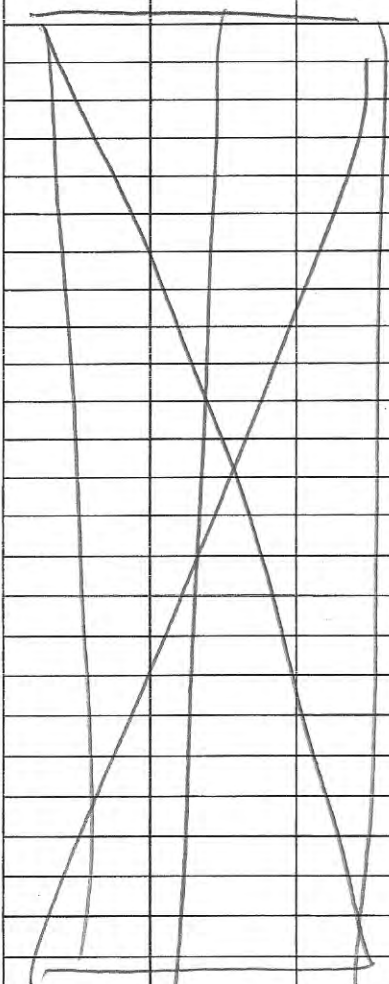


## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	Piqua	Instrument Model:	2929
		Instrument S/N:	121817
	100 Outside Dome	Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

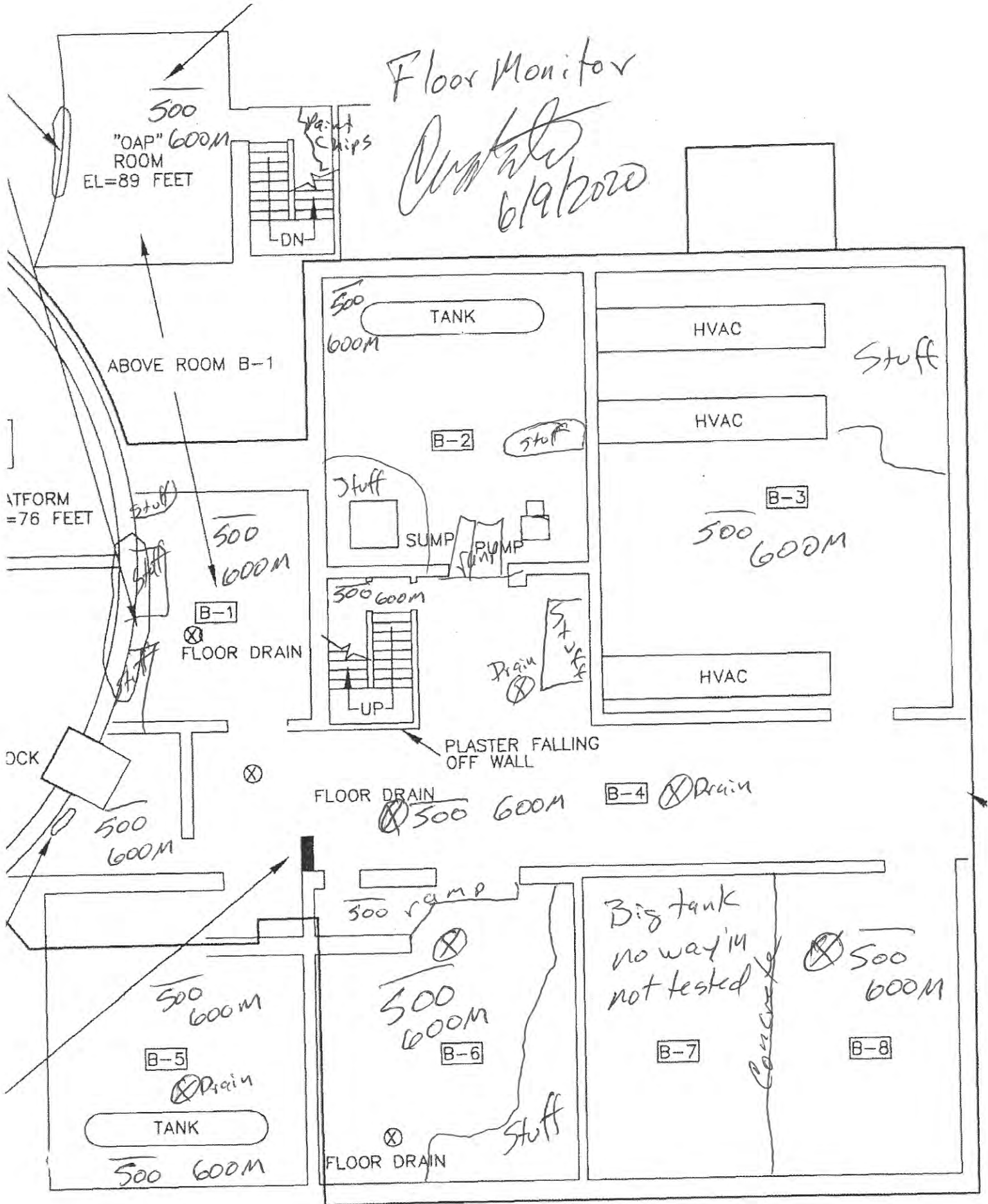
DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	66
Background	Background Count #2	0	63
1	See map with Direct Survey	1	57
2		0	57
3		8	57
4		2	68
5		1	72
6		0	56
7		3	57
8		6	66
9		0	54
10		0	50
11		0	60
12		0	41
13		0	48
14		1	44
15		4	48
Additional Comment:		Critical Values = 92.4 D & 4.3 α	
Analyzed by/date: (name/date)		C. G. S. 6/3/2020	

Dade Moeller  
Radiological Survey Report

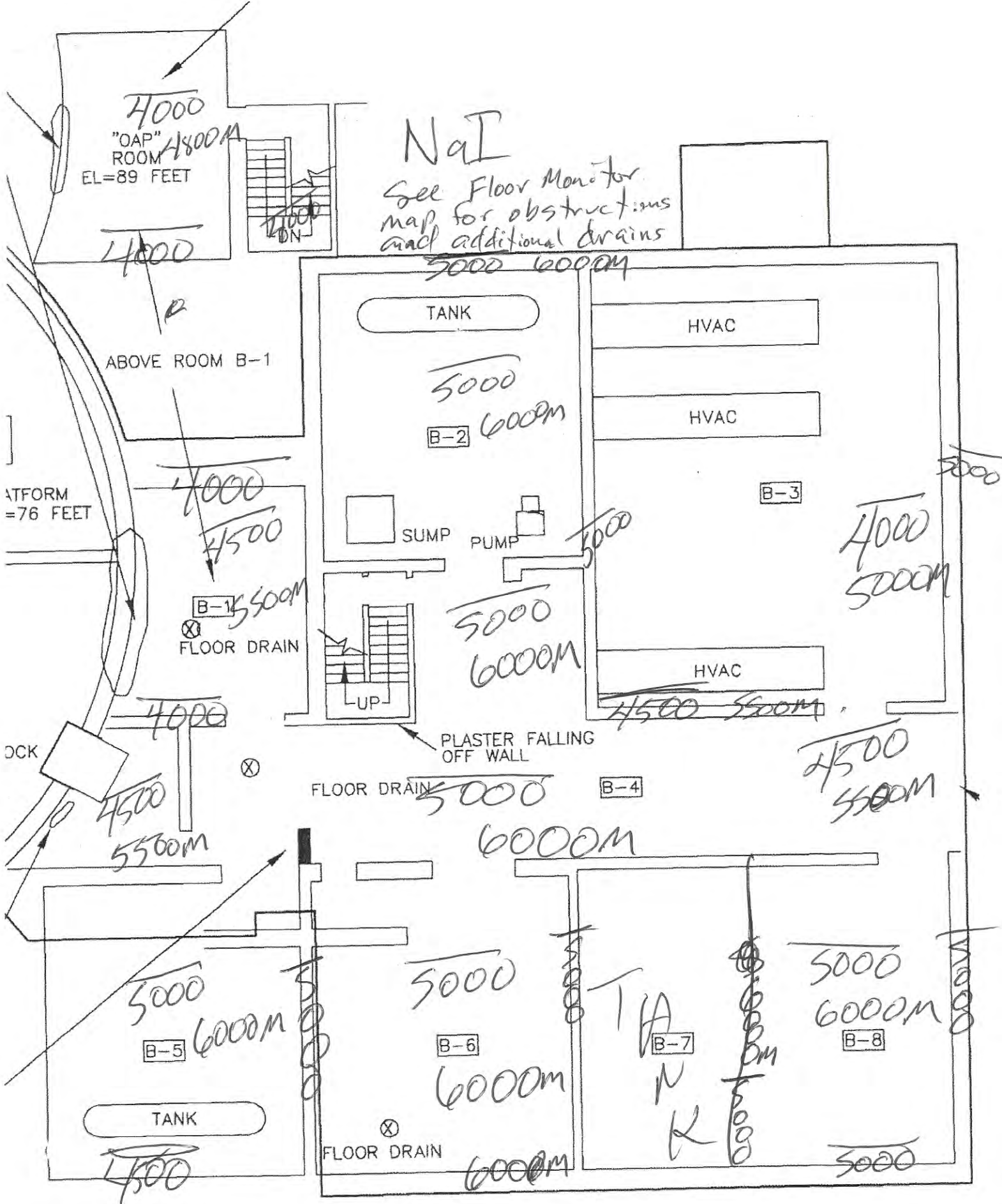
Laboratory Description: <u>PNPF</u>				Date: <u>6/9/2020</u>		
Purpose of Survey: <u>79AF-1-1 Floor Mon.</u>				Performed By:		
<u>-1-2 F</u>				Print: <u>Clark Barton</u>		
<u>-1-3 NAT</u>				Sign: <u>[Signature] 6/9/2020</u>		
Sketch of Area				<b>Direct Results</b> cpm/100cm <sup>2</sup>		
<p>See attached maps</p> <p>NAT includes wall</p> <p>So 79AW-1-1</p> <p style="margin-left: 40px;">-1-2</p> <p style="margin-left: 40px;">-1-3</p> <p style="margin-left: 40px;">-1-4</p> <p style="margin-left: 40px;">-1-5</p>				Direct #    Beta    Alpha		
						
Legend: # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location						
<b>Instrumentation</b>				<b>Source Check (pre/post)</b>		
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
<u>239-1F</u>	<u>187246</u>	<u>5/6670</u>	<u>N/A</u>	<u>Th230</u>	<u>101/917</u>	<u>Cpm</u>
<u>44-10</u>	<u>251999</u>	<u>4000</u>	<u>N/A</u>	<u>Cs137</u>	<u>280000</u>	<u>Cpm</u>
Comments, including corrective actions if any: _____						
_____						
_____						

# Floor Monitor

*6/9/2020*



PLAN - 79 FOOT LEVEL



PLAN - 79 FOOT LEVEL

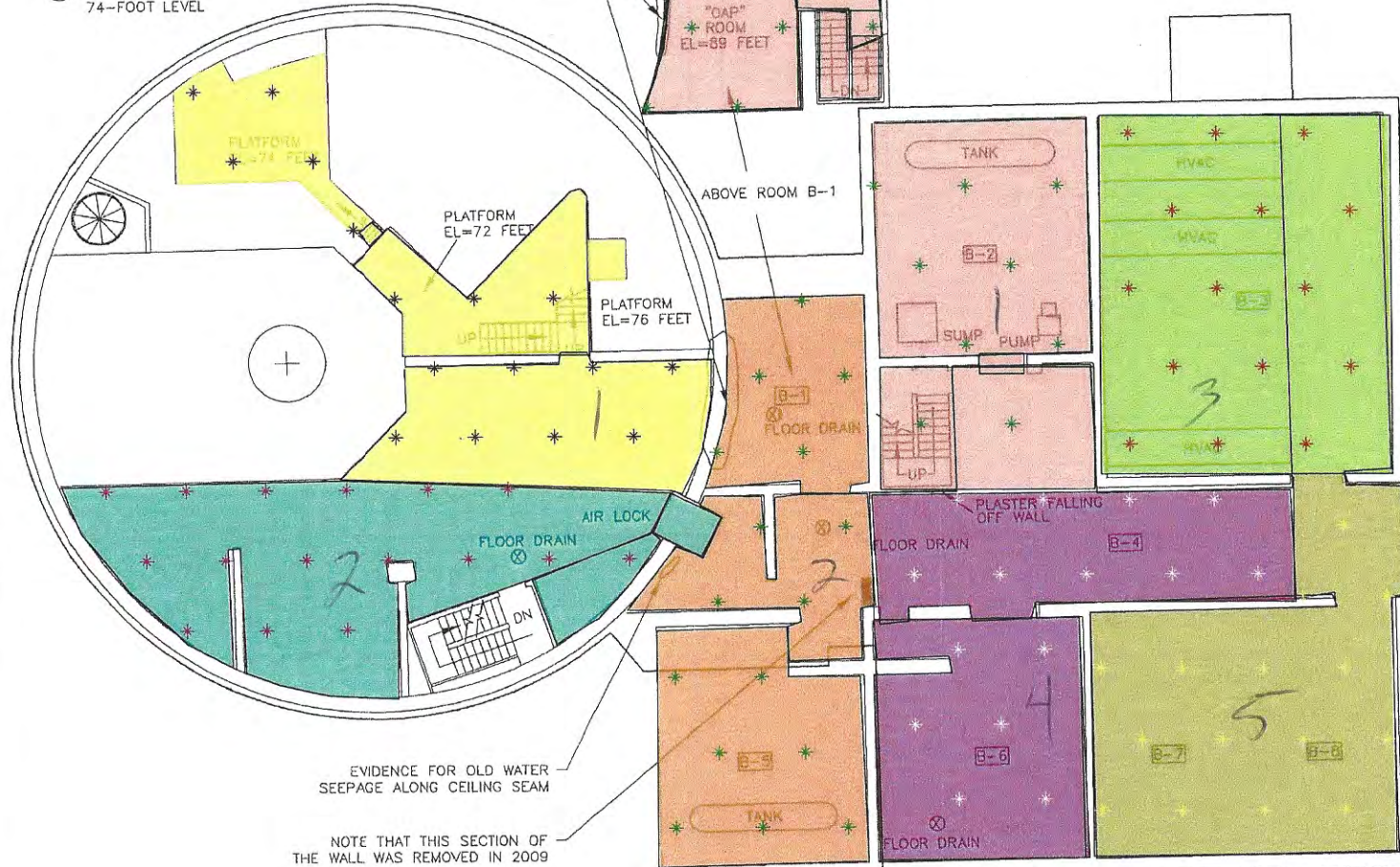
SMEAR/DIRECT LOCATIONS ON THE 79-FOOT LEVEL IN CONTAINMENT STRUCTURE

- (24)-FLOOR
- (25)-FLOOR
- (26)-FLOOR
- (27)-FLOOR
- (11)-IN HVAC DUCT  
74-FOOT LEVEL

EVIDENCE FOR OLD WATER SEEPAGE ALONG CEILING SEAM

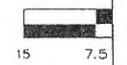
"OAP" (OPERATING AIR PRESSURE) ROOM REMODELED IN 2009. PAINTED AND SHELVES WERE ADDED.

KEY:  
 NO. = GENERAL AREA  
 (NO) = SMEAR/DIRECT  
 [R-#] = ROOM NUMBER



SMEAR/DIRECT LOCATIONS ON THE 79-FOOT LEVEL IN AUX. BLDG.

- (51)-FLOOR
- (52)-FLOOR
- (53)-FLOOR
- (54)-ON DRAIN
- (55)-FLOOR
- (56)-FLOOR
- (57)-FLOOR
- (58)-ON DRAIN
- (59)-FLOOR
- (60)-FLOOR
- (61)-ON DRAIN
- (62)-ON SUMP COVER
- (63)-PUMP
- (64)-FLOOR UNDER TANK
- (65)-FLOOR
- (66)-FLOOR
- (67)-INSIDE HVAC ON FLOOR
- (68)-FLOOR
- (69)-FLOOR-89' LEVEL OF



PLAN - 79 FOOT LEVEL

RA  
  
 2019 A  
 PI  
 DATE PRE  
 APRIL

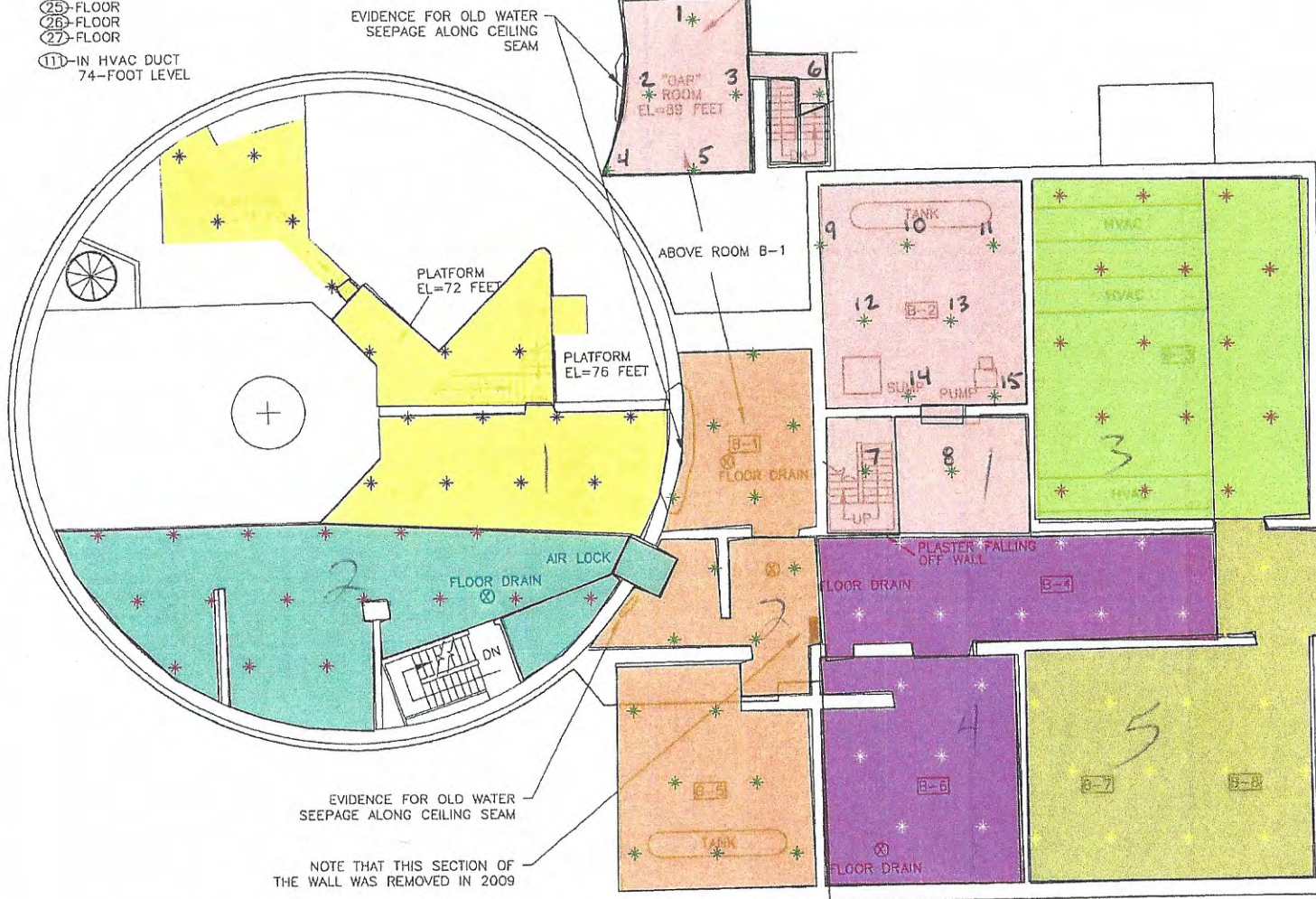


SMEAR/DIRECT LOCATIONS ON THE  
79-FOOT LEVEL IN CONTAINMENT STRUCTURE

- (24)- FLOOR
- (25)- FLOOR
- (26)- FLOOR
- (27)- FLOOR
- (11)- IN HVAC DUCT  
74-FOOT LEVEL

"OAP" (OPERATING AIR PRESSURE) ROOM REMODELED IN  
2009. PAINTED AND SHELVES WERE ADDED.

- KEY:
- NO = GENERAL AREA
  - (NO) = SMEAR/DIRECT
  - [R-4] = ROOM NUMBER



SMEAR/DIRECT LOCATIONS ON THE  
79-FOOT LEVEL IN AUX. BLDG.


- (51)- FLOOR
- (52)- FLOOR
- (53)- FLOOR
- (54)- ON DRAIN
- (55)- FLOOR
- (58)- FLOOR
- (57)- FLOOR
- (58)- ON DRAIN
- (59)- FLOOR
- (60)- FLOOR
- (61)- ON DRAIN
- (62)- ON SUMP COVER
- (63)- PUMP
- (64)- FLOOR UNDER TANK
- (65)- FLOOR
- (66)- FLOOR
- (67)- INSIDE HVAC ON FLOOR
- (68)- FLOOR
- (69)- FLOOR-89' LEVEL OF

PLAN - 79 FOOT LEVEL

M:\LTS\111\0027\03\S23518\S2351800.DWG 4/17/2019 9:08:46 AM atenciaj

15 7.5

RA

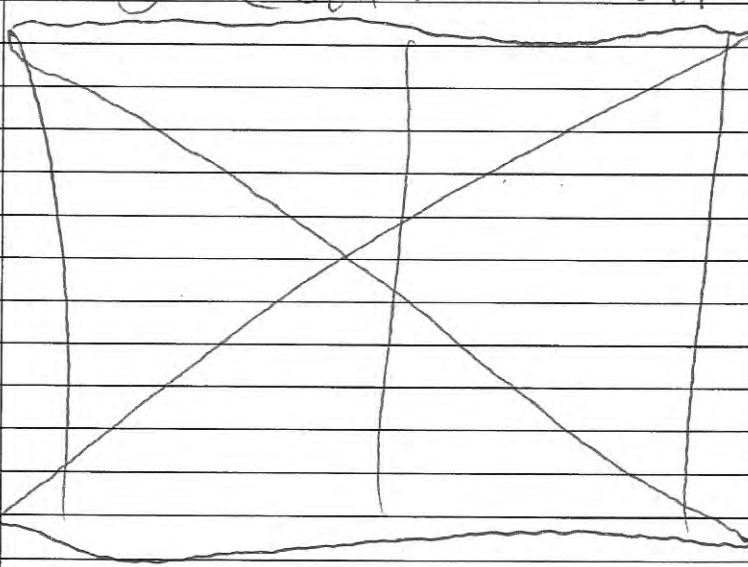
  
 2019 A  
 PI  
 DATE PRE  
 APRIL

PG. 2/3 JPL

## Bench Counter Worksheet

Client Name:	PNDF	Instrument Make:	Lodlum
Client Address:	79AF-1-1 CSS	Instrument Model:	2929
		Instrument S/N:	118411
		Calibration Date:	4/22/2020
		Calibration Due Date:	4/22/2021
Phone Number:		Analysis Number:	

### DATA FOR 1 -MINUTE COUNTS

Sample	Description	Alpha	Beta
Background	Background Count #1	1	50
Background	Background Count #2	1	43
1	See attached map 	1	44
2		0	35
3		0	48
4		0	54
5		1	43
6		0	38
7		0	47
8		1	34
9		0	54
10		2	43
11		0	46
12		0	47
13		0	44
14		0	34
15		0	40
Additional Comment:			
Analyzed by/date: (name/date)		C. [Signature] 6/11/2020	





PG. 2/13 JPH

SMEAR/DIRECT LOCATIONS ON THE 79-FOOT LEVEL IN CONTAINMENT STRUCTURE

- (24) FLOOR
- (25) FLOOR
- (26) FLOOR
- (27) FLOOR
- (11) IN HVAC DUCT 74-FOOT LEVEL

"OAP" (OPERATING AIR PRESSURE) ROOM REMODELED IN 2009. PAINTED AND SHELVES WERE ADDED.

