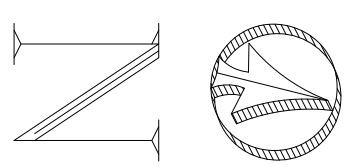


# Appendix E

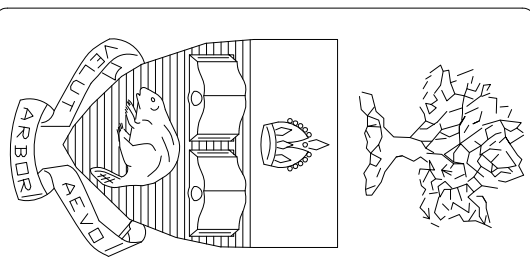
## FLOOR PLANS (March 10-20, 2017)

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NOTES:  
Location of Air Samples: 2017-03-###



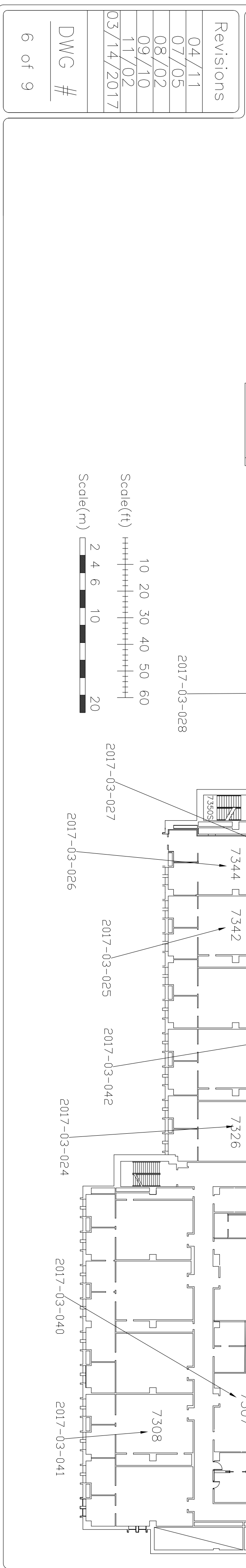
University of Toronto  
Office of Space Management



Medical Sciences Building  
PCM Air Monitoring Program  
7th Floor  
Bldg #5



March 13, 2017



Revisions

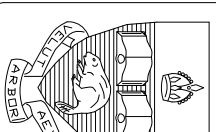
04/11
07/05
08/02
09/10
11/02
03/14/2017

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NOTES:  
Location of Air Samples: 2017-03-###



University  
of Toronto  
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Space  
Management