EVIDENCE FOR OLD WATER SEEPAGE ALONG CEILING SEAM

PLATFORM EL=72 FEET

PLATFORM EL=76 FEET

ABOVE ROOM B-1

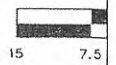
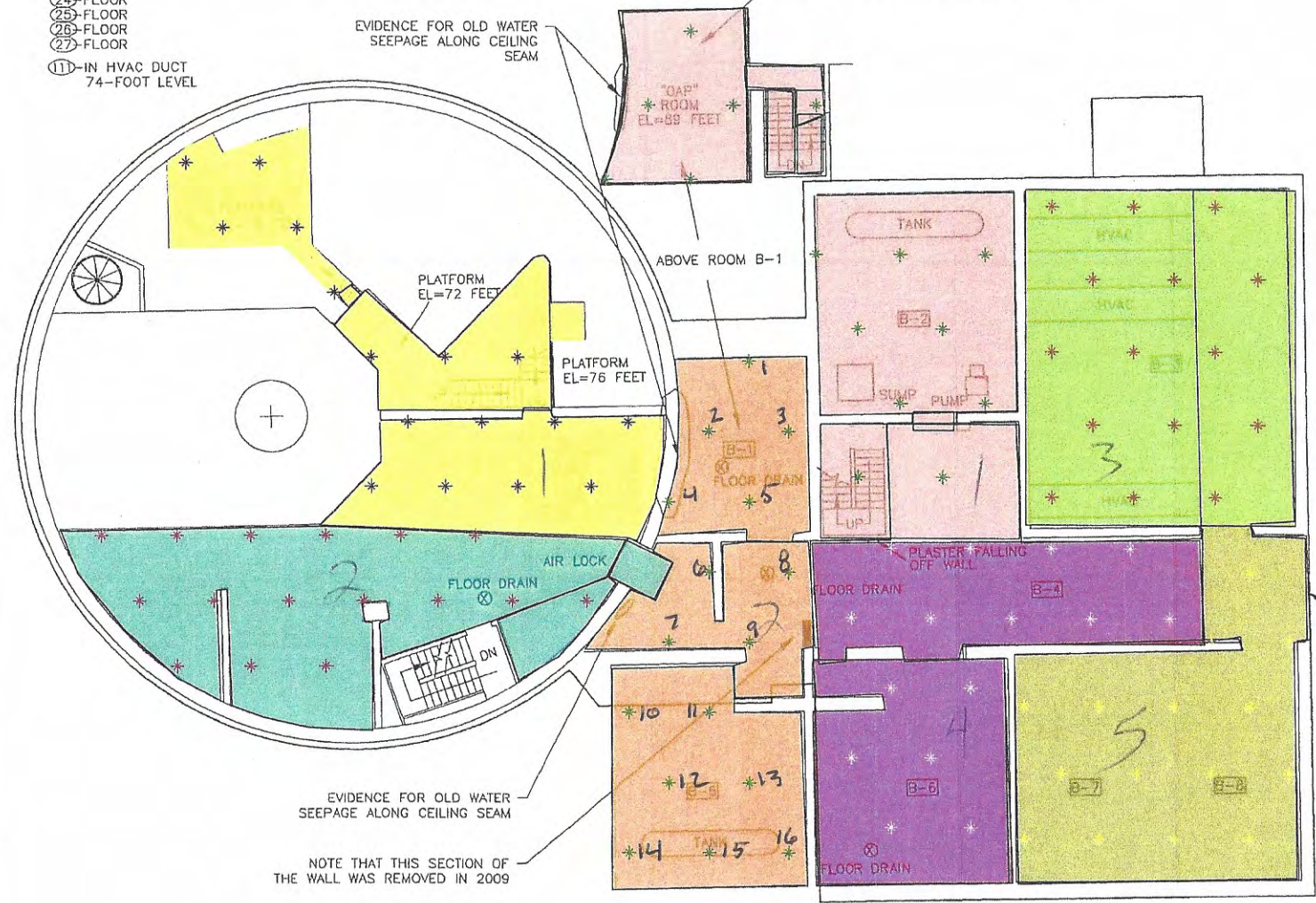
EVIDENCE FOR OLD WATER SEEPAGE ALONG CEILING SEAM

NOTE THAT THIS SECTION OF THE WALL WAS REMOVED IN 2009

- KEY:
- NO. = GENERAL AREA
  - (NO) = SMEAR/DIRECT
  - R-4 = ROOM NUMBER

SMEAR/DIRECT LOCATIONS ON 79-FOOT LEVEL IN AUX. BLDG.

- (31) FLOOR
- (52) FLOOR
- (53) FLOOR
- (54) ON DRAIN
- (55) FLOOR
- (58) FLOOR
- (57) FLOOR
- (58) ON DRAIN
- (59) FLOOR
- (60) FLOOR
- (61) ON DRAIN
- (62) ON SUMP COVER
- (63) PUMP
- (64) FLOOR UNDER TANK
- (65) FLOOR
- (66) FLOOR
- (67) INSIDE HVAC ON FLOOR
- (68) FLOOR
- (69) FLOOR-89' LEVEL OF



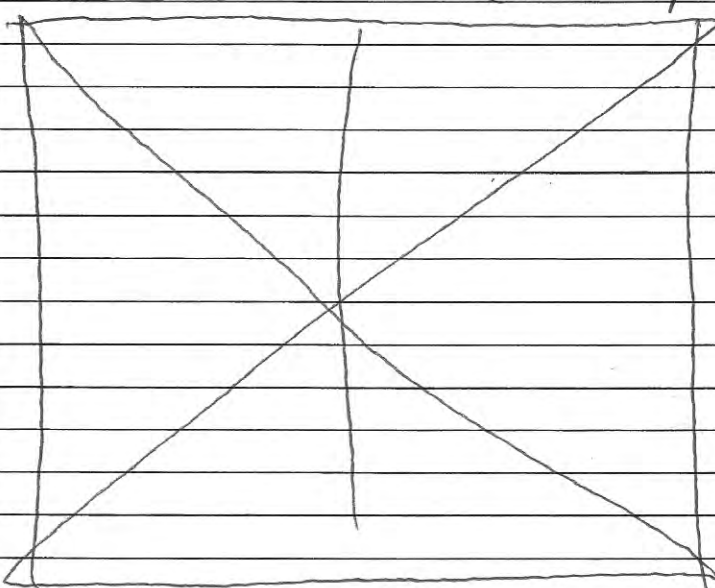
RA

2019 A
   
 PIC
   
 DATE PRE
   
 APRIL

PLAN - 79 FOOT LEVEL

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	79AF-1-2 CSS	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	64
Background	Background Count #2	1	56
1	See attached map 	3	55
2		2	52
3		3	52
4		2	54
5		0	57
6		0	33
7		3	57
8		0	60
9		1	43
10		1	47
11		1	48
12		0	61
13		1	48
14		1	44
15		1	59
16		0	51
Additional Comment:		<i>Corrected 6/11/2020</i>	
Analyzed by/date: (name/date)			

Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>79AF-1-3</u>				Date: <u>6/11/2020</u>				
Purpose of Survey: <u>CSS</u>				Performed By:				
				Print: <u>JEFF GAGNE</u>				
				Sign: <u>[Signature]</u>				
<b>Sketch of Area</b> <u>- SEE ATTACHED PAGE FOR SKETCH</u>				<b>Direct Results</b> cpm/100cm <sup>2</sup>				
				Direct #	Beta	Alpha		
				1	164	3		
				2	180	4		
				3	158	4		
				4	157	3		
				5	121	8		
				6	177	2		
				7	158	7		
				8	183	7		
				9	149	6		
				10	142	5		
				11	138	5		
				12	148	5		
				13	166	4		
				14	152	5		
15	159	6						
				/				
Legend: # - Direct Measurement								
# - Scan Direct Measurement								
⊕ - Smear Location								
<b>Instrumentation</b>				<b>Source Check (pre/post)</b>				
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units		
2224	162850	1α/122β	/	Th-230/I-129	318α/294β	CPM		
				POST	288α/297β	CPM		
Comments, including corrective actions if any: <u>N/A</u>								

Pg. 1/3 [Signature]

PG. 2/13 JRL

SMEAR/DIRECT LOCATIONS ON THE 79-FOOT LEVEL IN CONTAINMENT STRUCTURE

- (24)-FLOOR
- (25)-FLOOR
- (26)-FLOOR
- (27)-FLOOR
- (11)-IN HVAC DUCT 74-FOOT LEVEL

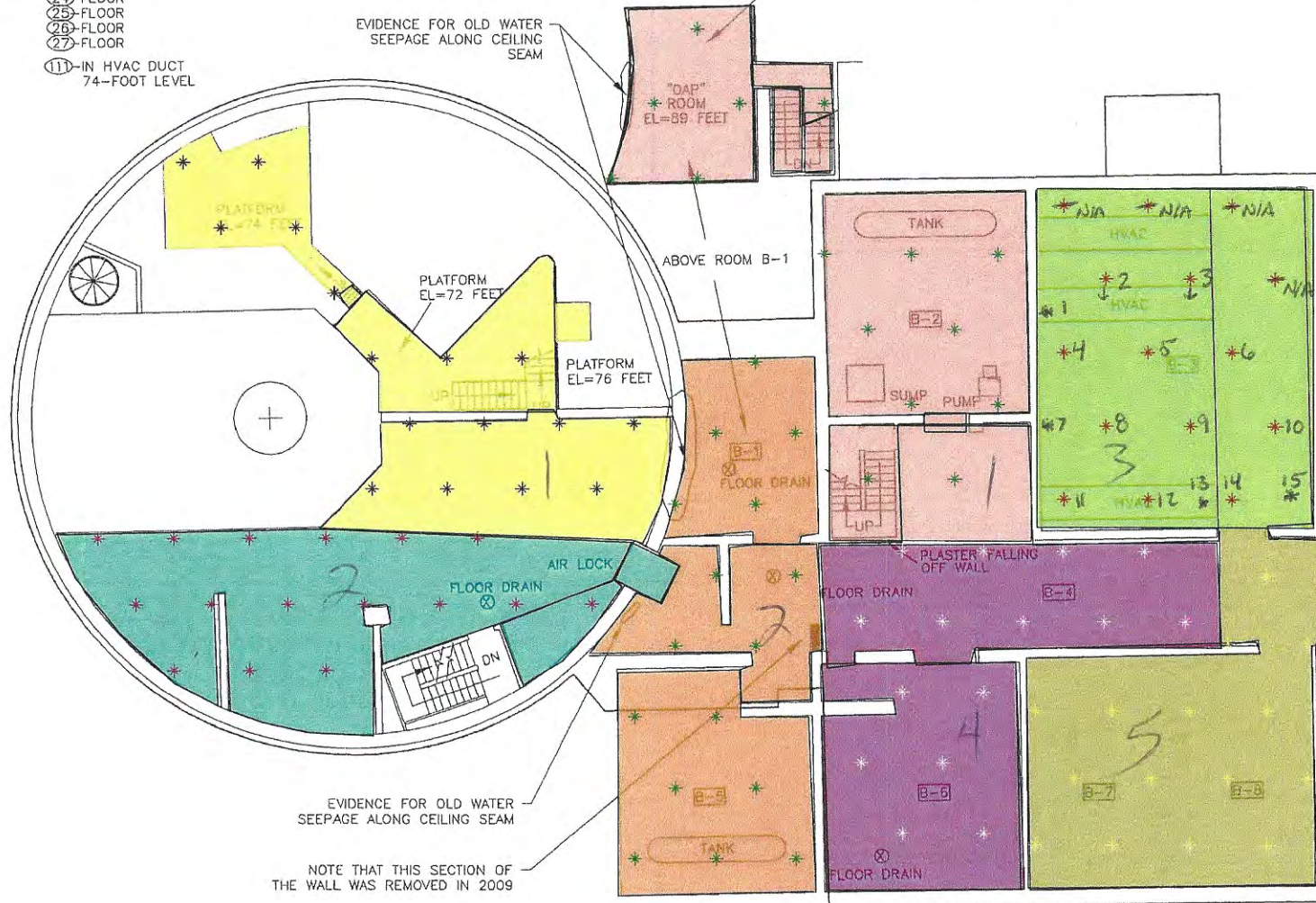
"OAP" (OPERATING AIR PRESSURE) ROOM REMODELED IN 2009. PAINTED AND SHELVES WERE ADDED.

KEY:

- NO = GENERAL AREA
- (NO) = SMEAR/DIRECT
- [R-4] = ROOM NUMBER

SMEAR/DIRECT LOCATIONS ON THE 79-FOOT LEVEL IN AUX. BLDG.

- (51)-FLOOR
- (52)-FLOOR
- (53)-FLOOR
- (54)-ON DRAIN
- (55)-FLOOR
- (56)-FLOOR
- (57)-FLOOR
- (58)-ON DRAIN
- (59)-FLOOR
- (60)-FLOOR
- (61)-ON DRAIN
- (62)-ON SUMP COVER
- (63)-PUMP
- (64)-FLOOR UNDER TANK
- (65)-FLOOR
- (66)-FLOOR
- (67)-INSIDE HVAC ON FLOOR
- (68)-FLOOR
- (69)-FLOOR-89' LEVEL OF



PLAN - 79 FOOT LEVEL

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	79 AF - 1 - 3 (SS)	Instrument Model:	2929
		Instrument S/N:	118411
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	34
Background	Background Count #2	1	36
1	See attached map	0	48
2		0	52
3		0	38
4		0	38
5		2	38
6		0	40
7		0	48
8		0	42
9		1	40
10		0	44
11		0	43
12		0	50
13		2	39
14		0	53
15		2	36
Additional Comment:		Cm 2/6 6/11/2020	
Analyzed by/date: (name/date)			



PG. 213 JRM

SMEAR/DIRECT LOCATIONS ON THE 79-FOOT LEVEL IN CONTAINMENT STRUCTURE

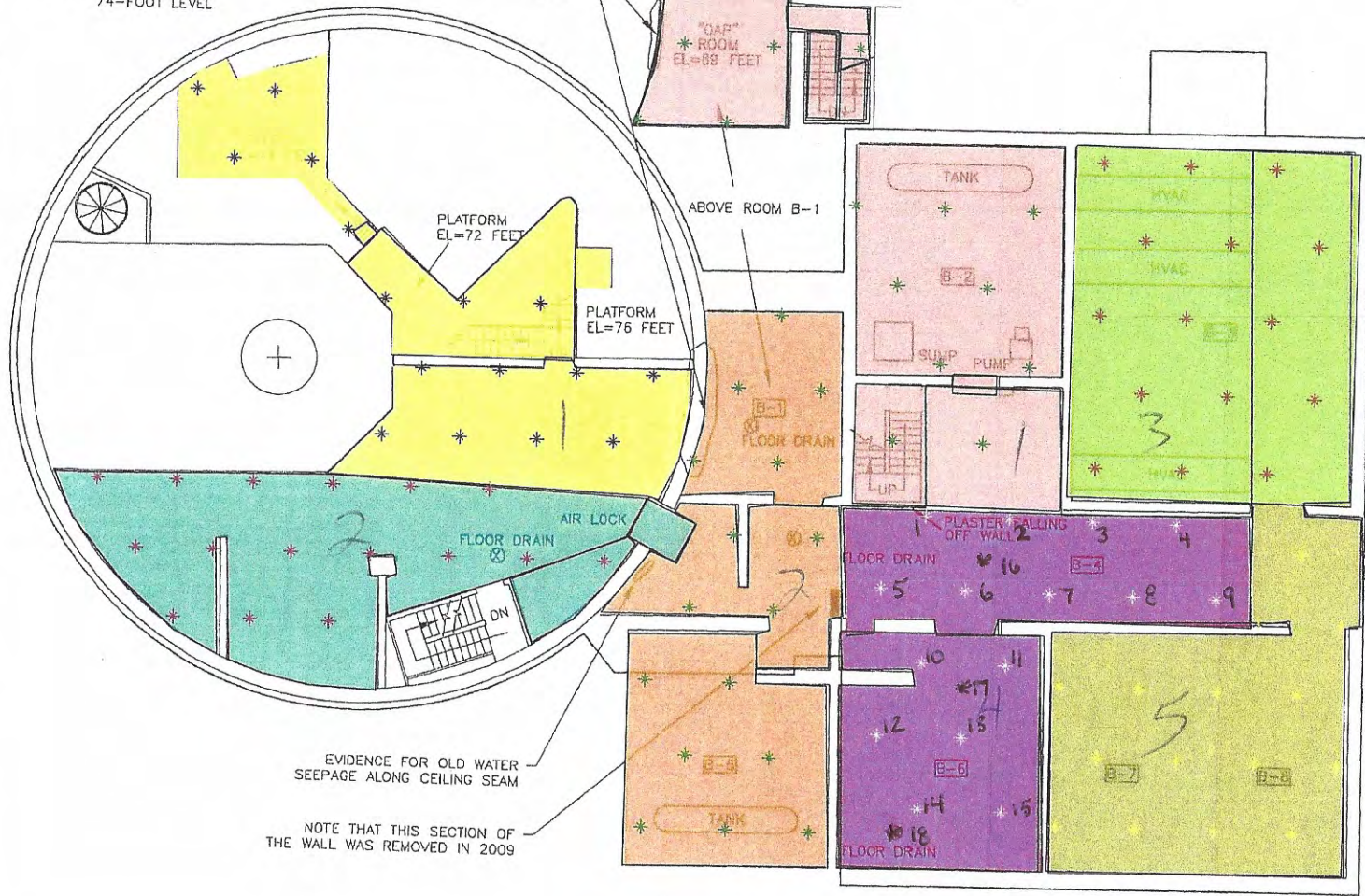
- (24)-FLOOR
- (25)-FLOOR
- (26)-FLOOR
- (27)-FLOOR
- (11)-IN HVAC DUCT 74-FOOT LEVEL

"OAP" (OPERATING AIR PRESSURE) ROOM REMODELED IN 2009. PAINTED AND SHELVES WERE ADDED.

EVIDENCE FOR OLD WATER SEEPAGE ALONG CEILING SEAM

KEY:

- NO = GENERAL AREA
- NO = SMEAR/DIRECT
- R-# = ROOM NUMBER



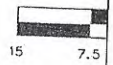
SMEAR/DIRECT LOCATIONS ON THE 79-FOOT LEVEL IN AUX. BLDG.

- (51)-FLOOR
- (52)-FLOOR
- (53)-FLOOR
- (54)-ON DRAIN
- (55)-FLOOR
- (56)-FLOOR
- (57)-FLOOR
- (58)-ON DRAIN
- (59)-FLOOR
- (60)-FLOOR
- (61)-ON DRAIN
- (62)-ON SUMP COVER
- (63)-PUMP
- (64)-FLOOR UNDER TANK
- (65)-FLOOR
- (66)-FLOOR
- (67)-INSIDE HVAC ON FLOOR
- (68)-FLOOR
- (69)-FLOOR-89' LEVEL OF

EVIDENCE FOR OLD WATER SEEPAGE ALONG CEILING SEAM

NOTE THAT THIS SECTION OF THE WALL WAS REMOVED IN 2009

ROLL-UP DOOR



PLAN - 79 FOOT LEVEL

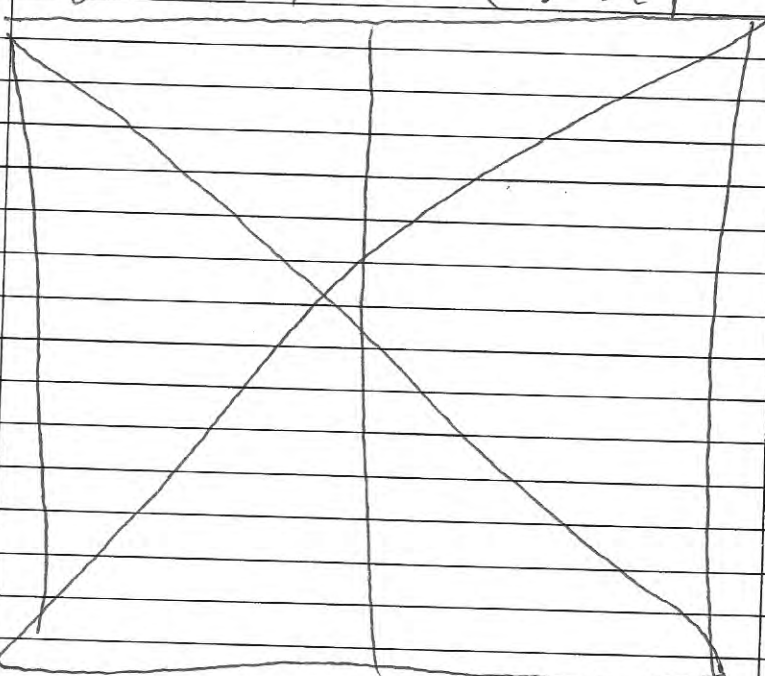
M:\LTS\111\0027\03\S23518\S2351800.DWG 4/17/2019 9:08:46 AM atencioj

U.S. DEP. OF ENERGY  
**ENR**  
 DIVISION  
 2019 A  
 PH  
 DATE PREPARED  
 APRIL



## Bench Counter Worksheet

Client Name:	PNDF	Instrument Make:	Wellman
Client Address:	79AF-1-4 ESS	Instrument Model:	2929
		Instrument S/N:	118411
		Calibration Date:	4/22/2020
		Calibration Due Date:	4/22/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	48
Background	Background Count #2	0	45
1	See attached map 	1	50
2		1	48
3		0	51
4		1	42
5		1	47
6		0	31
7		0	35
8		0	45
9		0	47
10		0	43
11		1	58
12		1	42
13		0	45
14		0	57
15		0	45
16		0	52
17		0	41
18		0	39
Additional Comment:			
Analyzed by/date: (name/date)		C. Smith 6/11/2020	

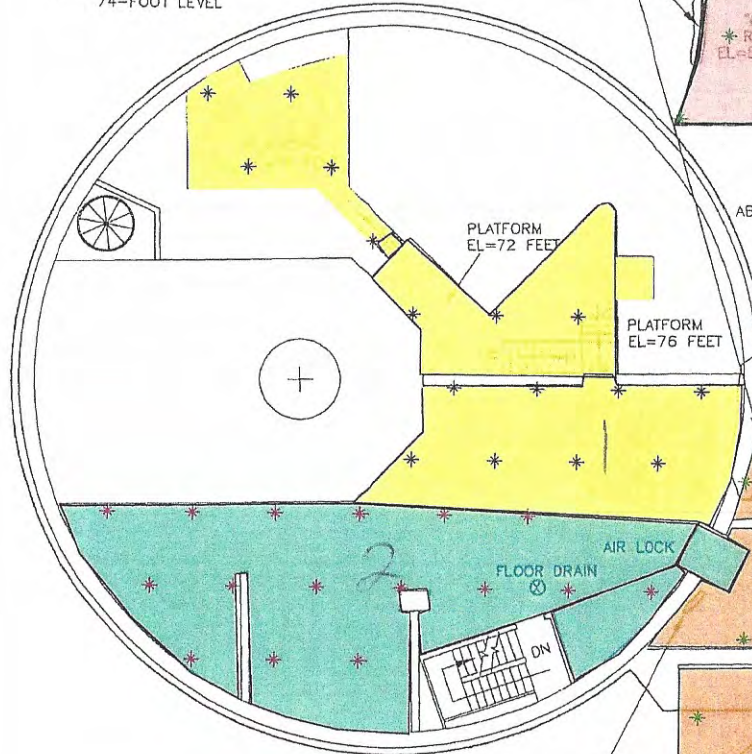
Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>79AF-1-5</u>				Date: <u>6/11/2020</u>						
Purpose of Survey: <u>CSS</u>				Performed By:						
				Print: <u>JEFF GAGNE</u>						
				Sign: <u>[Signature]</u>						
<b>Sketch of Area</b>  -SEE ATTACHED PAGE FOR SKETCH				<b>Direct Results</b> cpm/100cm <sup>2</sup>						
				Direct #	Beta	Alpha				
				1	149	6				
				2	157	9				
				3	168	4				
				4	162	3				
				5	185	6				
				6	172	3				
				7	173	6				
				8	158	2				
				9	163	5				
				10	179	5				
				11	124	4				
				12	178	5				
				13	155	7				
				14	153	6				
15	158	6								
Legend: # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location				Instrumentation						
				Source Check (pre/post)						
				Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
				2224	162850	1α/122β	/	Th-230/E-129	318α/294β	CPM
								POST	288α/297β	CPM
Comments, including corrective actions if any: <u>N/A</u>										

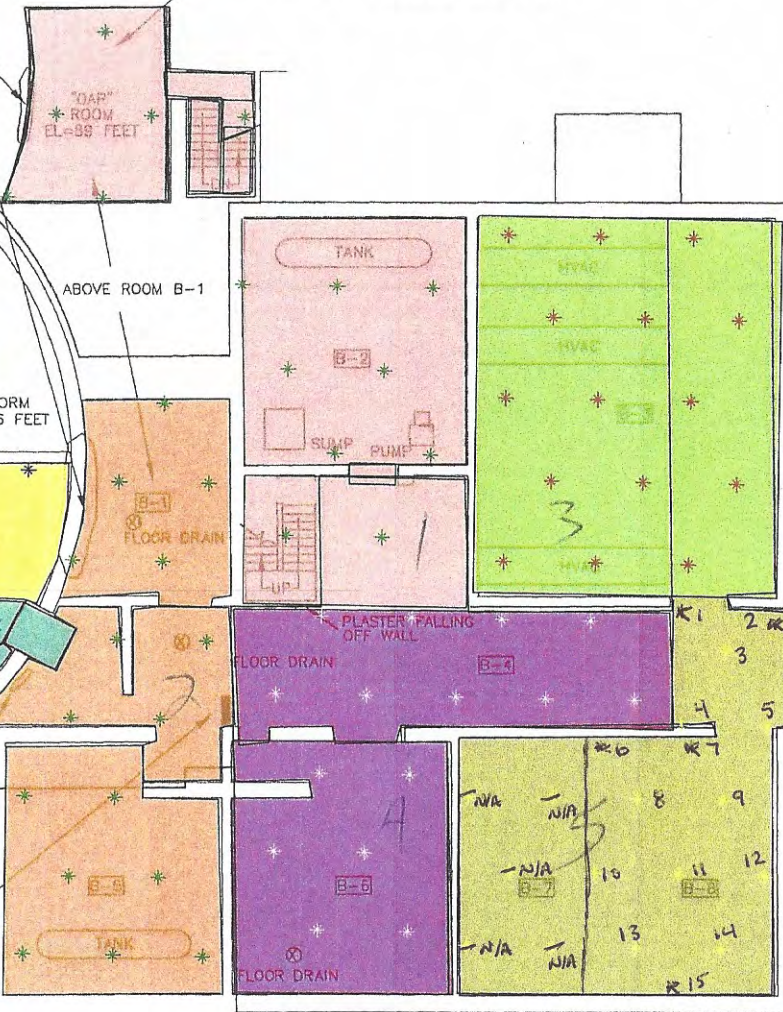
Pg. 1/3 JPL

SMEAR/DIRECT LOCATIONS ON THE  
79-FOOT LEVEL IN CONTAINMENT STRUCTURE

- (24)-FLOOR
- (25)-FLOOR
- (26)-FLOOR
- (27)-FLOOR
- (11)-IN HVAC DUCT  
74-FOOT LEVEL



"OAP" (OPERATING AIR PRESSURE) ROOM REMODELED IN 2009. PAINTED AND SHELVES WERE ADDED.

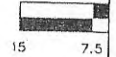


KEY:

- NO = GENERAL AREA
- (NO) = SMEAR/DIRECT
- R-4 = ROOM NUMBER

SMEAR/DIRECT LOCATIONS ON THE  
79-FOOT LEVEL IN AUX. BLDG.

- (51)-FLOOR
- (52)-FLOOR
- (53)-FLOOR
- (54)-ON DRAIN
- (55)-FLOOR
- (56)-FLOOR
- (57)-FLOOR
- (58)-ON DRAIN
- (59)-FLOOR
- (60)-FLOOR
- (61)-ON DRAIN
- (62)-ON SUMP COVER
- (63)-PUMP
- (64)-FLOOR UNDER TANK
- (65)-FLOOR
- (66)-FLOOR
- (67)-INSIDE HVAC ON FLOOR
- (68)-FLOOR
- (69)-FLOOR-89' LEVEL OF



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APRIL

PLAN - 79 FOOT LEVEL

M:\LTS\111\0027\03\S23518\S2351800.DWG 4/17/2019 9:08:46 AM atencioj

Pg. 2/3 JPL

## Bench Counter Worksheet

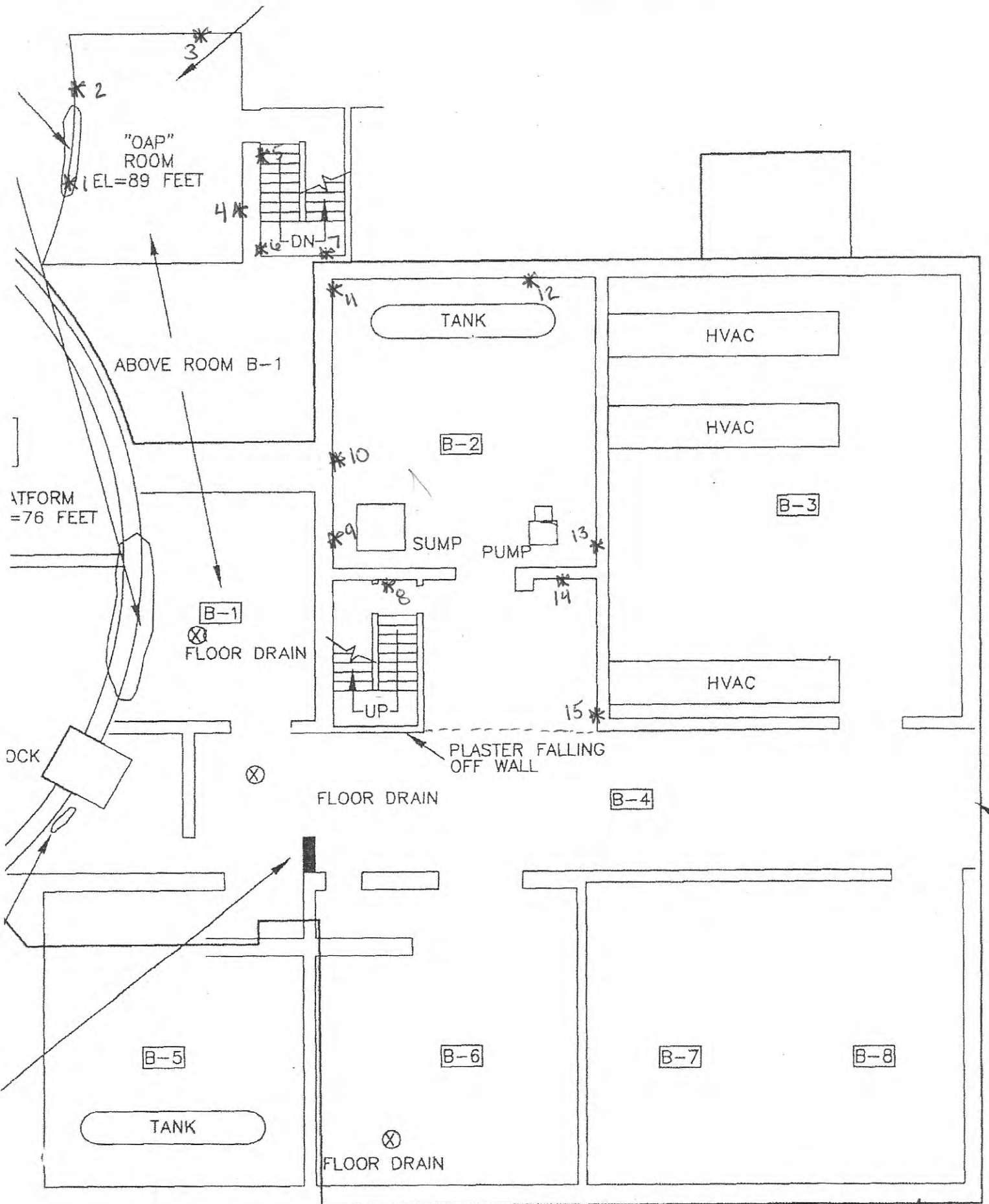
Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	79AF-1-5	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	3	52
Background	Background Count #2	1	63
1	See attached map	0	63
2		1	46
3		1	66
4		1	53
5		2	68
6		1	59
7		0	57
8		0	47
9		0	42
10		0	63
11		0	64
12		3	59
13		0	41
14		1	63
15		0	59
Additional Comment:			
Analyzed by/date: (name/date)		C. [Signature] 6/11/2020	

Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>79AW-1-1</u>				Date: <u>6/10/2020</u>		
Purpose of Survey: <u>CSS</u>				Performed By:		
				Print: <u>JEFF GAGNE</u>		
				Sign: <u>[Signature]</u>		
<b>Sketch of Area</b>  - SEE ATTACHED PAGES FOR SKETCH  - SURVEYED 100% OF ACCESSIBLE WALLS USING 2224.				<b>Direct Results</b> cpm/100cm <sup>2</sup>		
				Direct #	Beta	Alpha
				1	111	1
				2	108	2
				3	198	0
				4	182	4
				5	136	3
				6	120	3
				7	142	2
				8	166	4
				9	126	2
				10	183	1
				11	152	1
				12	170	2
				13	178	3
				14	165	4
15	151	2				
<b>Legend:</b> # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location				/		
<b>Instrumentation</b>				<b>Source Check (pre/post)</b>		
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
2224	162850	0.2/135B	/	Tl-230/2129	3270/346B	CPM
				POST	3460/286B	CPM
Comments, including corrective actions if any: <u>N/A</u>						

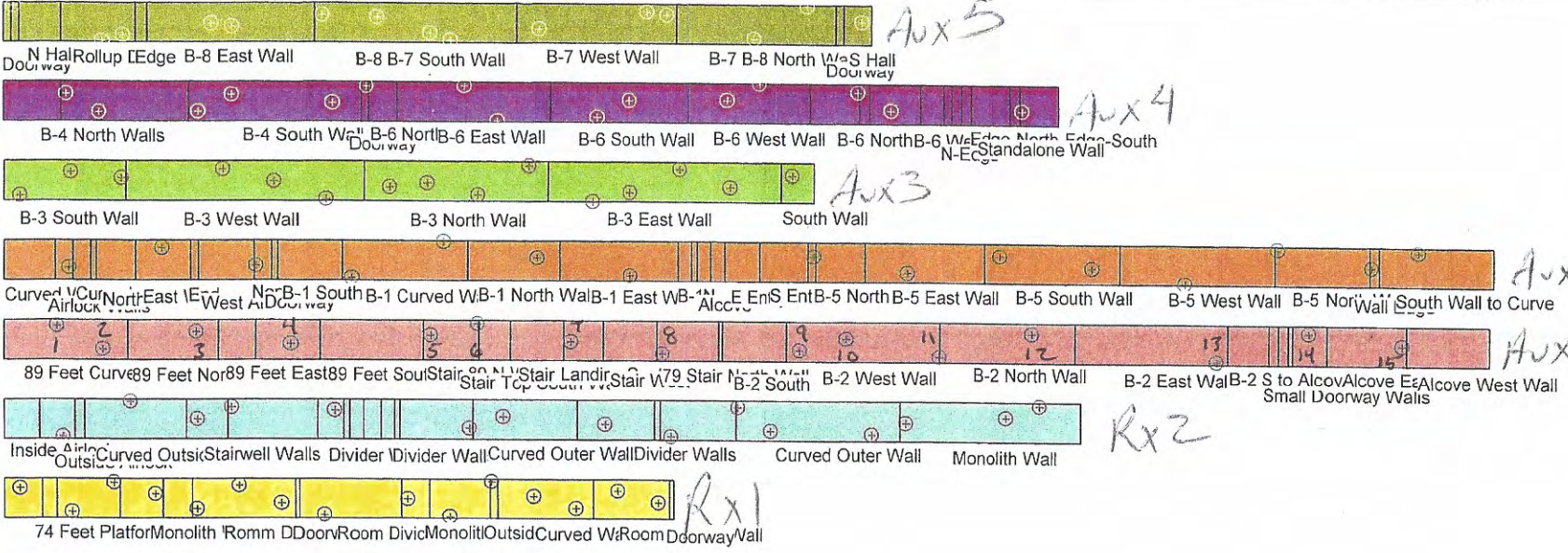
Pg. 1/4 *JMG*



PG. 2/4 JPL

PLAN - 79 FOOT LEVEL

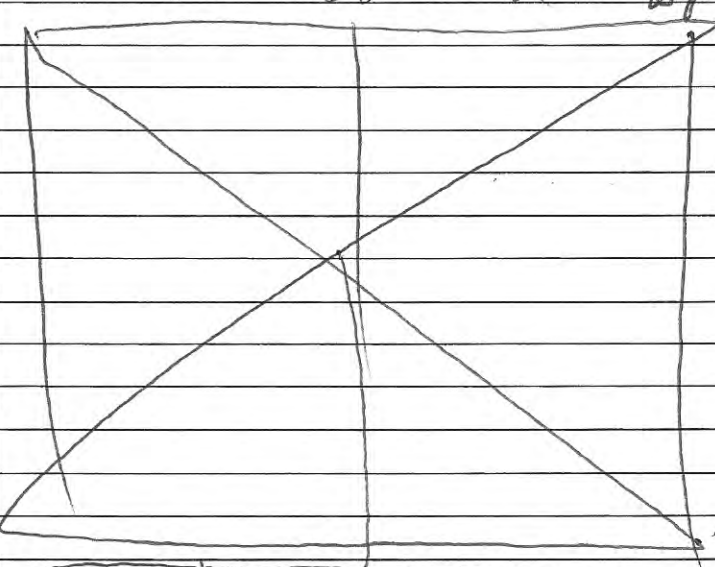
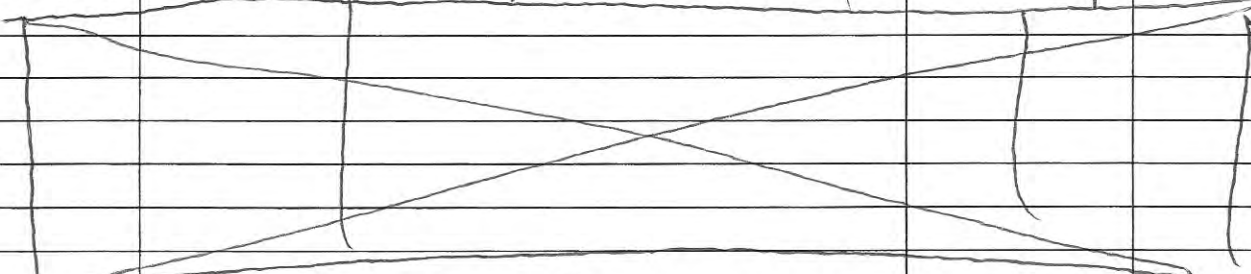
PG. 3/4 JAL



79 Foot Level walls

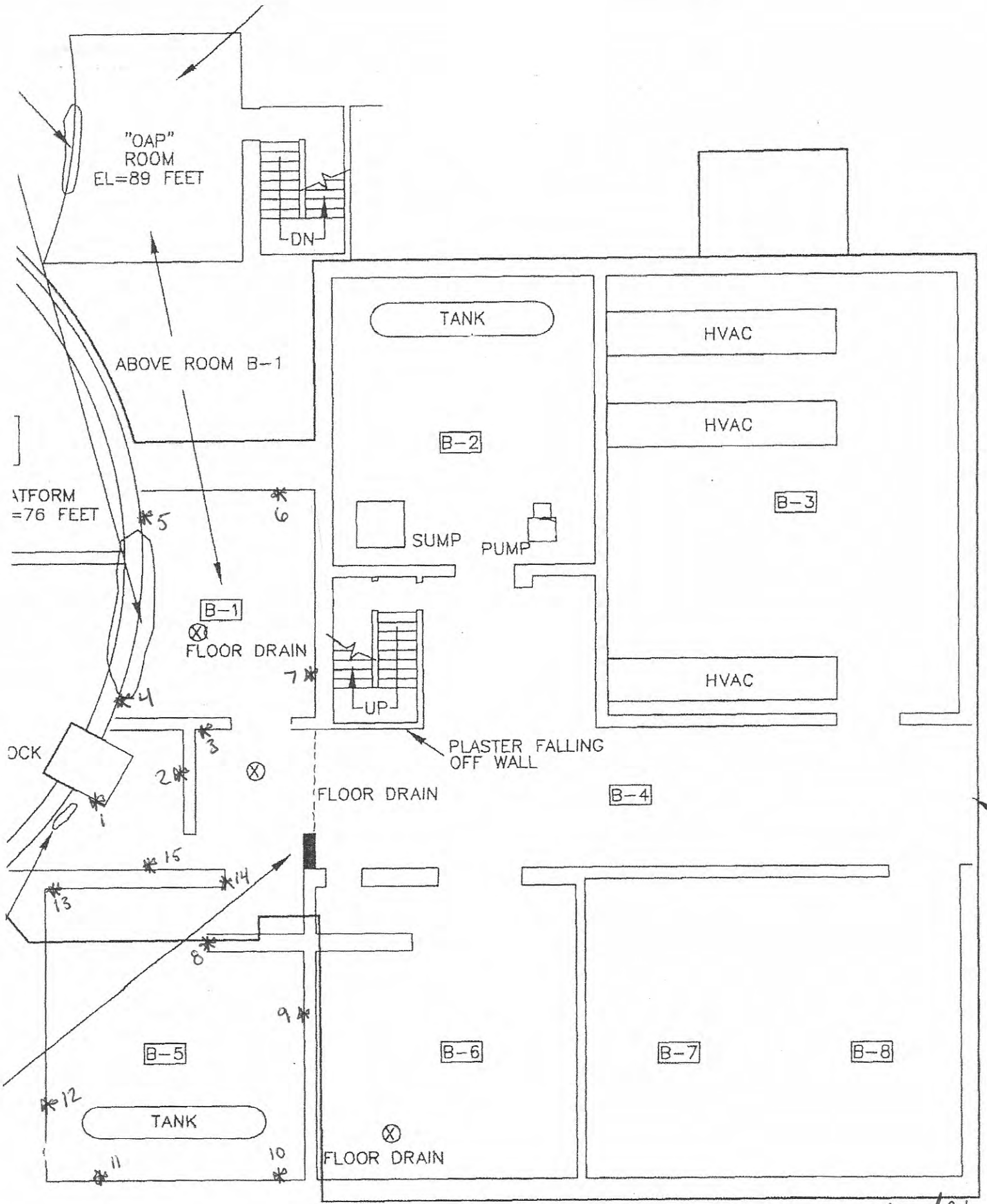
## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	79AW-1-1 CS9	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	2	55
Background	Background Count #2	0	52
1	See attached map 	1	54
2		1	60
3		1	56
4		6	56
5		0	51
6		6	37
7		6	44
8		0	48
9		1	54
10		2	54
11		1	54
12		6	65
13		0	45
14		0	48
15		1	56
Additional Comment:		See attached map 	
Analyzed by/date: (name/date)			







PLAN - 79 FOOT LEVEL

PG. 2/4 *John*



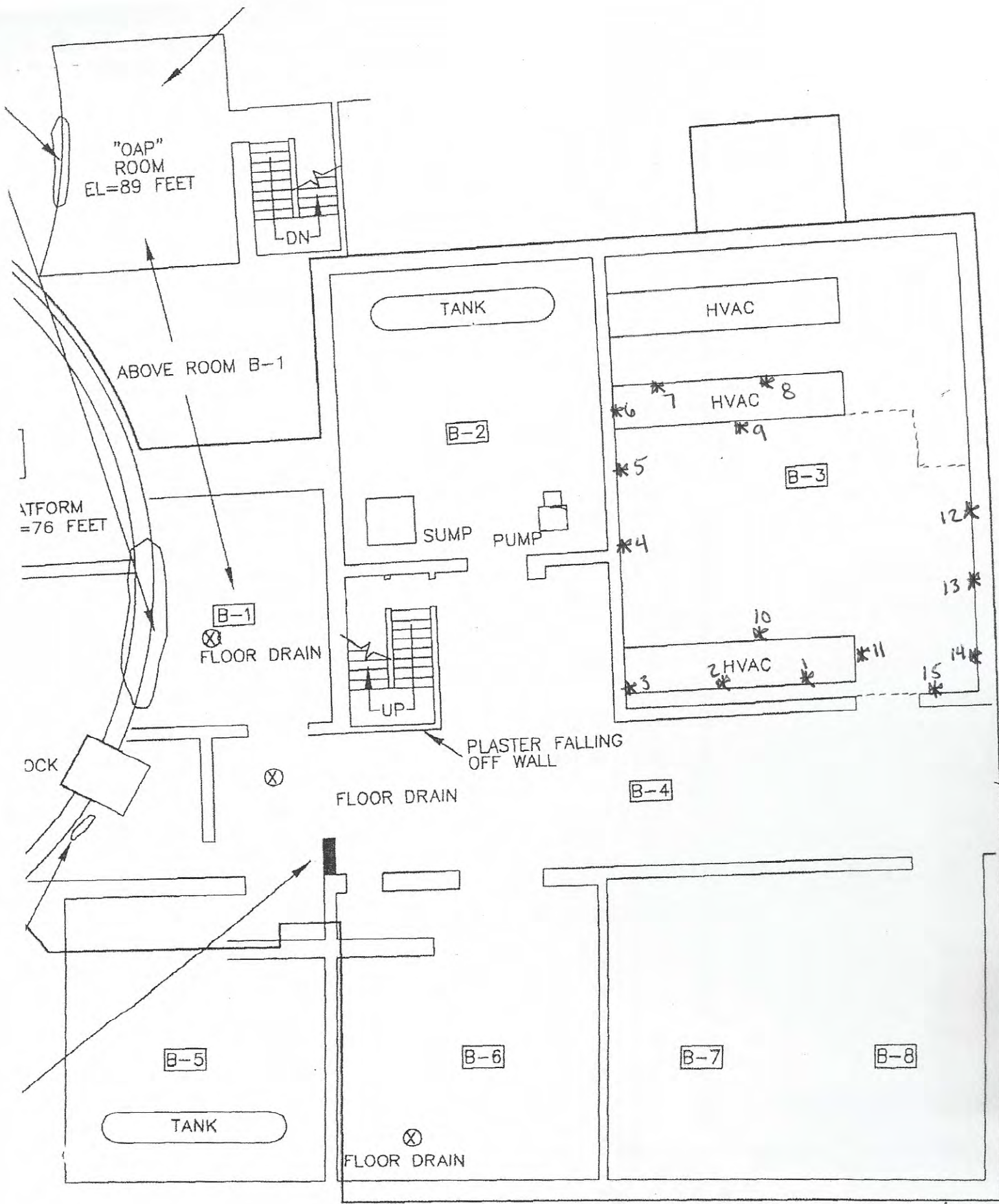


## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	79AW-1-2 CSS	Instrument Model:	2929
		Instrument S/N:	118411
		Calibration Date:	4/22/2020
		Calibration Due Date:	4/22/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	45
Background	Background Count #2	0	38
1	See attached map	0	48
2		0	46
3		0	38
4		0	55
5		0	41
6		0	39
7		0	51
8		0	49
9		0	33
10		0	40
11		1	36
12		0	46
13		1	55
14		0	42
15		2	37
Additional Comment:			
Analyzed by/date: (name/date)		Cory [signature] 6/11/2020	