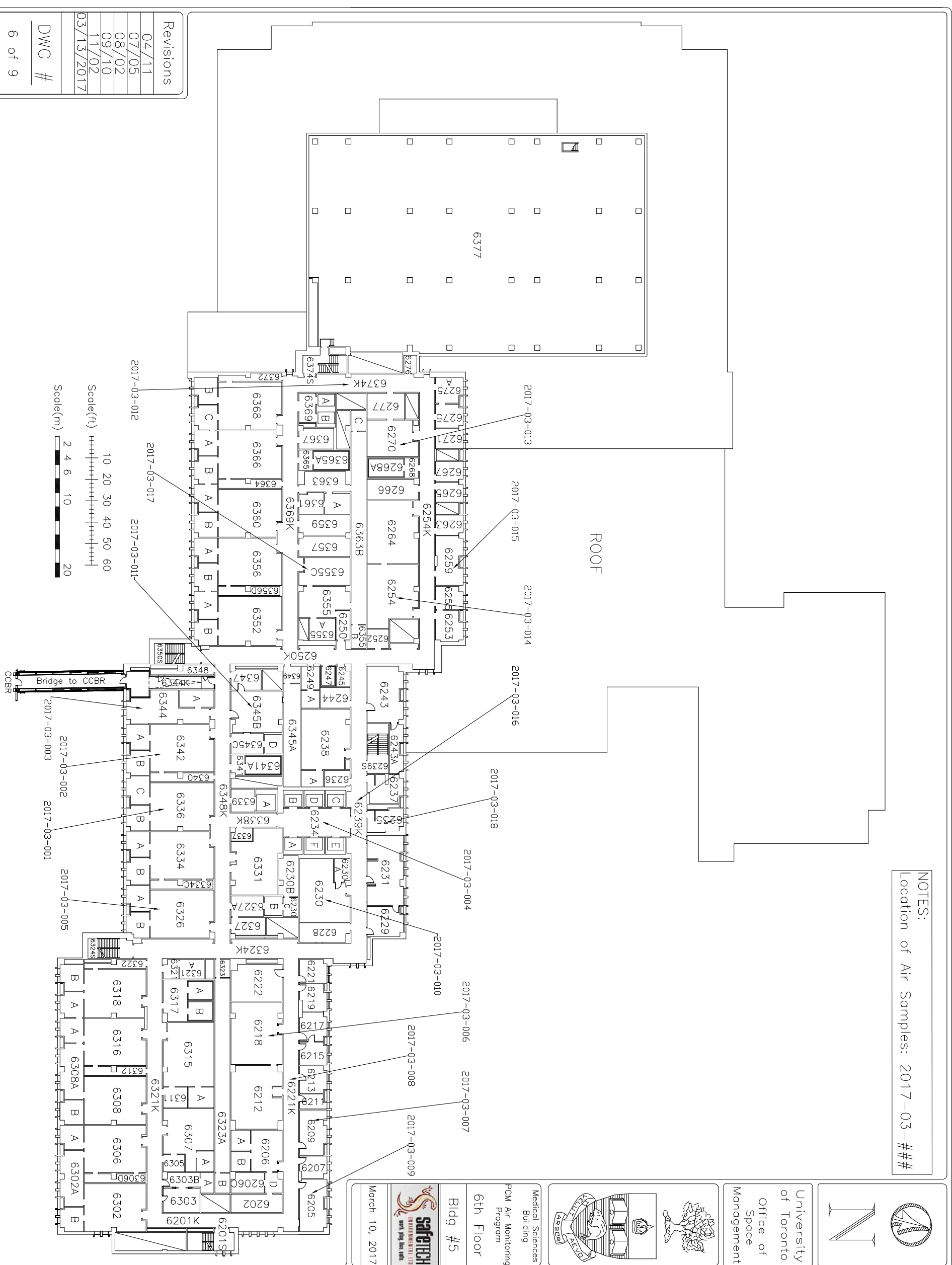


Medical Sciences  
Building  
PCM Air Monitoring  
Program

6th Floor  
Bldg #5



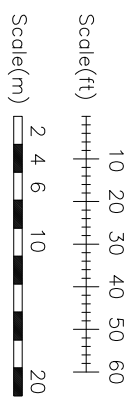
March 10, 2017



Revisions
04/11
07/05
08/02
09/10
11/02
03/13/2017

DWG #

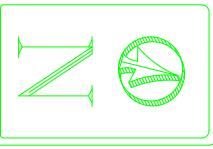
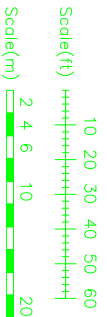