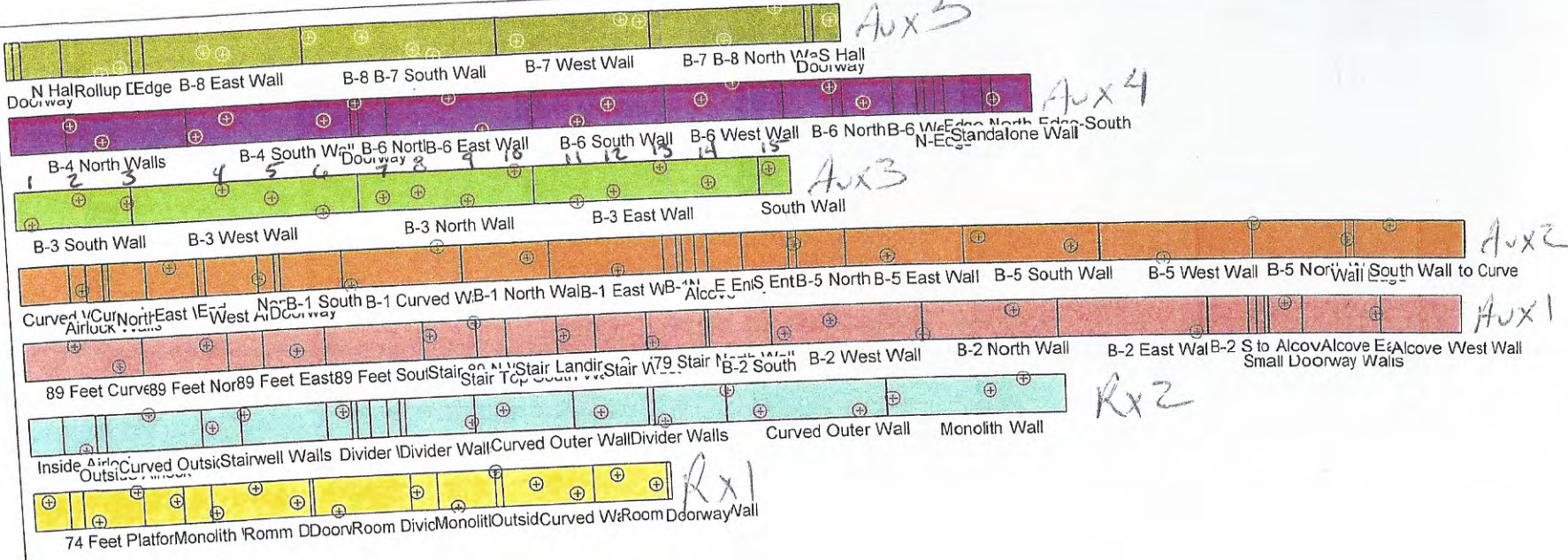




PLAN - 79 FOOT LEVEL

PG. 2/4 JML

176. 3/4 JPL



79 Foot Level walls

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	79AW-1-3 CSS	Instrument Model:	2929
		Instrument S/N:	118411
		Calibration Date:	4/22/2020
		Calibration Due Date:	4/22/2021
Phone Number:		Analysis Number:	

### DATA FOR 1 -MINUTE COUNTS

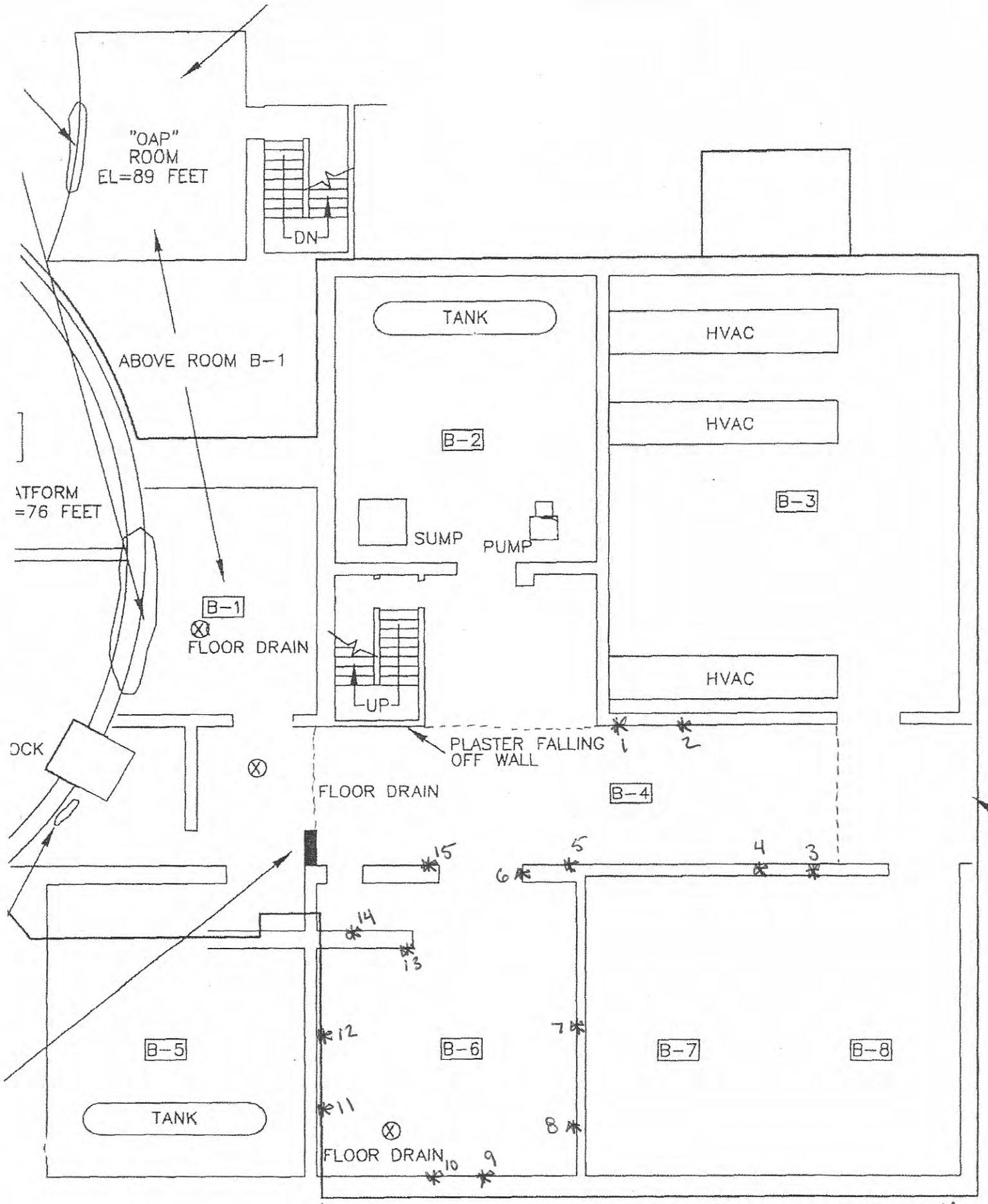
Sample	Description	Alpha	Beta
Background	Background Count #1	3	41
Background	Background Count #2	0	51
1	See attached map	1	55
2		0	40
3		0	42
4		0	52
5		0	59
6		0	45
7		1	54
8		1	40
9		0	47
10		0	39
11		0	46
12		1	46
13		0	34
14		0	55
15		0	29
Additional Comment:			
Analyzed by/date: (name/date)		Curtis 6/11/2020	



Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>79AW-1-4</u>				Date: <u>6/11/2020</u>		
Purpose of Survey: <u>CSS</u>				Performed By:		
				Print: <u>JEFF GALWE</u>		
				Sign: <u>[Signature]</u>		
<b>Sketch of Area</b> - SEE ATTACHED PAGES FOR SKETCH - SURVEYED 100% OF ACCESSIBLE WALLS USING 2224.				<b>Direct Results</b> cpm/100cm <sup>2</sup>		
				Direct #	Beta	Alpha
				1	169	3
				2	158	4
				3	154	8
				4	166	4
				5	158	4
				6	102	1
				7	153	4
				8	191	4
				9	133	4
				10	138	4
				11	145	2
				12	160	3
				13	153	2
				14	155	1
15	157	4				
<b>Legend:</b> # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location				/		
<b>Instrumentation</b>				<b>Source Check (pre/post)</b>		
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
2224	162850	1 α / 122 B	/	Th-230/E-129	318 α / 294 B	CPM
				POST	288 α / 297 B	CPM
Comments, including corrective actions if any: <u>N/A</u>						

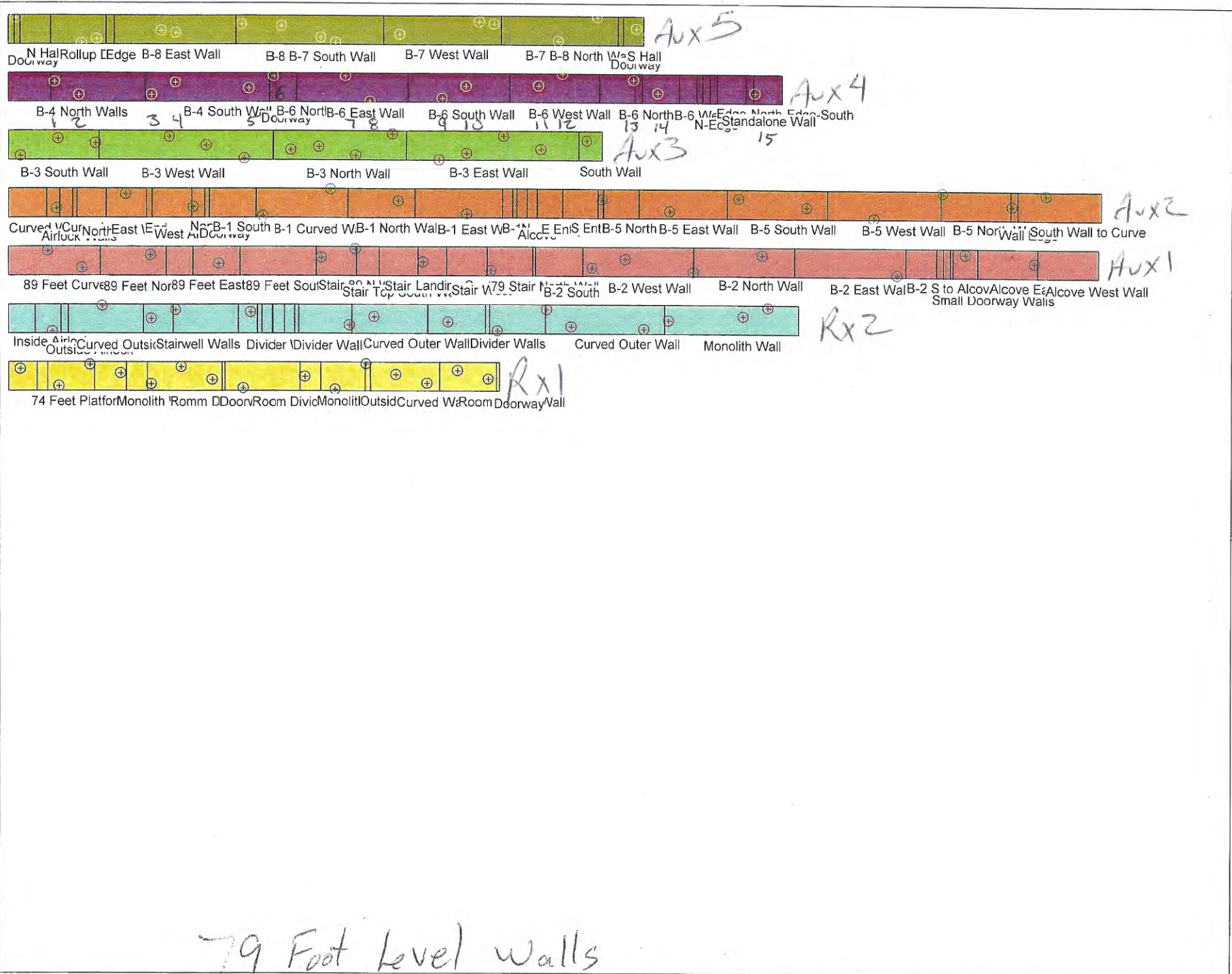
Pg 1/4 *JM*



PLAN - 79 FOOT LEVEL

Pg. 2/4 *JM*

176.314 JPL



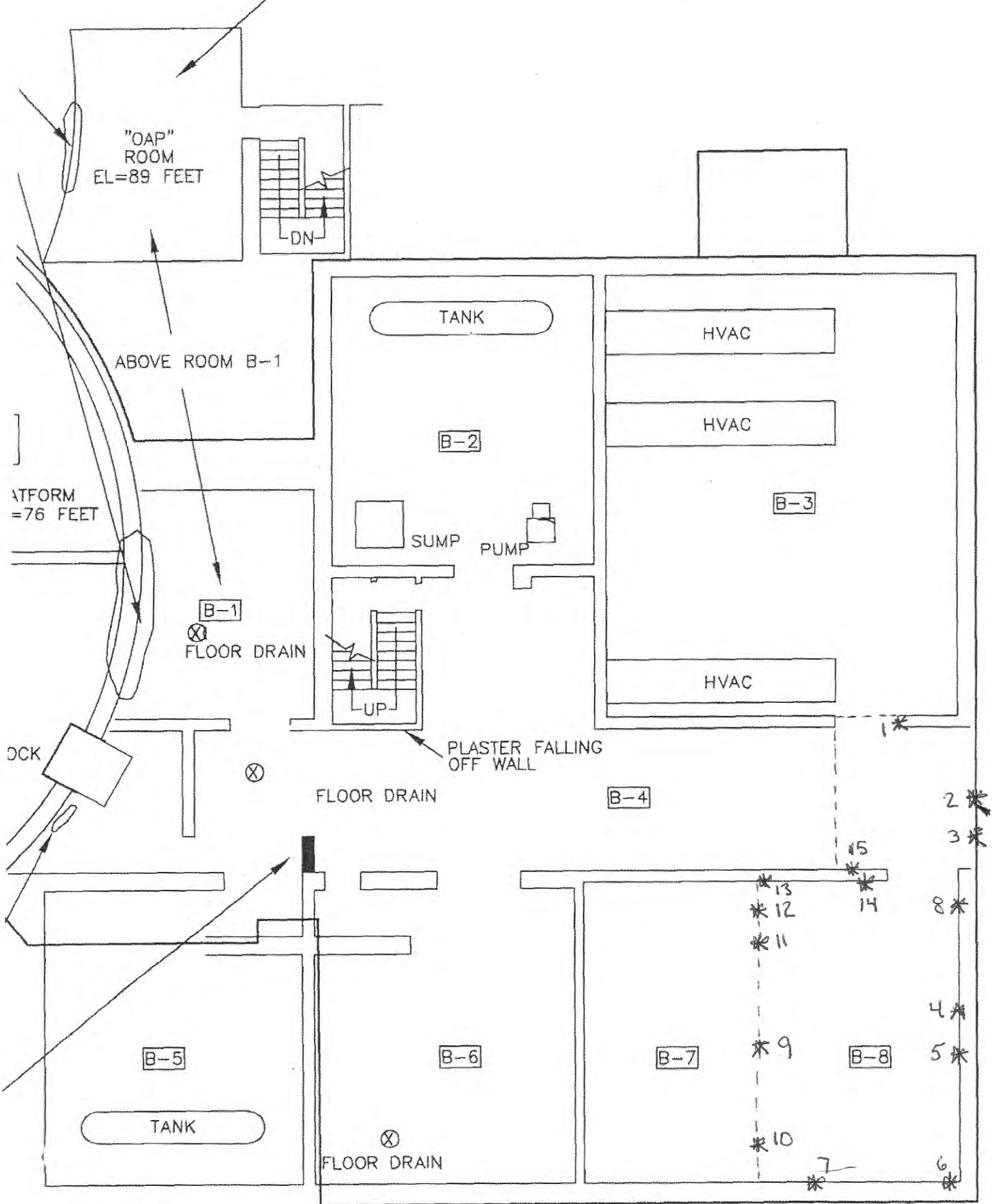
79 Foot Level Walls

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	794W-1-4 CSS	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	60
Background	Background Count #2	0	36
1	See attached map	1	56
2		50	
3		0	60
4		2	74
5		0	69
6		2	64
7		0	54
8		2	52
9		1	63
10		0	57
11		1	59
12		3	42
13		0	42
14		1	67
15		0	60
Additional Comment:		Count to 6/11/2020	
Analyzed by/date: (name/date)			

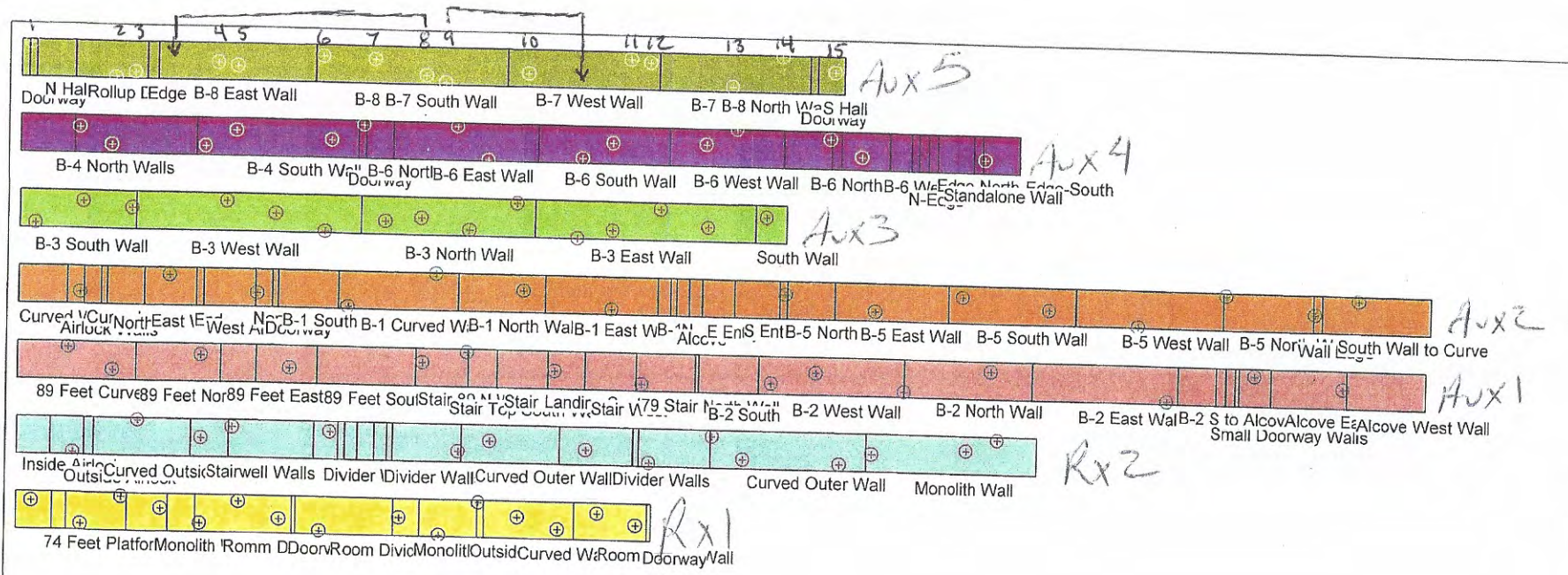




PLAN - 79 FOOT LEVEL

PG. 2/4 *ppl*

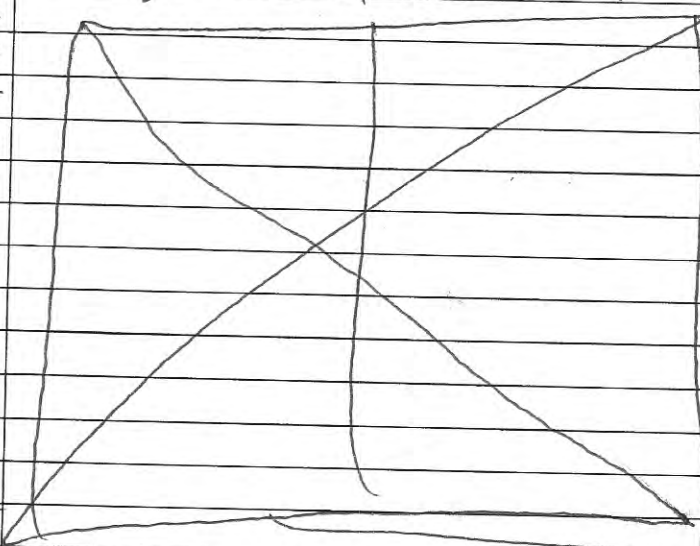
PG. 3/4 JPL



79 Foot Level Walls

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	794W-1-5 CSS	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	56
Background	Background Count #2	1	50
1	See attached map 	0	52
2		2	76
3		0	53
4		2	64
5		1	60
6		0	59
7		0	52
8		0	59
9		1	60
10		0	49
11		0	58
12		0	48
13		0	56
14		0	51
15		1	58
Additional Comment:			
Analyzed by/date: (name/date)		6/11/2020	



Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>PNPF</u>				Date: <u>6/11/2020</u>		
Purpose of Survey: <u>100-1124W-3-1 CSS</u>				Performed By:		
				Print: <u>Clark Barton</u>		
				Sign: <u>[Signature]</u>		
<p><b>Sketch of Area</b></p> <p style="font-size: 1.2em;">See attached maps</p> <p>1-5 121 level 6-10 111 level 11-<del>25</del><sup>25</sup> 100 level</p> <p>Each point had 1 square meter scanned, direct &amp; smear taken at any potential elevated area.</p>				<b>Direct Results</b> cpm/100cm <sup>2</sup>		
				Direct #	Beta	Alpha
				1	120	2
				2	147	1
				3	119	3
				4	144	1
				5	146	0
				6	124	4
				7	121	1
				8	126	1
				9	159	1
				10	163	3
				11	166	1
				12	160	2
				13	141	1
				14	155	1
				15	150	0
				16	129	3
				17	143	1
				18	152	5
				19	155	0
				20	162	1
				21	136	5
				22	150	5
				23	129	1
24	170	2				
25	147	1				
Legend: # - Direct Measurement						
# - Scan Direct Measurement						
⊕ - Smear Location						
<b>Instrumentation</b>				<b>Source Check (pre/post)</b>		
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
43-68	260445	0.42/149.6	230/29.36	<del>Th232</del> I-125	314/380	Cpm
"	"	"	"	"	409	Cpm
Comments, including corrective actions if any:						
<p style="font-size: 1.2em;">Critical value 100 304.6</p>						

## Bench Counter Worksheet

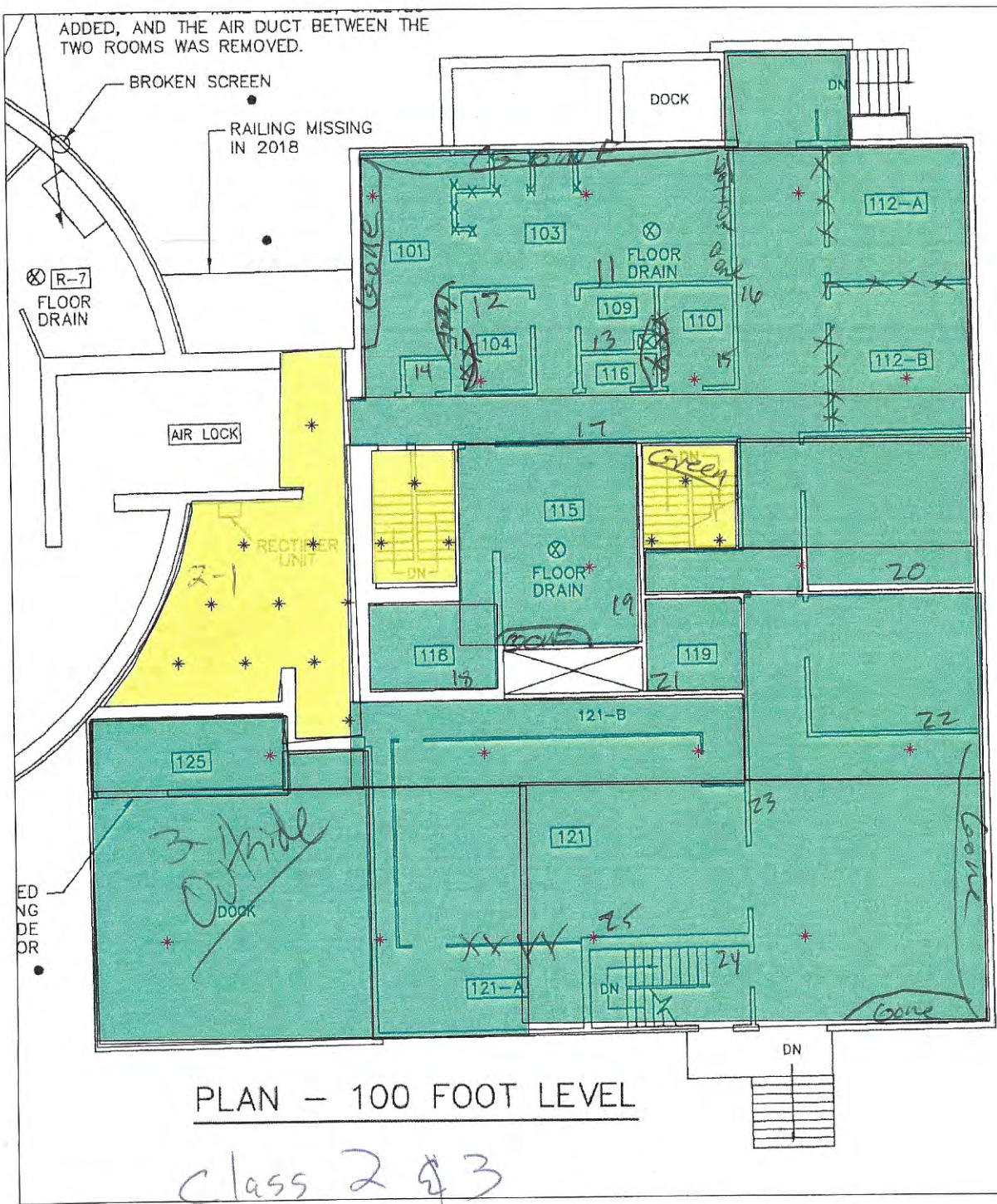
Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	100-1/2 AW-3-1 C55 121	Instrument Model:	2929
		Instrument S/N:	121 877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	66
Background	Background Count #2	0	58
1	See attached map	0	43
2		0	68
3		0	58
4		3	64
5		1	54
6		1	54
7		2	46
8		0	52
9		0	55
10		2	56
11		0	49
12		1	53
13		2	57
14		0	60
15		1	47
16		0	51
17		1	51
18		0	67
19		0	66
20		1	49
21		0	58
22		0	57
Additional Comment:			
Analyzed by/date: (name/date)		P. [Signature] 6/11/2020	

Critical values: 4.3α 82β

1/2





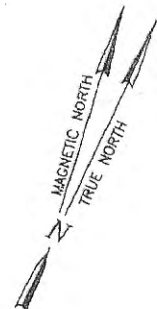
109- CONCRETE FLOOR  
 110- CONCRETE FLOOR  
 ⊕- FLOOR

KEY:  
 NO. = GENERAL AREA EXPOSURE RATE ( $\mu\text{rem/h}$ )  
 ⊕ = SMEAR/DIRECT LOCATION  
 R-4 = ROOM NUMBER

● GRAPHITE ANODES

NEW EPOXY FLOORS INSTALLED IN ROOMS 115 AND 121-A IN 2009.

NEW AIR-CONDITIONING UNIT INSTALLED IN ROOM 121-A IN 2009.



SCALE IN FEET

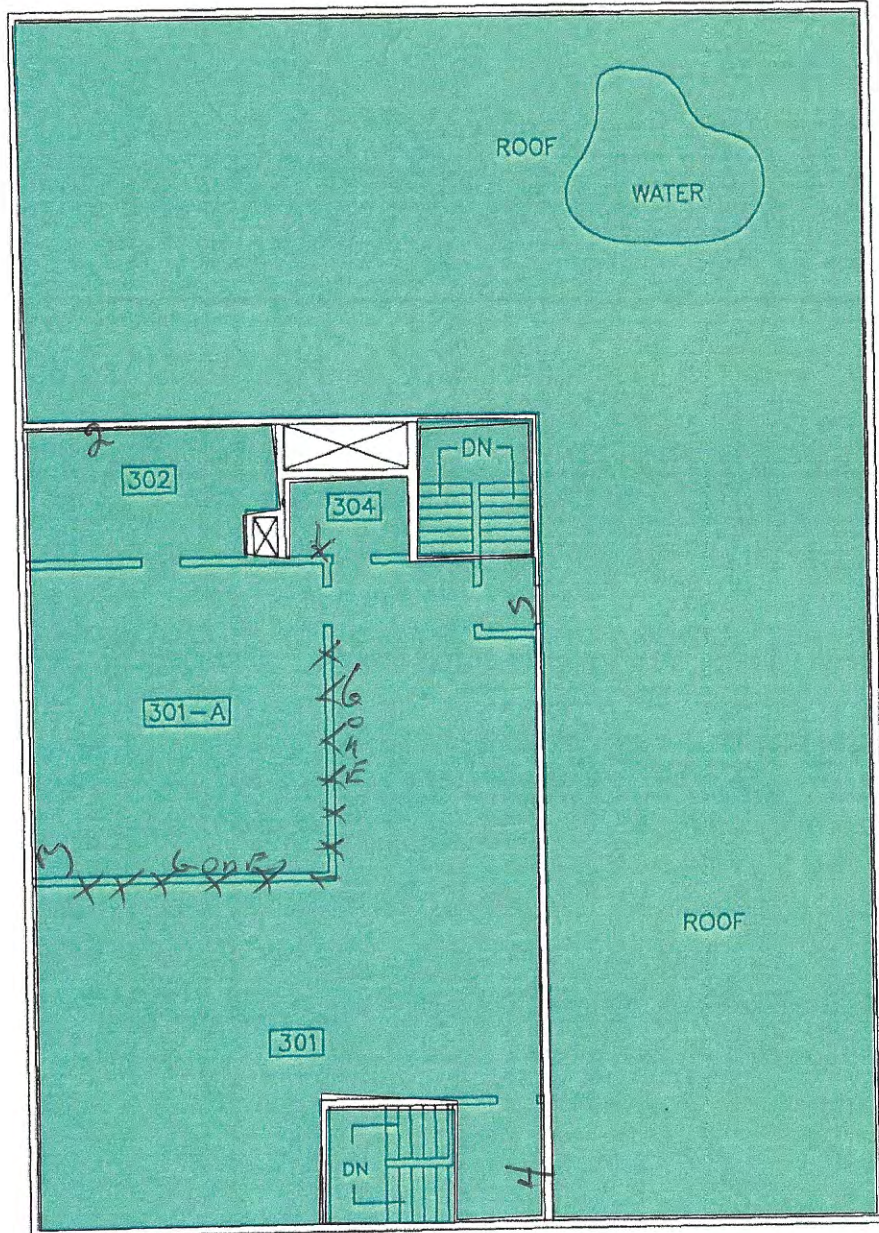


ANNUAL INSPECTION AND RADIOLICAL SURVEY CONDUCTED MARCH 27, 2019

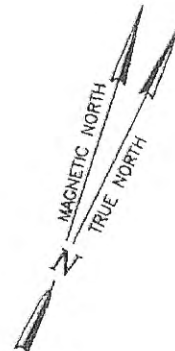
U.S. DEPARTMENT OF ENERGY | Legacy Management | GRAND JUNCTION, COLORADO

NAVARRO | History, Research and Education | U.S. DEPARTMENT OF ENERGY

2019 ANNUAL INSPECTION AND RADIOLOGICAL SURVEY



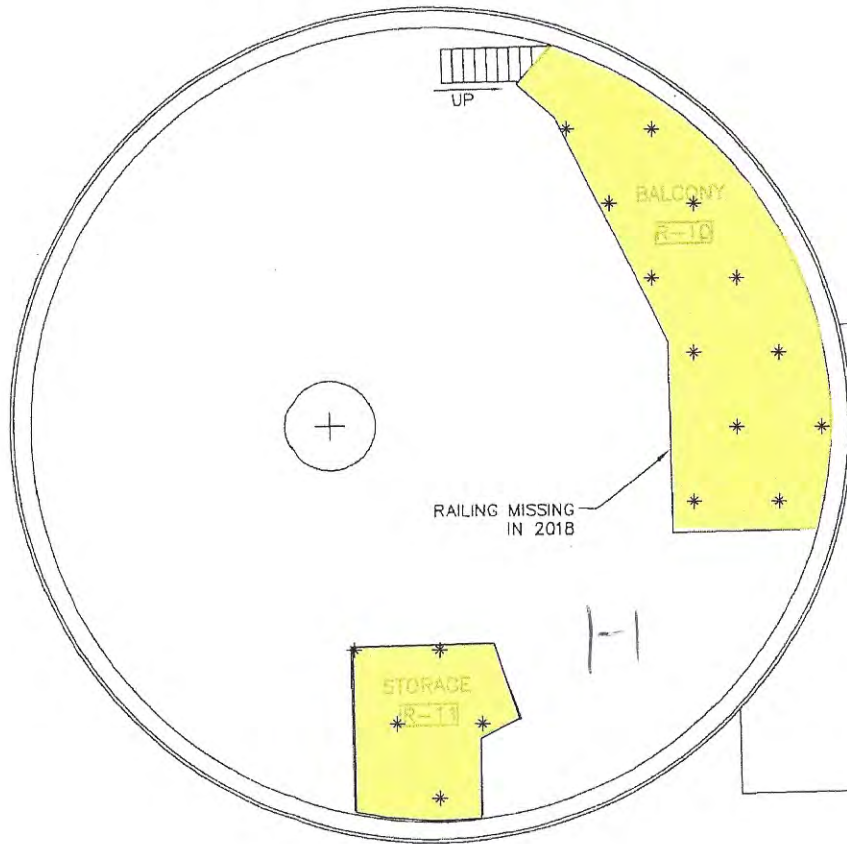
(2) level



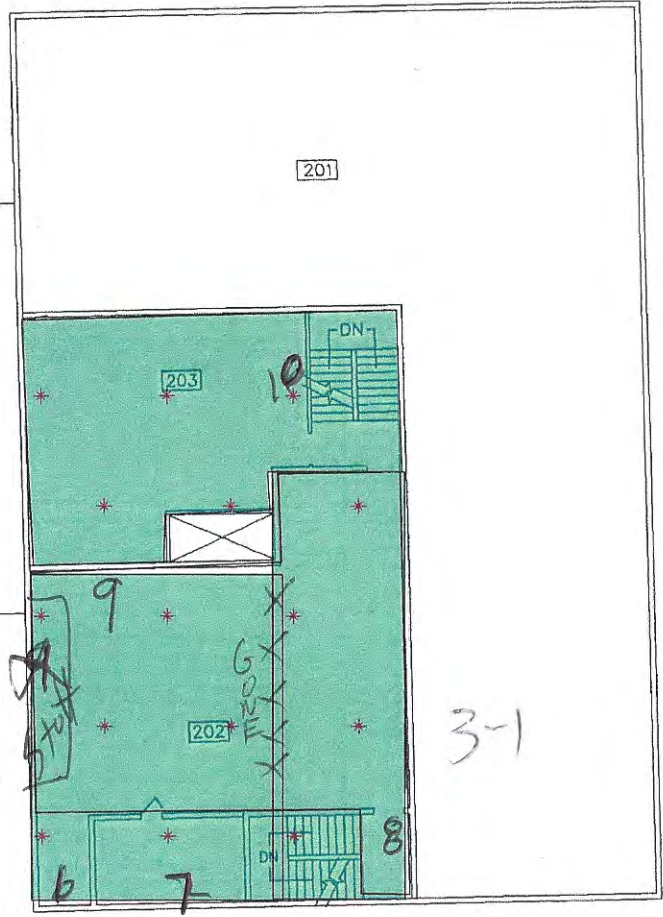
SCALE IN FEET



ANNUAL INSPECTION AND  
RADIOLOGICAL SURVEY CONDUCTED  
MARCH 27, 2019



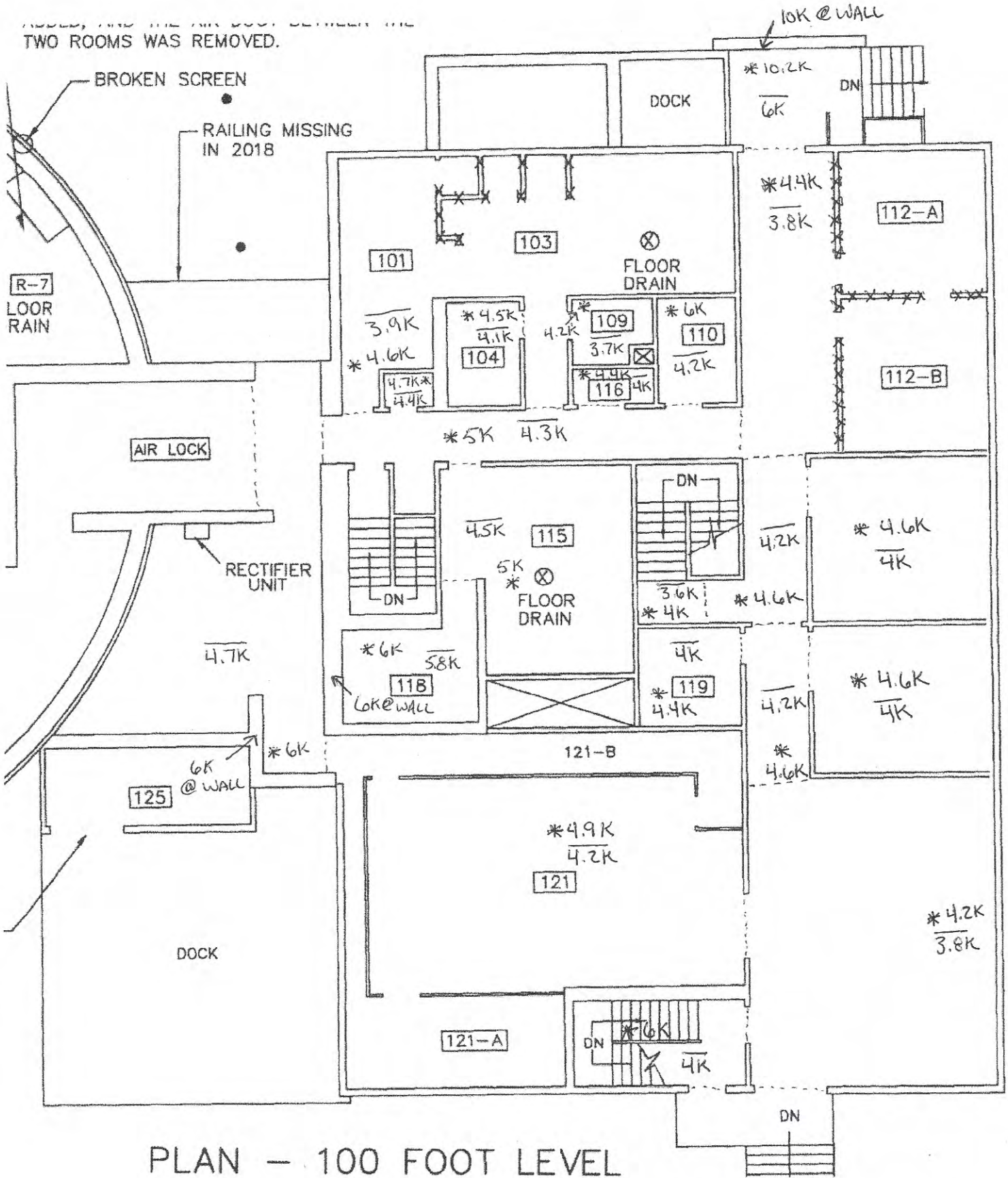
PLAN - 111 FOOT LEVEL



Class 1 & 3



ADDED, AND THE AIR DOOR BETWEEN THE TWO ROOMS WAS REMOVED.



PLAN - 100 FOOT LEVEL

MODEL 12 (Natl)

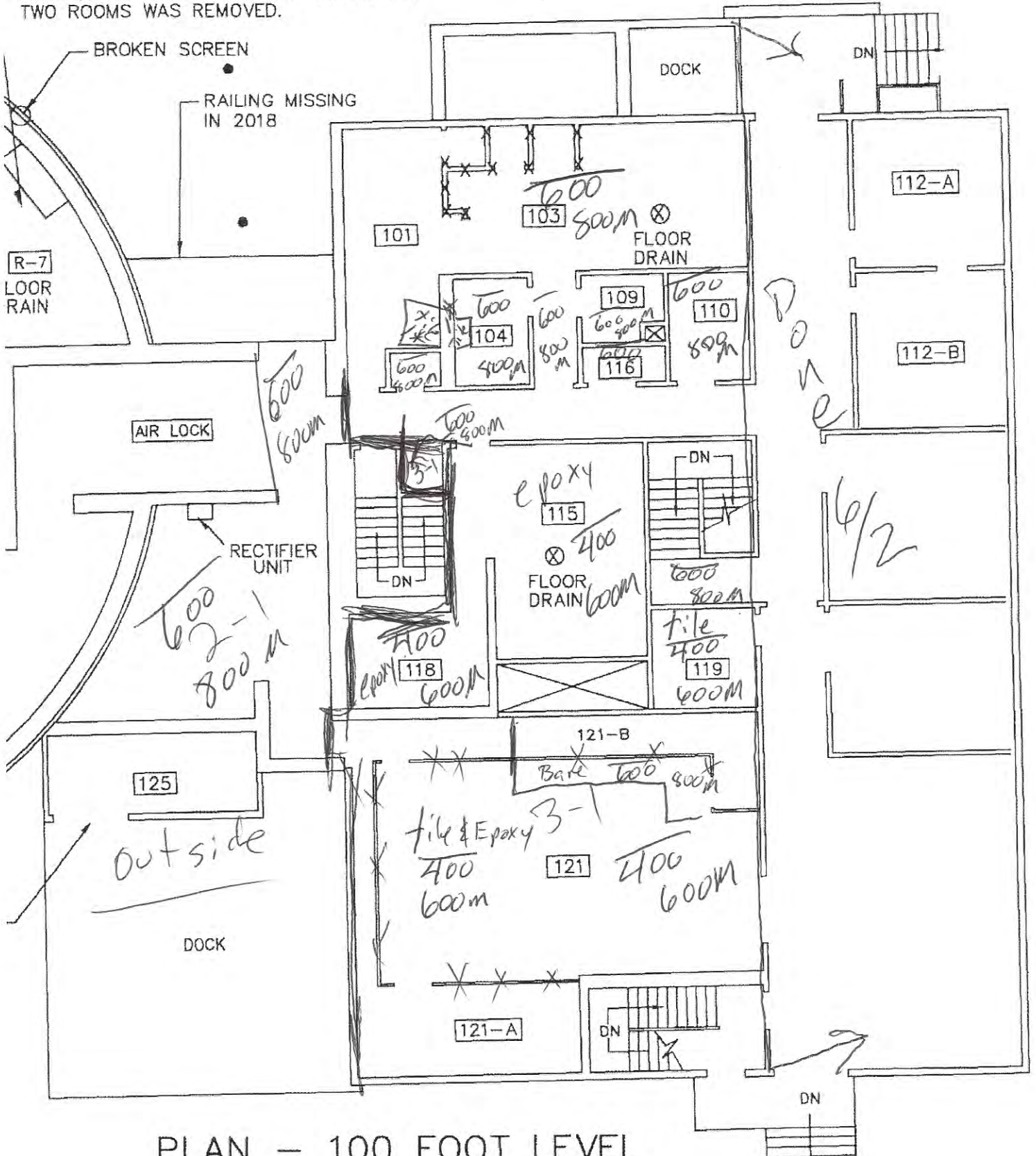
PG. 2/3 JRM







ROOF, AND THE AIR LOCK BETWEEN THE TWO ROOMS WAS REMOVED.