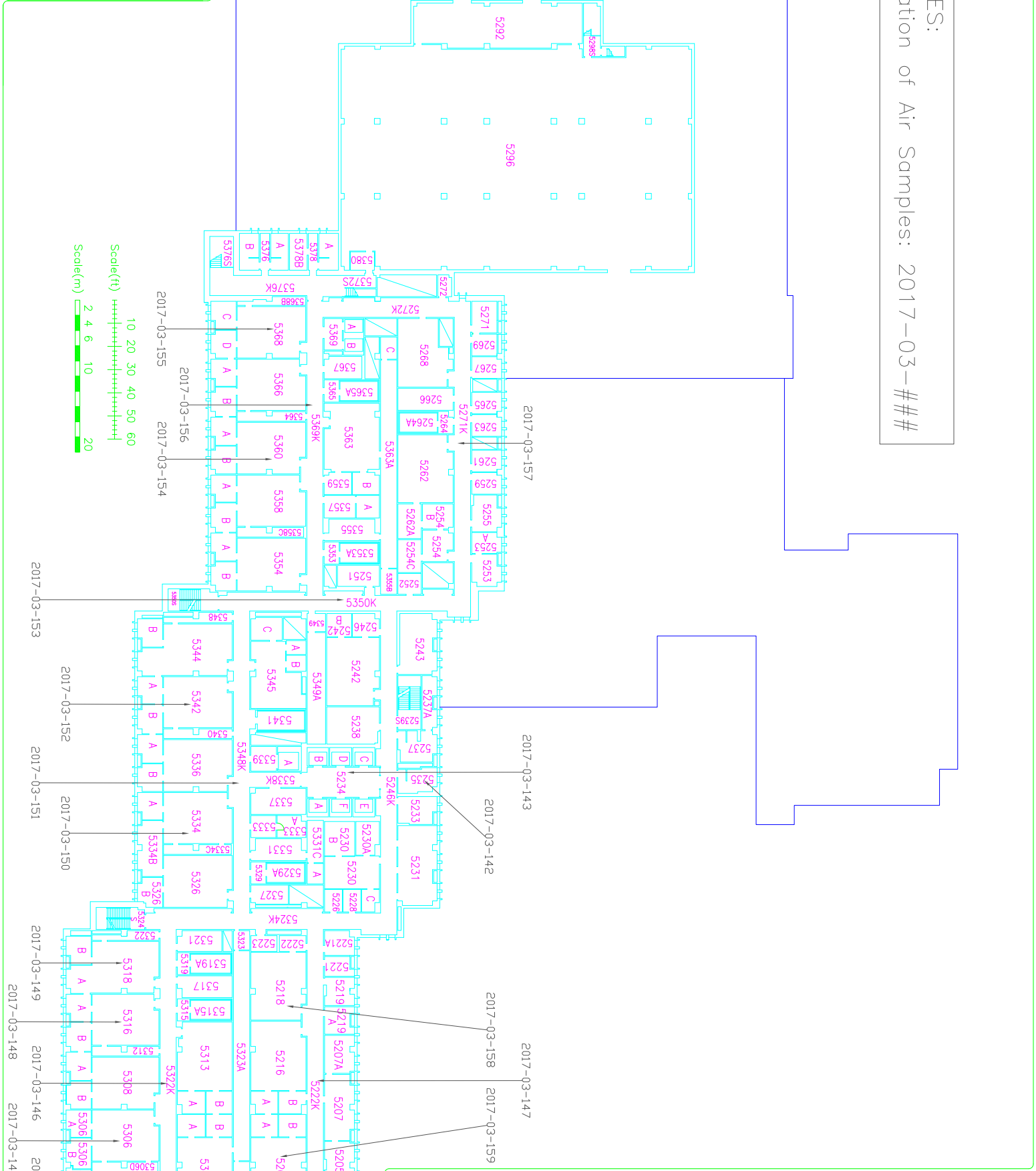
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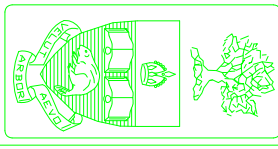
NOTES:  
Location of Air Samples: 2017-03-###

Revisions
95/05
04/11
08/08
14/04

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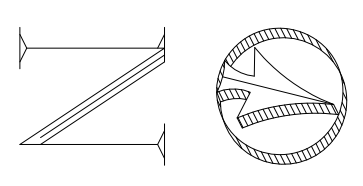
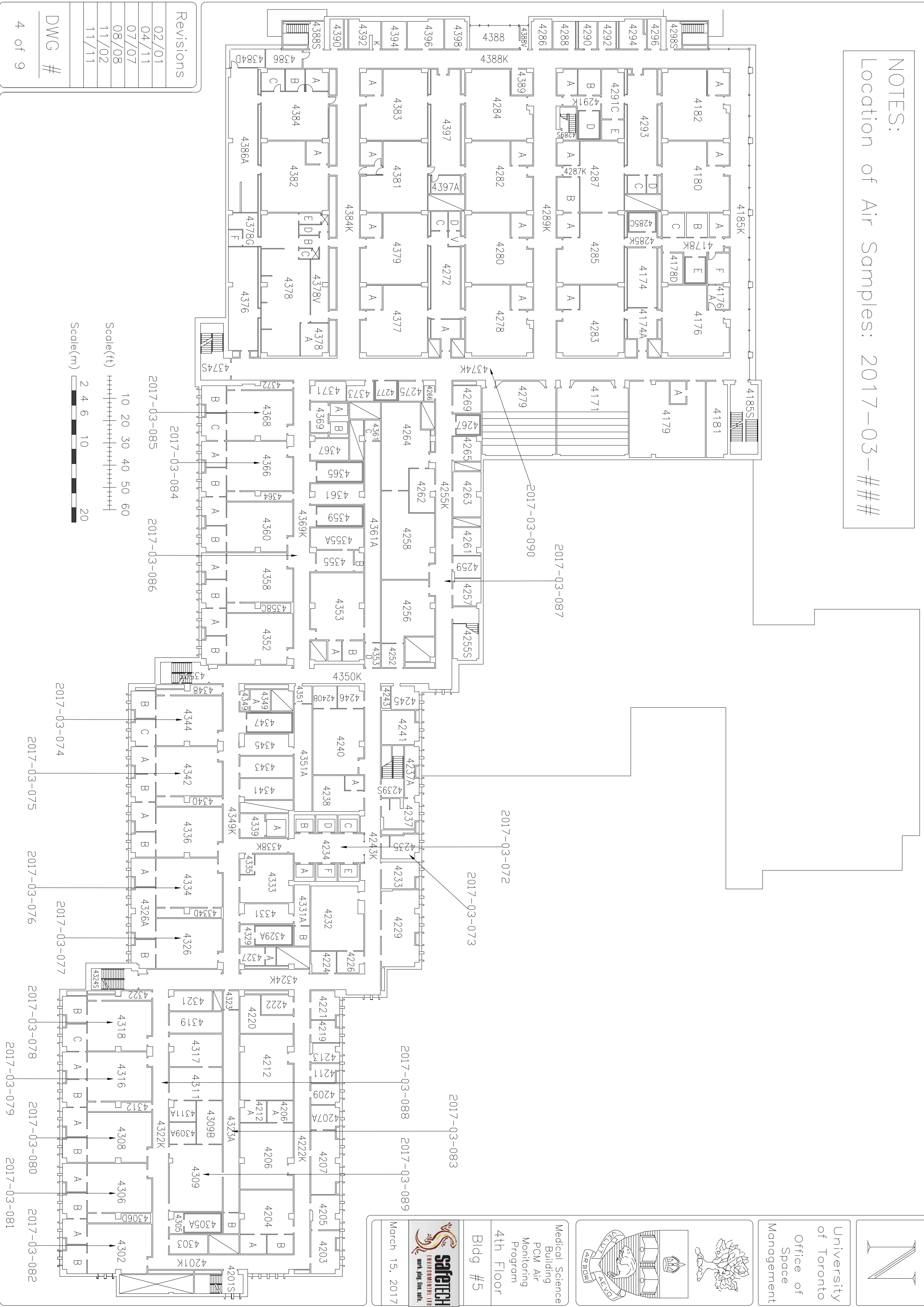