PLAN - 100 FOOT LEVEL  
 1\* tile ~ 1100cpm



## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Wellm
Client Address:	100 AF-3-1	Instrument Model:	2929
	CSS	Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	52
Background	Background Count #2	1	49
1	See Attached Map	0	65
2		0	65
3		0	59
4		2	57
5		1	62
6		0	53
7		0	55
8		0	44
9		0	65
10		0	60
11		0	57
12		0	73
13		0	43
14		1	62
15		1	54
16		1	48
Additional Comment:	Crit level 4.32, 82 A		
Analyzed by/date: (name/date)	C. [unclear] 6/4/2020		



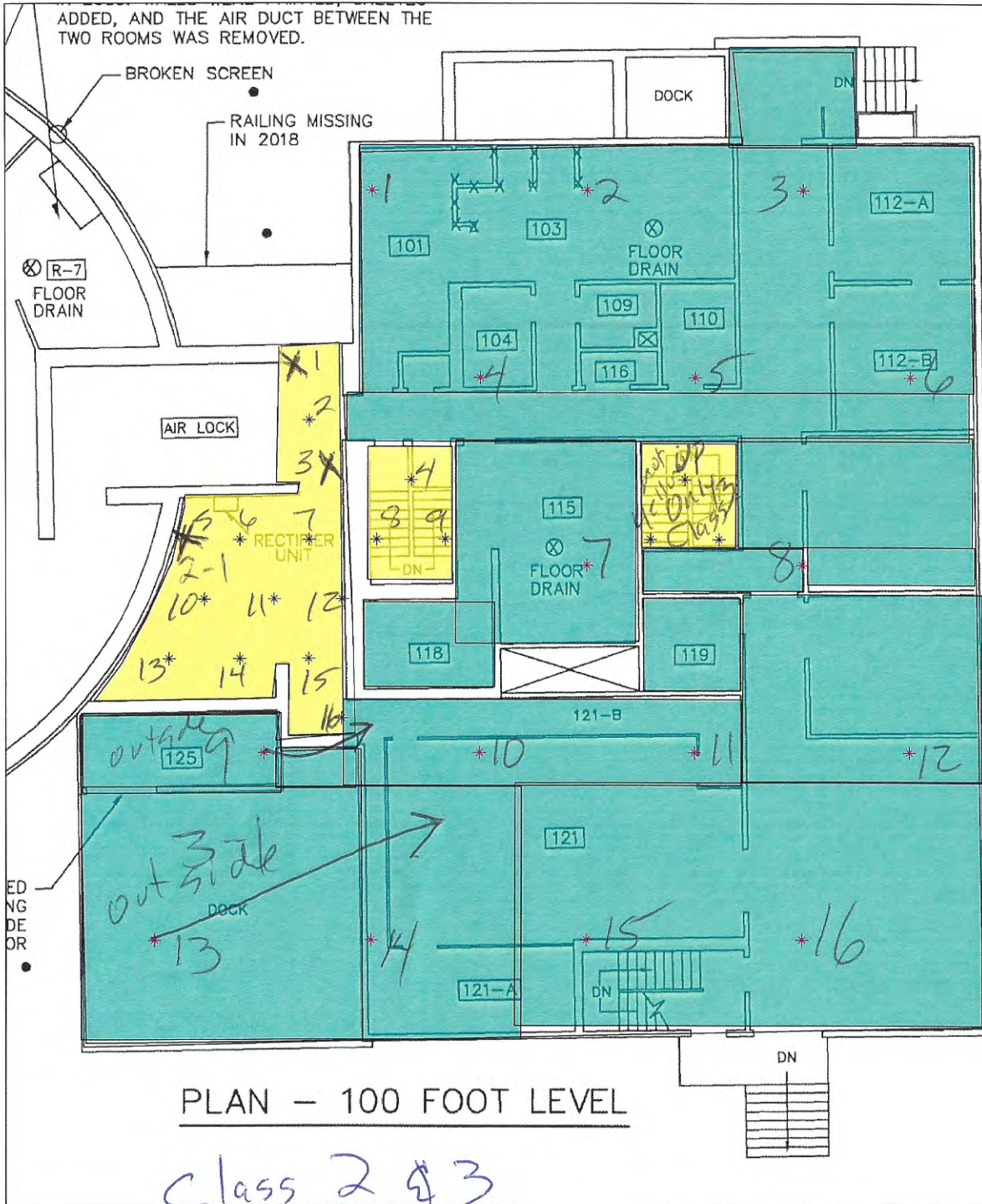
## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	100 AF-2-1	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/21
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	48
Background	Background Count #2	0	53
1	See attached Map	1	55
2		0	49
3		0	64
4		1	53
5		1	78
6		0	59
7		1	58
8		0	50
9		0	54
10		0	57
11		1	58
12		1	74
13		0	48
14		1	75
15		0	60
16		0	45

Additional Comment:   
 Analyzed by/date: (name/date) *Chris Hall 6/4/2020*

Critical level 4.32, 82β



109-CONCRETE FLOOR  
 110-CONCRETE FLOOR  
 9-FLOOR

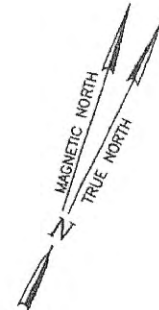
KEY:

- NO = GENERAL AREA EXPOSURE RATE ( $\mu\text{rem/h}$ )
- NO = SMEAR/DIRECT LOCATION
- R-4 = ROOM NUMBER

● GRAPHITE ANODES

NEW EPOXY FLOORS INSTALLED IN ROOMS 115 AND 121-A IN 2009.

NEW AIR-CONDITIONING UNIT INSTALLED IN ROOM 121-A IN 2009.



SCALE IN FEET



ANNUAL INSPECTION AND  
 RADIOLOGICAL SURVEY CONDUCTED  
 MARCH 27, 2019

<p>U.S. DEPARTMENT OF  <b>ENERGY</b>      GRAND JUNCTION, COLORADO</p>	<p>Legacy        Management</p>	<p>Work performed under DOE Contract No. DE-NA0000001</p>
		<p>NAVARRO Research and Engineering        Grand Junction, Colorado        2019 ANNUAL INSPECTION AND RADIOLOGICAL SURVEY</p>



Dade Moeller  
Radiological Survey Report

Laboratory Description: DNPF

Date: 6/10/2020

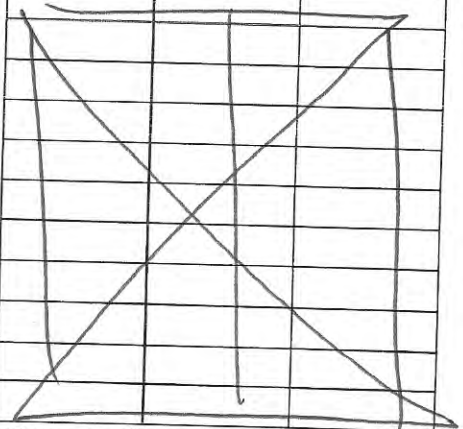
Purpose of Survey: 100AW-2-1 CSS

Performed By:  
Print: Clark Barton  
Sign: [Signature] 6/10/2020

Sketch of Area

See attached map. ~~10070~~  
1 square meter around each  
survey point scanned, direct  
& smear taken at highest  
area.

Direct Results cpm/100cm <sup>2</sup>		
Direct #	Beta	Alpha
1	97	0
2	134	1
3	95	1
4	122	1
5	169	0
6	179	3
7	181	1
8	150	1
9	185	0
10	159	2
11	136	0
12	140	2
13	172	0
14	160	1
15	112	0



Legend: # - Direct Measurement  
# - Scan Direct Measurement  
⊕ - Smear Location

Instrumentation

Model #	Serial #	Background	Efficiency
43-68	260445	0.92/149B	25.2/29.3B
11	11	11	11

Source Check (pre/post)

Isotope	Reading	Units
<sup>137</sup> Cs	450	Cpm
<sup>137</sup> Cs	416	Cpm
<sup>137</sup> Cs	427	Cpm

Pre  
Post

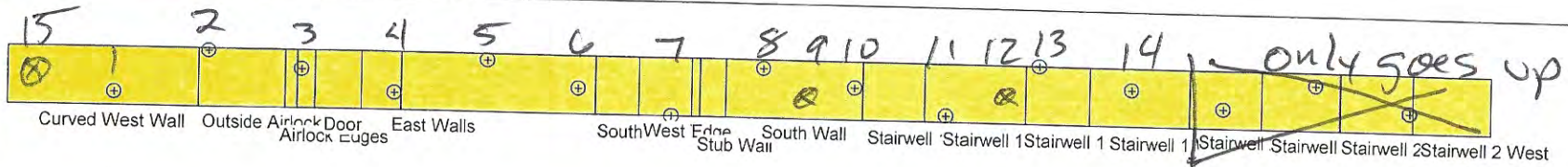
Comments, including corrective actions if any:

---



---

Critical value 10 x 304B



*Crystal  
6/10/2010*

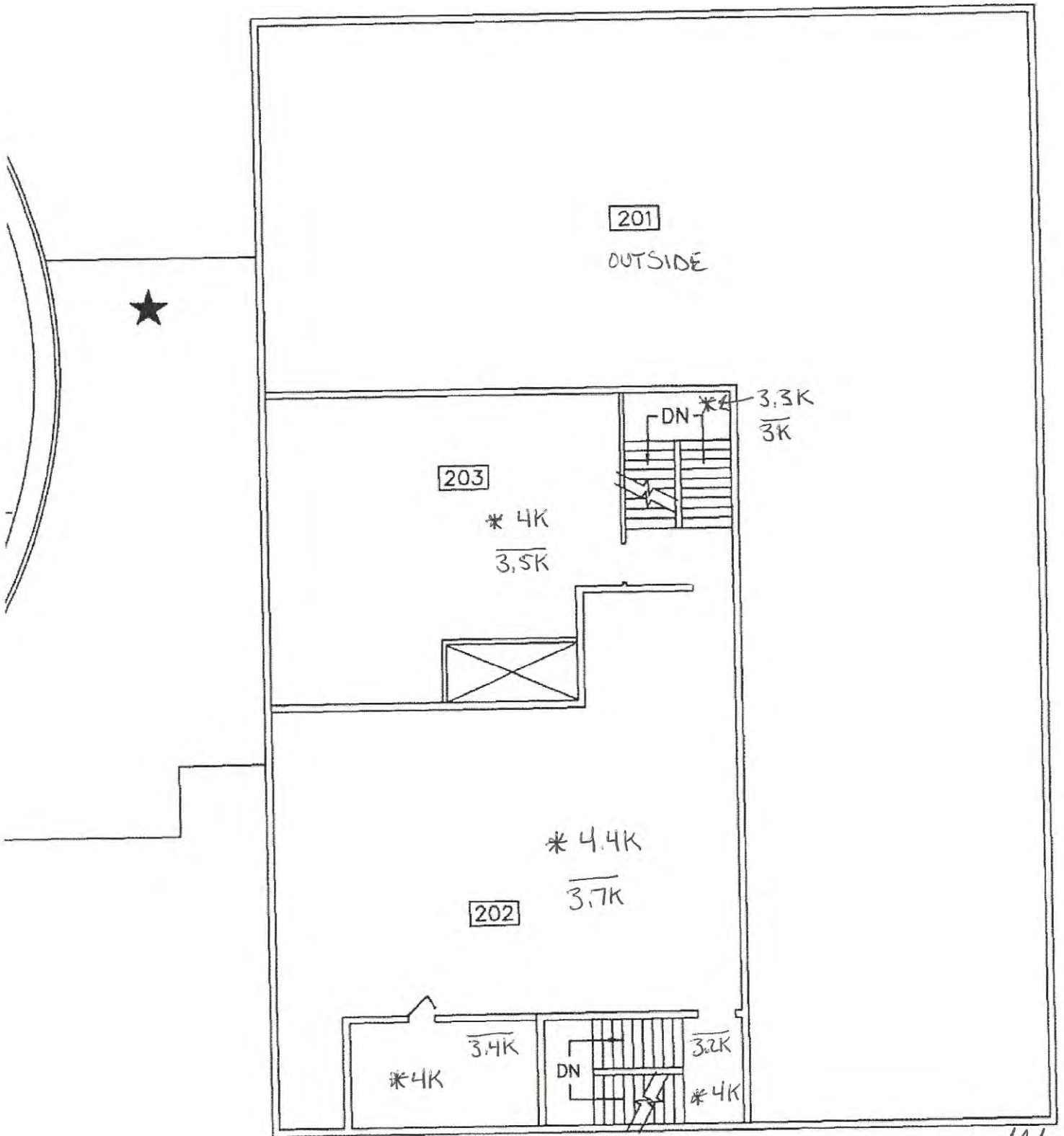
100 Ft. Class 2

## Bench Counter Worksheet

Client Name:	PNRF	Instrument Make:	Ludlum
Client Address:	100AW-2-1 CSS	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	53
Background	Background Count #2	0	74
1	See attached map	0	44
2		0	51
3		0	45
4		0	53
5		0	70
6		0	67
7		0	51
8		0	54
9		0	52
10		0	49
11		0	58
12		0	52
13		0	53
14		0	57
15		0	41
Additional Comment:			
Analyzed by/date: (name/date)		C. [Signature] 6/10/2020	

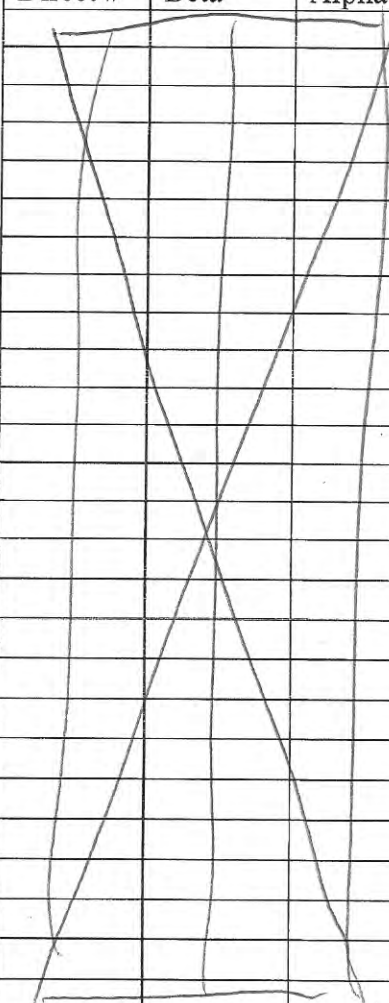


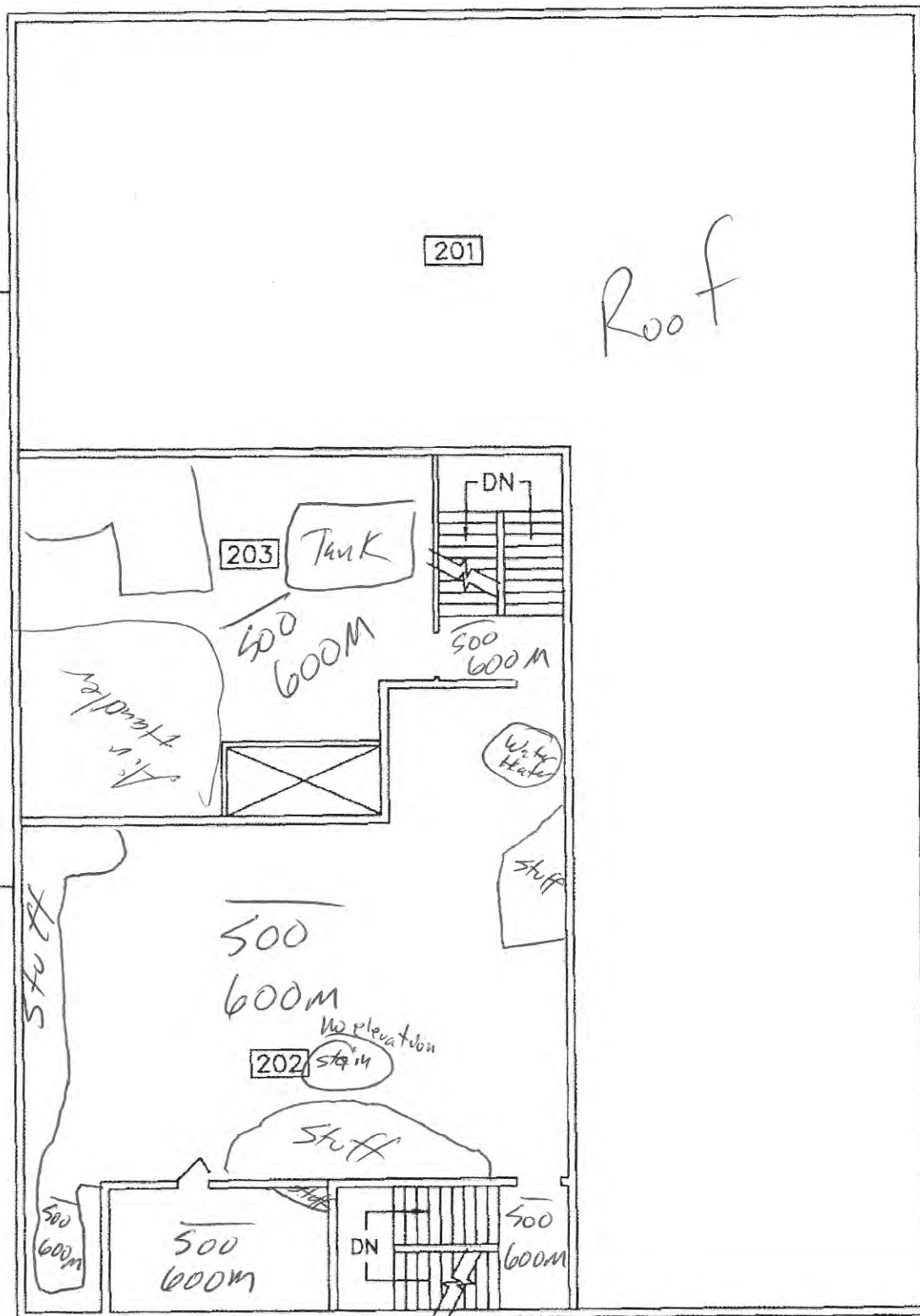


Pg. 2/2 JAL

111 Foot

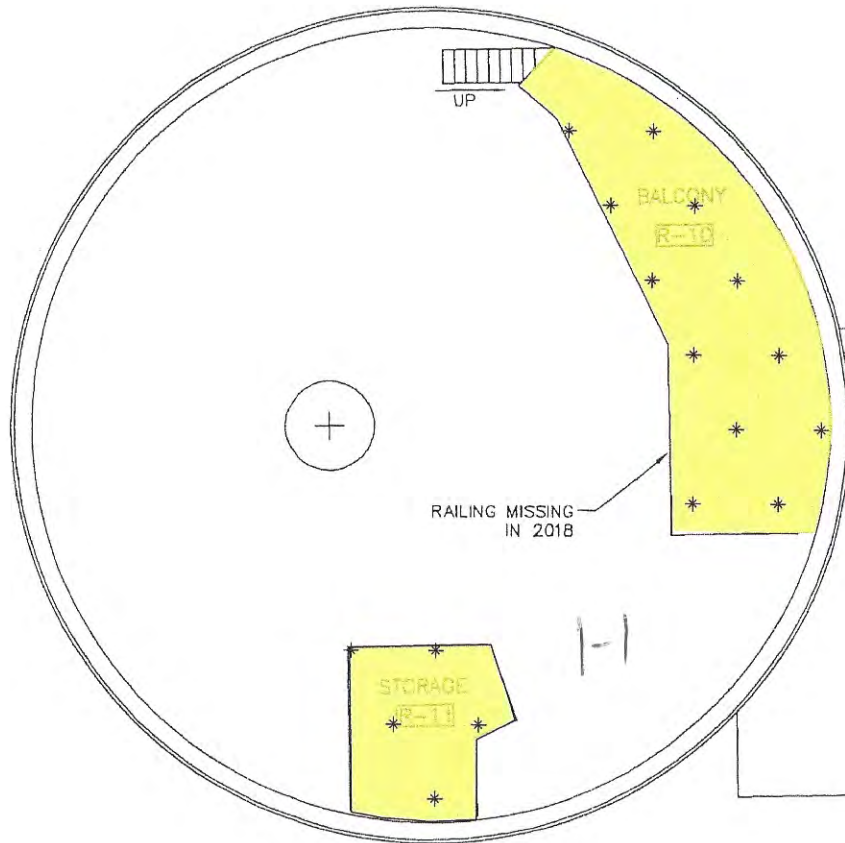
Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>X2 IIIAF-3-1</u>				Date: <u>6/8/2020</u>		
Purpose of Survey: <u>Floor Monitor</u>				Performed By:		
				Print: <u>Clark Barton</u>		
				Sign: <u>[Signature]</u>		
<b>Sketch of Area</b> <u>See attached map</u>				<b>Direct Results</b> cpm/100cm <sup>2</sup>		
				Direct #	Beta	Alpha
						
<b>Legend:</b> # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location						
<b>Instrumentation</b>				<b>Source Check (pre/post)</b>		
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
<u>239-1F</u>	<u>187246</u>	<u>2.82 / 551B</u>	<u>22.92 / 32-5B</u>	<u><del>Th232</del> 1-129</u>	<u>108 / 774</u>	<u>CPM</u>
Comments, including corrective actions if any: <u>Critical Values 102, 663p</u>						

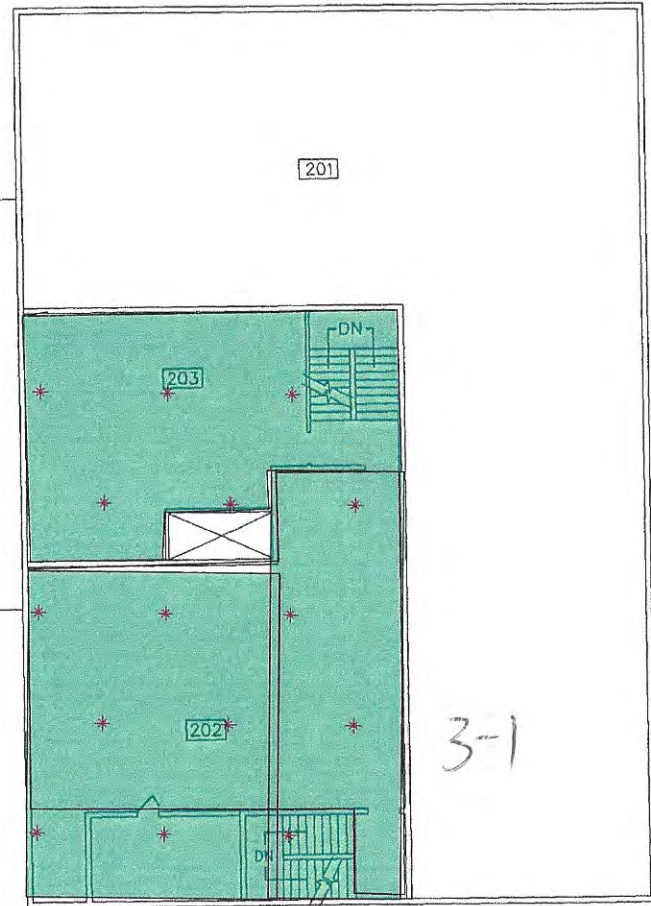


*CPA*  
6/18/2020

111 Foot Floor Monitor



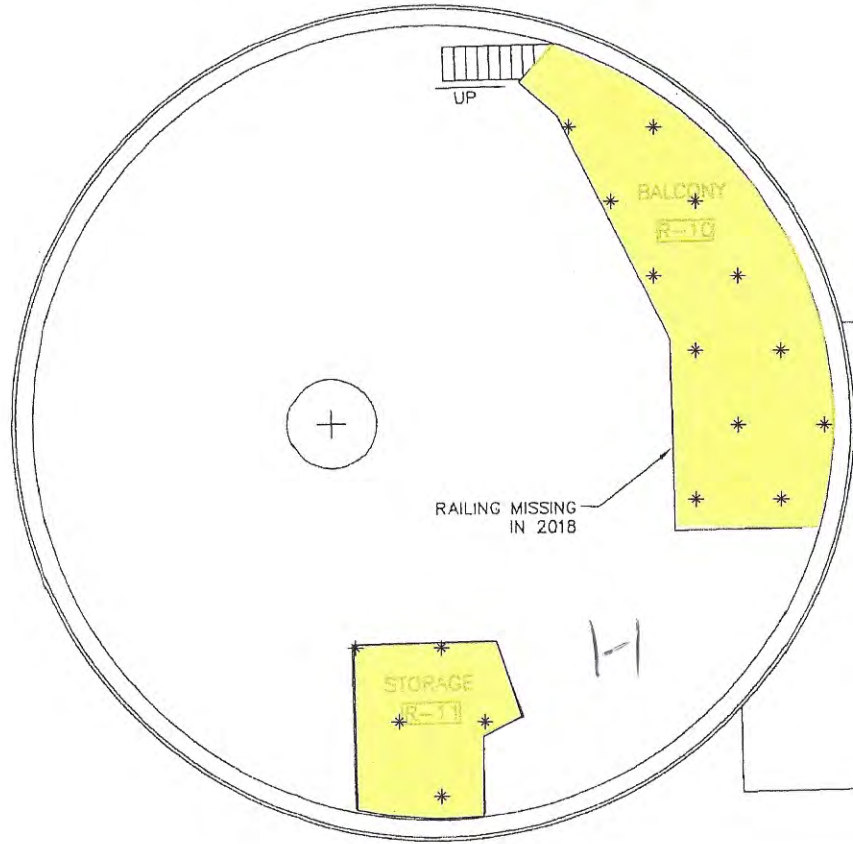
PLAN - 111 FOOT LEVEL



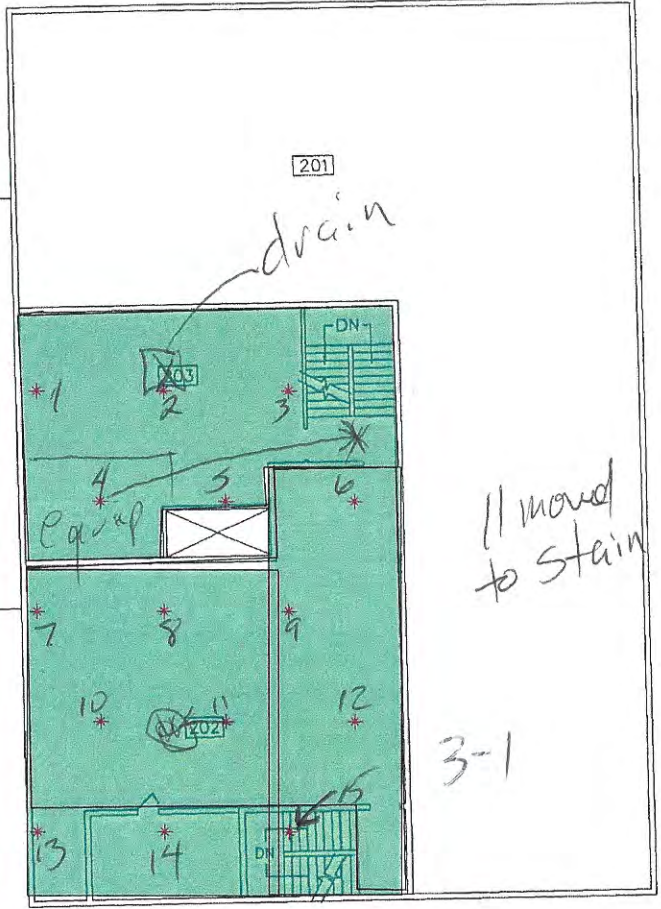
Class 1 & 3







PLAN - 111 FOOT LEVEL

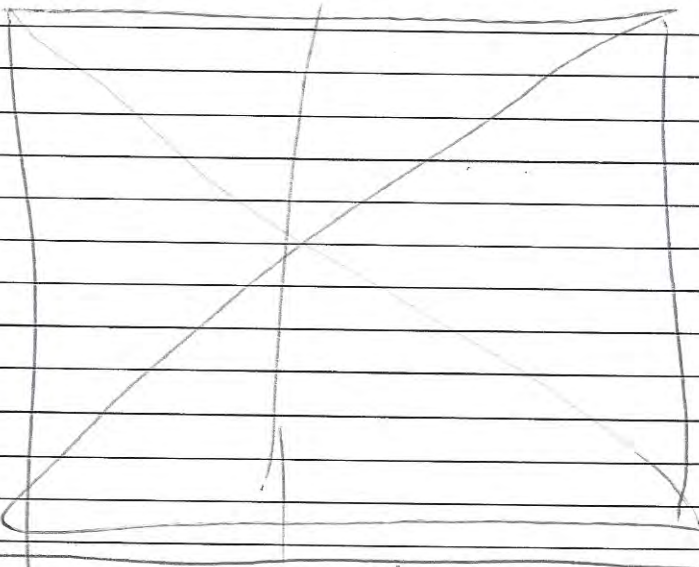


Class 1 & 3

*[Handwritten signature]*  
6/14/20

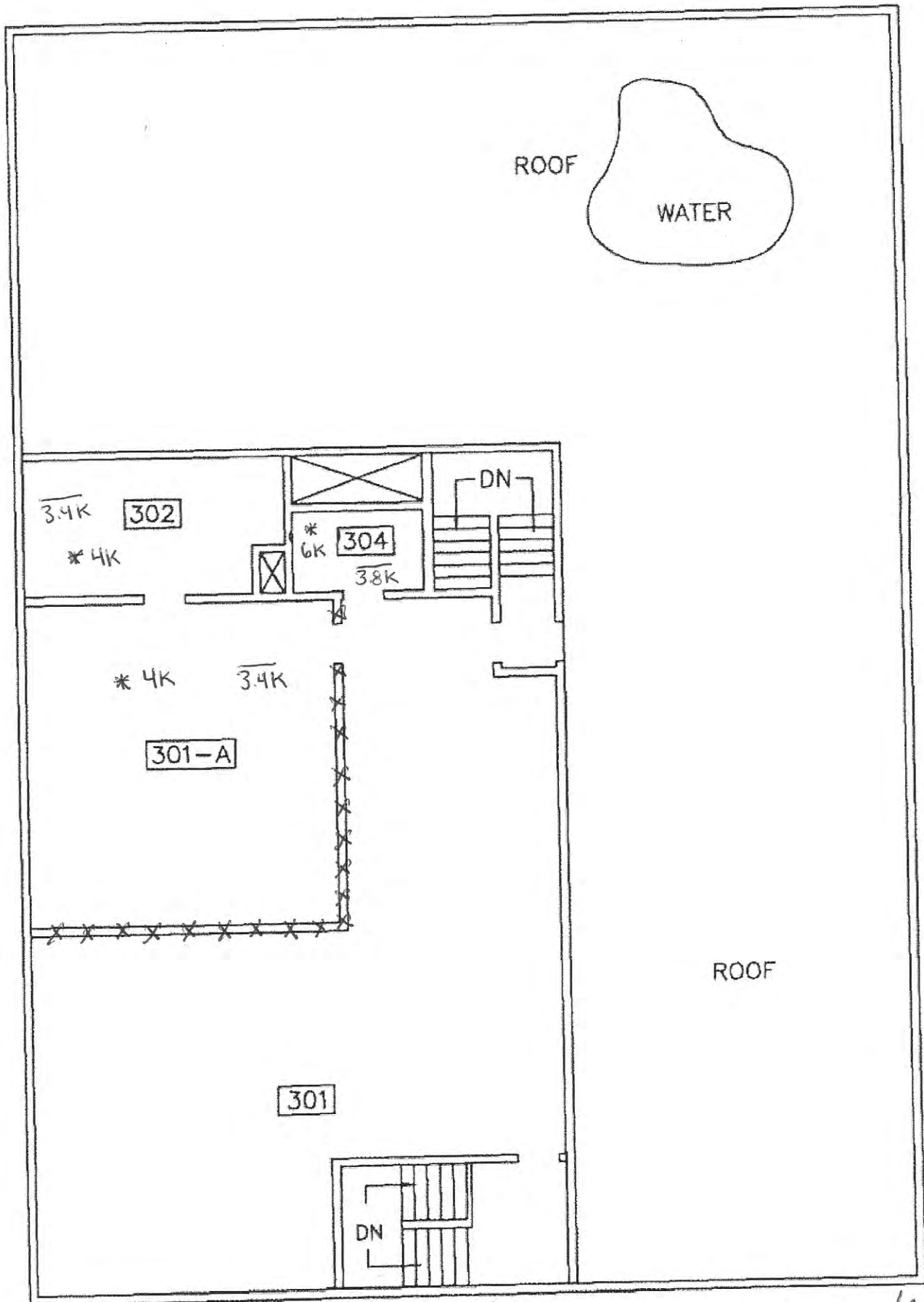
## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	111 AF - 3 - 1 CSS	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	60
Background	Background Count #2	2	61
1	See attached map 	1	49
2		1	64
3		0	56
4		0	66
5		0	49
6		0	48
7		0	42
8		0	53
9		1	57
10		0	61
11		0	63
12		0	72
13		0	56
14		0	61
15		0	44
Additional Comment:			
Analyzed by/date: (name/date)		C. Taylor 6/8/2020	

Critical Values: 4.3 & 82B

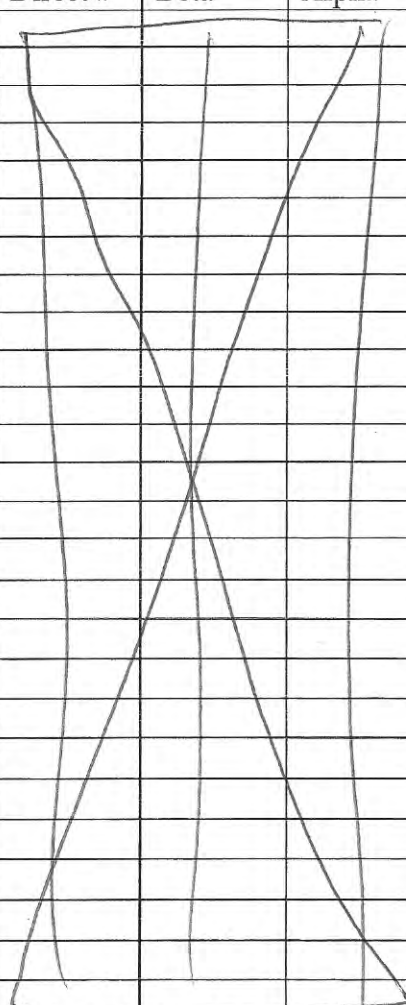


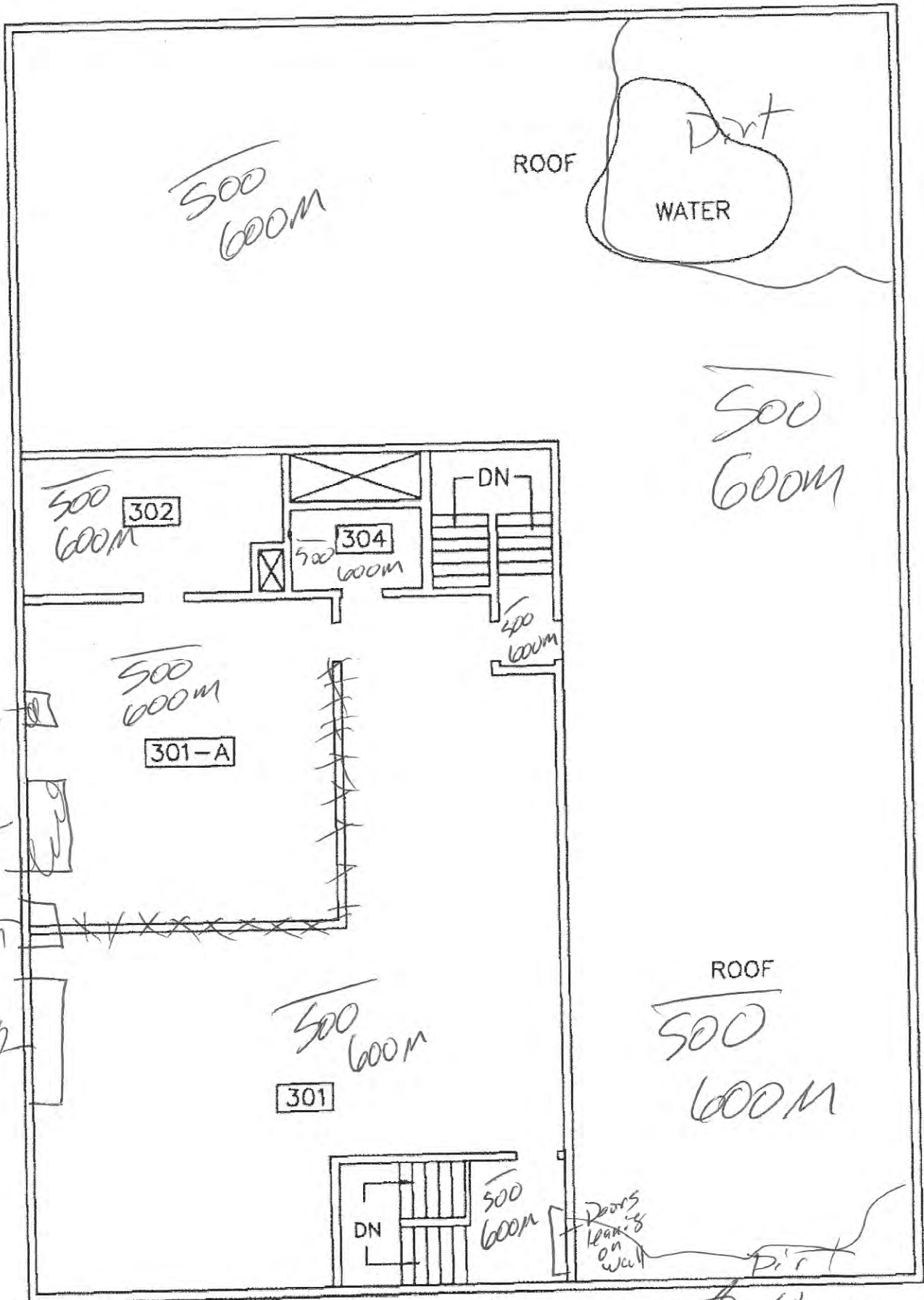


121 Foot

Pg. 2/2 JPL

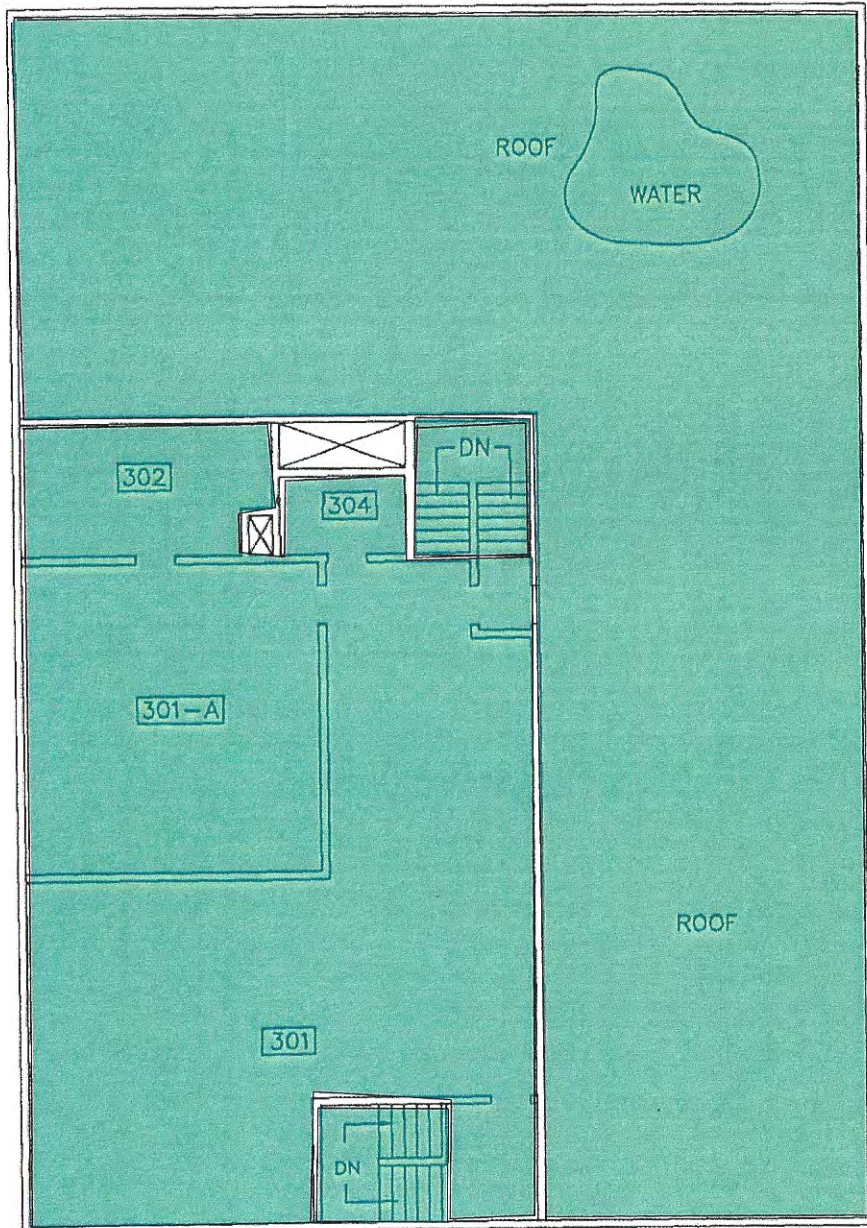
Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>121AF-3-1</u>				Date: <u>6/8/2020</u>		
Purpose of Survey: <u>Floor monitor</u>				Performed By:		
				Print: <u>Clark Benton</u>		
				Sign: <u>[Signature]</u>		
<b>Sketch of Area</b> <p style="font-size: 1.2em; margin-top: 10px;">See attached map</p>				<b>Direct Results</b> cpm/100cm <sup>2</sup>		
				Direct #	Beta	Alpha
						
<b>Legend:</b> # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location						
<b>Instrumentation</b>				<b>Source Check (pre/post)</b>		
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
<u>239-1F</u>	<u>187246</u>	<u>2.62/510</u>	<u>22.92</u> <u>3250</u>	<u>1230</u> <u>1129</u>	<u>108/114</u>	<u>CPM</u>
Comments, including corrective actions if any: <u>Critical Values: 1300, 6630</u>						

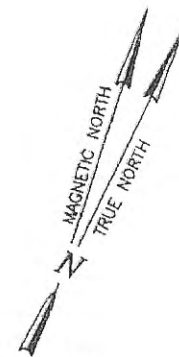


121 Foot

*[Handwritten signature]* 6/20/2020



121 level



SCALE IN FEET



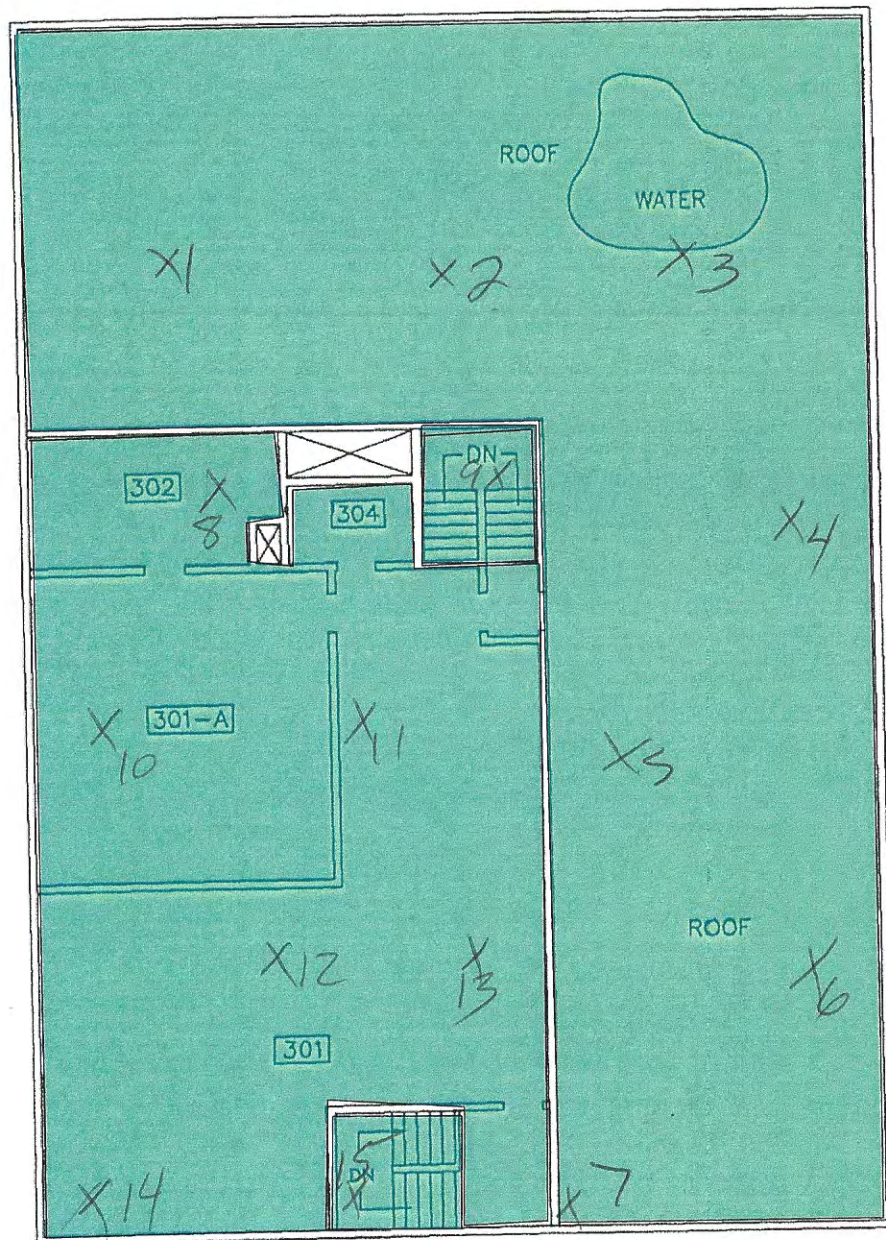
ANNUAL INSPECTION AND  
RADIOLOGICAL SURVEY CONDUCTED  
MARCH 27, 2019

	Legacy Management	
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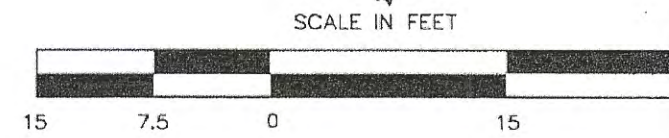
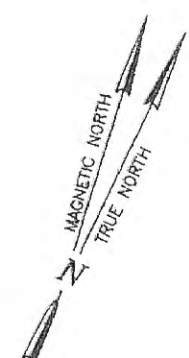


Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>12/AF-3-1</u>				Date: <u>6/8/2020</u>																																																								
Purpose of Survey: <u>CSS</u>				Performed By: <u>Clark Barton</u>																																																								
Sketch of Area <p style="text-align: center; font-size: 1.2em;">See attached map</p> <p>#3 in dirt from puddle</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Rubber Roofing</p> <p>Bare Cement</p> </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="3">Direct Results</th> </tr> <tr> <th colspan="3">cpm/100cm<sup>2</sup></th> </tr> <tr> <th>Direct #</th> <th>Beta</th> <th>Alpha</th> </tr> </thead> <tbody> <tr><td>1</td><td>179</td><td>12</td></tr> <tr><td>2</td><td>241</td><td>13</td></tr> <tr><td>3</td><td>166</td><td>7</td></tr> <tr><td>4</td><td>204</td><td>7</td></tr> <tr><td>5</td><td>198</td><td>12</td></tr> <tr><td>6</td><td>232</td><td>16</td></tr> <tr><td>7</td><td>237</td><td>18</td></tr> <tr><td>8</td><td>293</td><td>0</td></tr> <tr><td>9</td><td>233</td><td>3</td></tr> <tr><td>10</td><td>203</td><td>2</td></tr> <tr><td>11</td><td>236</td><td>2</td></tr> <tr><td>12</td><td>237</td><td>2</td></tr> <tr><td>13</td><td>211</td><td>4</td></tr> <tr><td>14</td><td>240</td><td>2</td></tr> <tr><td>15</td><td>226</td><td>4</td></tr> </tbody> </table> </div>				Direct Results			cpm/100cm <sup>2</sup>			Direct #	Beta	Alpha	1	179	12	2	241	13	3	166	7	4	204	7	5	198	12	6	232	16	7	237	18	8	293	0	9	233	3	10	203	2	11	236	2	12	237	2	13	211	4	14	240	2	15	226	4	Sign: <u>[Signature]</u> <u>6/8/2020</u>		
				Direct Results																																																								
cpm/100cm <sup>2</sup>																																																												
Direct #	Beta	Alpha																																																										
1	179	12																																																										
2	241	13																																																										
3	166	7																																																										
4	204	7																																																										
5	198	12																																																										
6	232	16																																																										
7	237	18																																																										
8	293	0																																																										
9	233	3																																																										
10	203	2																																																										
11	236	2																																																										
12	237	2																																																										
13	211	4																																																										
14	240	2																																																										
15	226	4																																																										
Legend: # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location				Direct Results cpm/100cm <sup>2</sup>																																																								
				<table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th>Direct #</th> <th>Beta</th> <th>Alpha</th> </tr> </thead> <tbody> <tr><td>1</td><td>179</td><td>12</td></tr> <tr><td>2</td><td>241</td><td>13</td></tr> <tr><td>3</td><td>166</td><td>7</td></tr> <tr><td>4</td><td>204</td><td>7</td></tr> <tr><td>5</td><td>198</td><td>12</td></tr> <tr><td>6</td><td>232</td><td>16</td></tr> <tr><td>7</td><td>237</td><td>18</td></tr> <tr><td>8</td><td>293</td><td>0</td></tr> <tr><td>9</td><td>233</td><td>3</td></tr> <tr><td>10</td><td>203</td><td>2</td></tr> <tr><td>11</td><td>236</td><td>2</td></tr> <tr><td>12</td><td>237</td><td>2</td></tr> <tr><td>13</td><td>211</td><td>4</td></tr> <tr><td>14</td><td>240</td><td>2</td></tr> <tr><td>15</td><td>226</td><td>4</td></tr> </tbody> </table>			Direct #	Beta	Alpha	1	179	12	2	241	13	3	166	7	4	204	7	5	198	12	6	232	16	7	237	18	8	293	0	9	233	3	10	203	2	11	236	2	12	237	2	13	211	4	14	240	2	15	226	4						
Direct #	Beta	Alpha																																																										
1	179	12																																																										
2	241	13																																																										
3	166	7																																																										
4	204	7																																																										
5	198	12																																																										
6	232	16																																																										
7	237	18																																																										
8	293	0																																																										
9	233	3																																																										
10	203	2																																																										
11	236	2																																																										
12	237	2																																																										
13	211	4																																																										
14	240	2																																																										
15	226	4																																																										
Instrumentation				Source Check (pre/post)																																																								
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units																																																						
43-68	760445	0.4α, 149β	<del>230α</del> 29.3β	<del>Th 230</del> 1-129	455/316 404/425	CPM CPM																																																						
						Pre Post																																																						
Comments, including corrective actions if any: <u>Critical Values 10α, 304β</u> <u>elevated direct alpha appears to be radon, nothing when</u> <u>smears counted after 1+ hours</u>																																																												



121 level



ANNUAL INSPECTION AND  
RADIOLOGICAL SURVEY CONDUCTED  
MARCH 27, 2019

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	121 AF-3-1	Instrument Model:	2929
	CSS	Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	60
Background	Background Count #2	1	75
1	See attached map rubber roof	1	67
2	"	1	47
3	"	1	61
4	"	1	58
5	"	2	45
6	"	1	51
7	"	3	51
8	Dave concrete	0	62
9	"	0	42
10	"	0	49
11	"	0	49
12	"	1	53
13	"	0	55
14	"	0	54
15	"	0	62

1108

Additional Comment:	
Analyzed by/date: (name/date)	C. [Signature] 6/8/2020

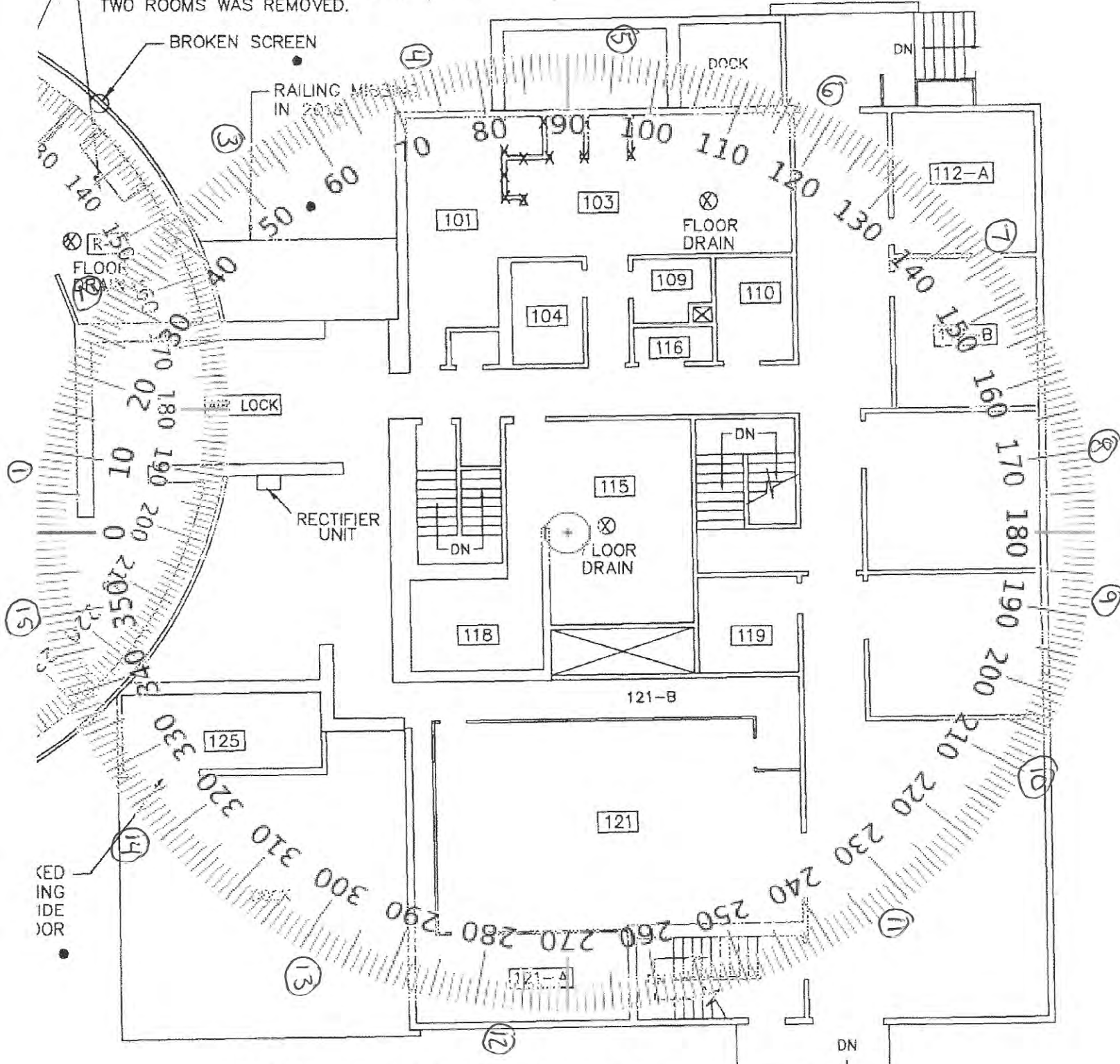
Critical values: 4.3α 82β

Dade Moeller  
Radiological Survey Report

Laboratory Description: <u>AUX EX-3-1</u>				Date: <u>6/3/2020</u>						
Purpose of Survey: <u>CSS</u>				Performed By:						
				Print: <u>JEFF GAGNIE</u>						
				Sign: <u>[Signature]</u>						
<b>Sketch of Area</b> - SEE ATTACHED PAGE FOR SKETCH - READINGS #3 AND #5 WERE TAKEN ON ROOF BORDER OF 2ND FLOOR (SAME MATERIAL). - LOCATIONS AND HEIGHTS LISTED ON SKETCH PAGE.				<b>Direct Results</b> cpm/100cm <sup>2</sup>						
				Direct #	Beta	Alpha				
				1	179	3				
				2	199	5				
				3	280	29				
				4	223	3				
				5	315	43				
				6	259	5				
				7	214	2				
				8	204	1				
				9	243	1				
				10	215	5				
				11	206	3				
				12	211	2				
				13	174	7				
				14	166	4				
15	189	5								
Legend: # - Direct Measurement # - Scan Direct Measurement ⊕ - Smear Location				<b>Instrumentation</b>						
				<b>Source Check (pre/post)</b>						
				Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
				2224	162850	1.4 / 122B		Tl-230/E-120	347.4 / 364A	CPM
				POST	298.4 / 322B	CPM				
Comments, including corrective actions if any: <u>N/A</u>										

Pg. 1/4 [Signature]

IN 2009, WALLS WERE PAINTED, SHELVES  
 ADDED, AND THE AIR DUCT BETWEEN THE  
 TWO ROOMS WAS REMOVED.



PLAN - 100 FOOT LEVEL

1. 7°	5 FT
2. 29°	35 FT
3. 52°	28 FT
4. 74°	10 FT
5. 96°	42 FT
6. 119°	24 FT
7. 142°	25 FT
8. 170°	2 FT
9. 187°	7 FT
10. 209°	38 FT
11. 232°	48 FT
12. 277°	8 FT
13. 299°	44 FT
14. 322°	35 FT
15. 350°	59 FT

P6. 2/4 JPL

## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	Riqua	Instrument Model:	121877
		Instrument S/N:	4/28/2020
	100 Aux Outside	Calibration Date:	4/28/2021
		Calibration Due Date:	121877
Phone Number:		Analysis Number:	

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	0	66
Background	Background Count #2	0	63
1	See map with Direct Survey	0	43
2		1	65
3		3	52
4		0	60
5		6	66
6		0	49
7		0	44
8		0	57
9		0	64
10		1	47
11		1	64
12		1	53
13		1	60
14		0	45
15		0	54

6/13/2020  
543

Additional Comment: Critical Values = 82.4 B & 4.3 d  
 Analyzed by/date: (name/date) *CW/STO 6/13/2020*

#5 saved for re-count after decay, see attached sheet.

## Continuation Sheet Form HS-003

Location: PNPF 100 Aux outside	Date: 6/3/2020	Survey # Recounts
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### Smear Measurements for Alpha and Beta Contamination

Smear Direct No.	Beta cpm	Alpha cpm	Date	Time	Direct No.	Beta cpm	Alpha cpm
5	66	6	6/3/2020	1543			
"	59	0	" "	1623			
"	44	2	" "	1624			
"	64	5	" "	1625			
"	60	4	" "	1630			
"	62	3	" "	1640			
Avg 3.4cpm							
BKG	67	0	6/4/2020	0838			
BKG	58	0	" "	0850			
Smear 5	68	4	" "	0851			
"	46	1	" "	0852			
<p>Appears that activity was minor Radon/Thoron from the surfaces. Directs were elevated as well,</p> <p style="text-align: right;"><i>[Signature]</i> 6/4/2020</p>							

Critical levels = 82.4B & 4.3α

Dade Moeller  
Radiological Survey Report

Laboratory Description: PNPF Date: 6/9/2020

Purpose of Survey: Ground-3-1 CSS

Performed By: Clark Barten  
Print: 6/9/2020  
Sign: 6/9/2020

Sketch of Area See attached map

44-10 (NaI) readings on map  
all direct readings include  
1 square meter of scanning on  
the surface with the static  
measurement at location with highest  
reading on scan.  
Elevated directs had no corresponding  
removable contamination, almost 3 hours  
later - likely radon.

asphalt -  
wood -  
concrete  
steel -  
asphalt

**Direct Results**  
cpm/100cm<sup>2</sup>

Direct #	Beta	Alpha	
1	241	4	
2	253	7	
3	263	7	
4	276	26	0936
5	279	9	
6	298	22	-concrete
7	305	15	-concrete
8	245	4	-concrete
9	295	13	-concrete
10	274	5	-concrete
11	342	18	-concrete
12	314	8	-asphalt
13	254	18	-concrete
14	292	7	-gravel
15	298	8	-gravel
16	273	3	-gravel
17	236	10	concrete

1021 -

Legend: # - Direct Measurement  
# - Scan Direct Measurement  
⊕ - Smear Location

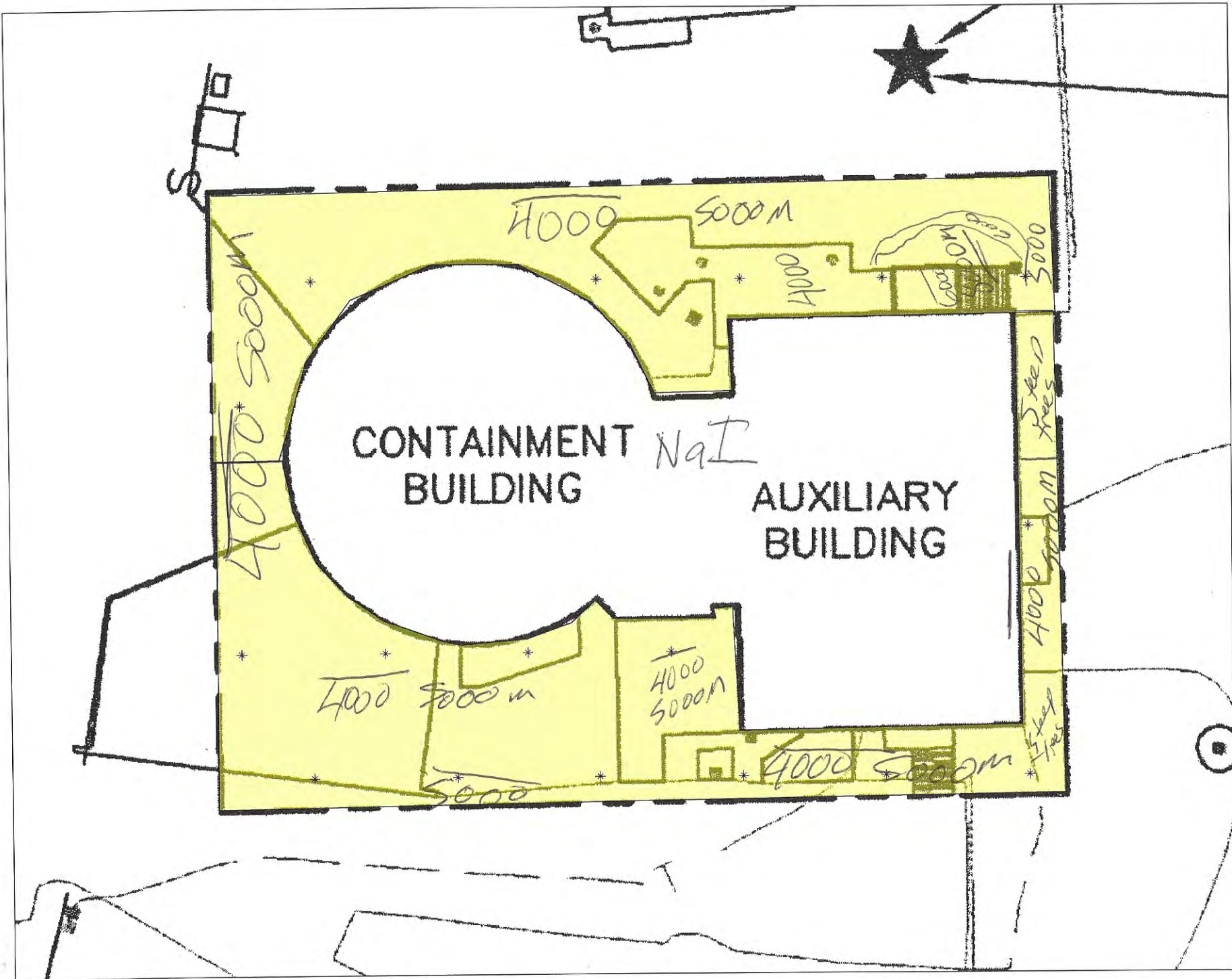
Instrumentation				Source Check (pre/post)		
Model #	Serial #	Background	Efficiency	Isotope	Reading	Units
44-10	251999	4000	N/A	Cs-137	280000	Cpm
43-68	260445	2x/1950	23%/29.30	Th-230	429/324	Cpm
11	11	12/1910	23%/29.30	Th-230	431/411	Cpm

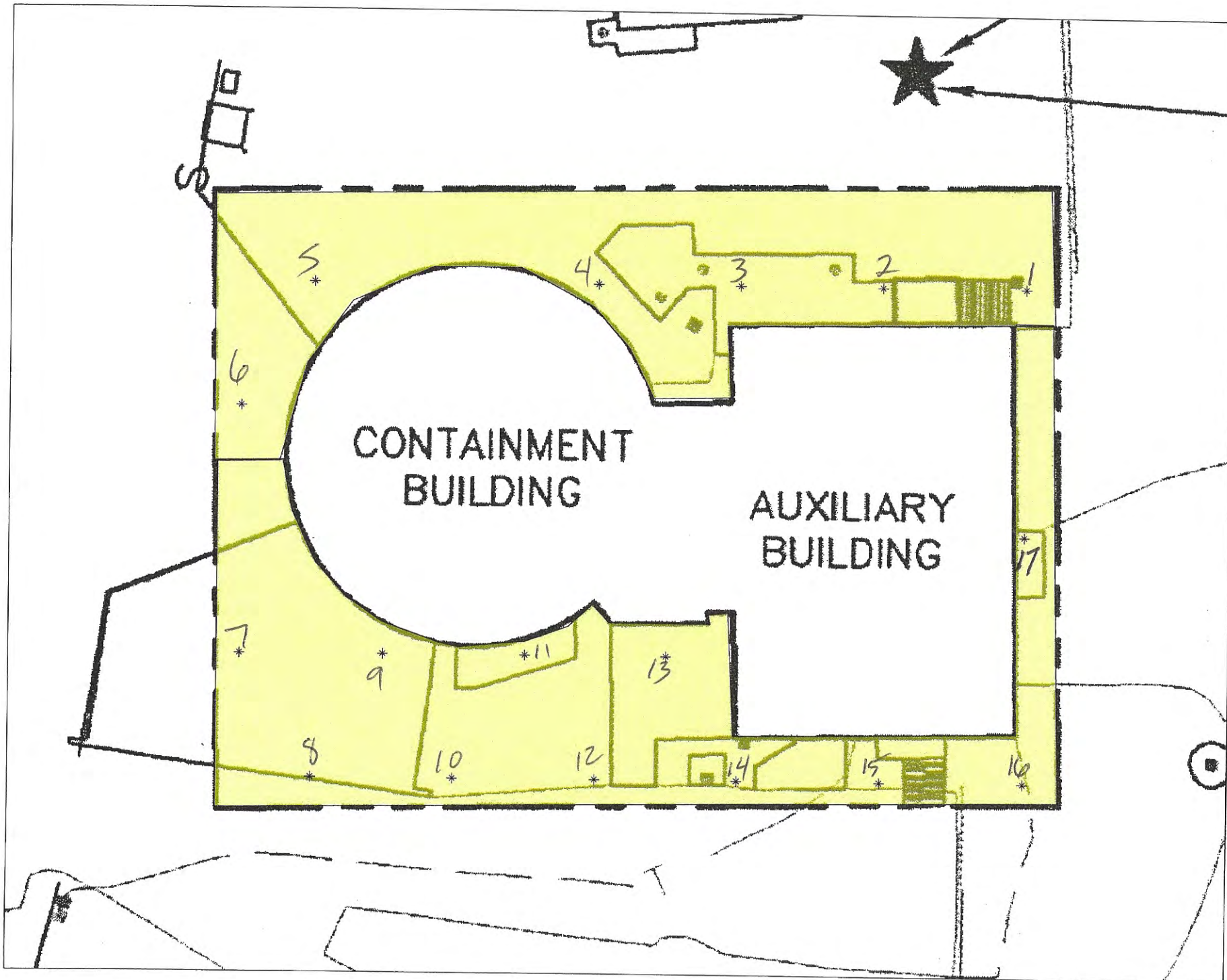
Pre  
Post

Comments, including corrective actions if any:  
\* no scan on gravel

260445 Critical values: 10x 3040







## Bench Counter Worksheet

Client Name:	PNPF	Instrument Make:	Ludlum
Client Address:	Ground -3-1 CSS	Instrument Model:	2929
		Instrument S/N:	121877
		Calibration Date:	4/28/2020
		Calibration Due Date:	4/28/2021
Phone Number:		Analysis Number:	

Start  
1207

DATA FOR 1 -MINUTE COUNTS			
Sample	Description	Alpha	Beta
Background	Background Count #1	1	45
Background	Background Count #2	0	63
1	See attached Map	0	57
2		1	56
3		0	38
4		2	57
5		0	56
6		0	53
7		0	57
8		0	39
9		0	64
10		1	52
11		1	42
12		0	54
13		0	79
14		1	50
15		0	68
16		1	60
17		0	44
Additional Comment:			
Analyzed by/date: (name/date)		C. [Signature] 6/9/2020	

Critical values 4.3x 82b

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