Medical Science Building  
PCM Air Monitoring Program  
5th Floor  
Bldg #5

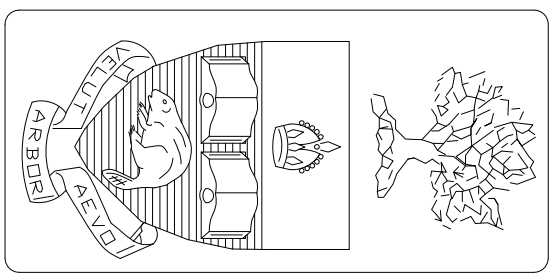


March 20, 2017

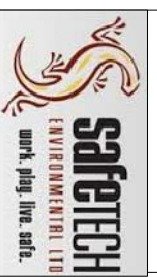
NOTES:  
Location of Air Samples: 2017-03-###



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of Toronto  
Office of  
Space  
Management



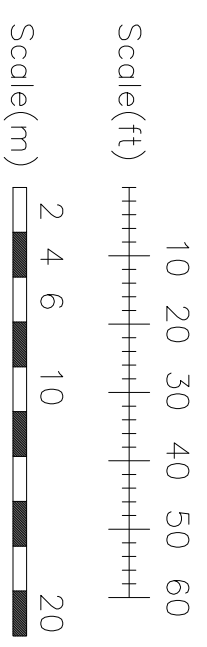
Medical Science  
Building  
PCM Air  
Monitoring  
Program  
4th Floor  
Bldg #5



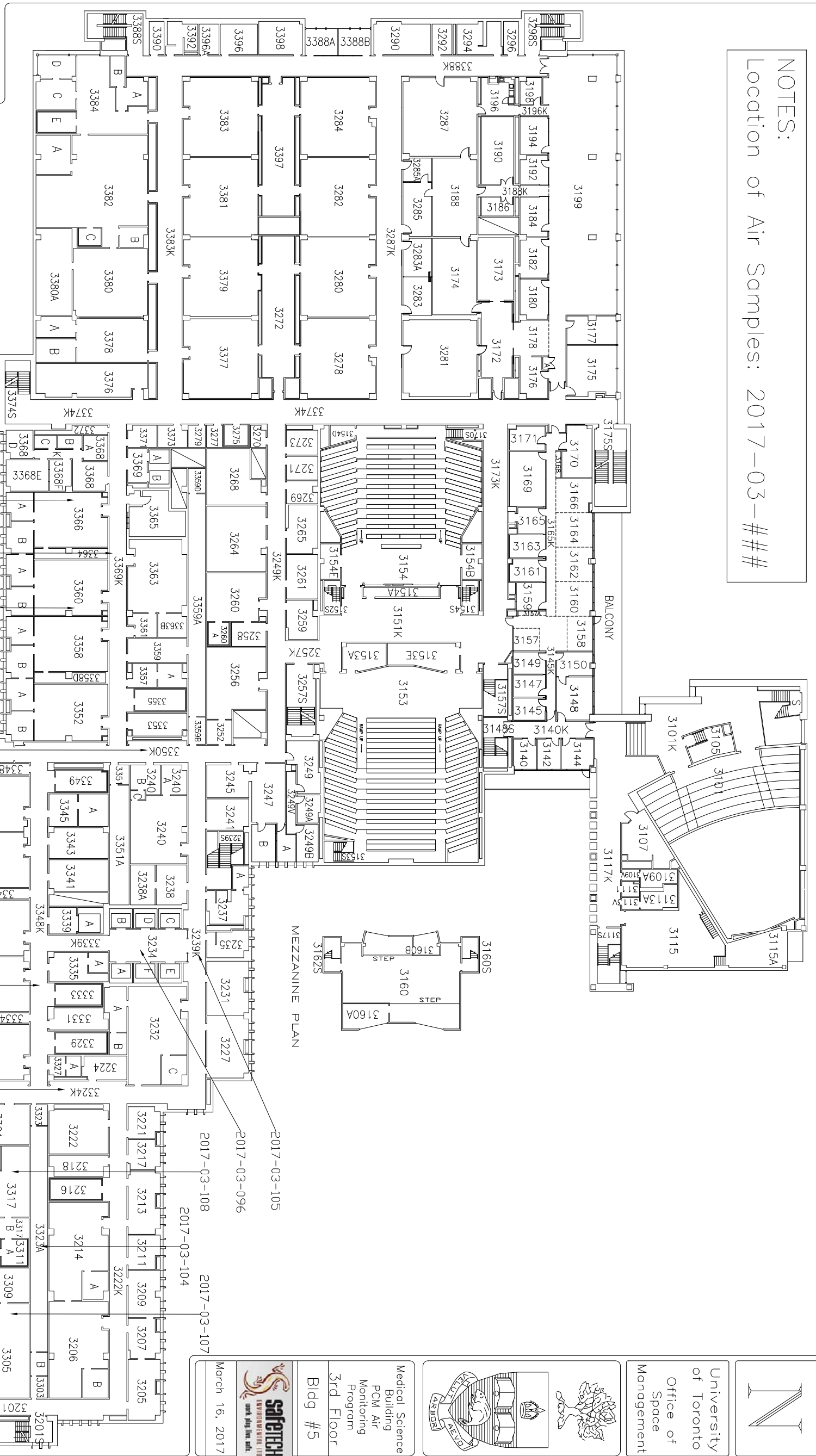
March 15, 2017

Revisions	
02/01	
04/11	
07/07	
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11/02	
11/11	

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NOTES:  
Location of Air Samples: 2017-03-###



Revisions

08/02
10/10
11/11
14/04
15/10
16/03
16/09

DWG #

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Scale(ft) 10 20 30 40 50 60

Scale(m) 2 4 6 10 20

2017-03-112 2017-03-111

2017-03-113

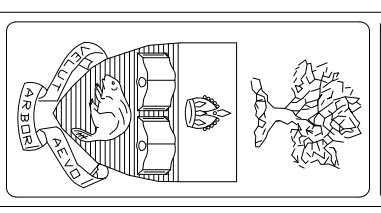
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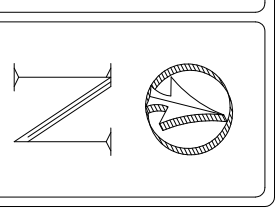
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 March 16, 2017

Medical Science Building  
 PCM Air Monitoring Program  
 3rd Floor  
 Bldg #5



University of Toronto  
 Office of Space Management



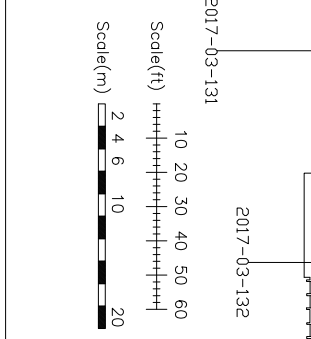


NOTES:  
Location of Air Samples: 2017-03-###



Revisions
08/07
11/02
12/04
13/06
14/04
15/11

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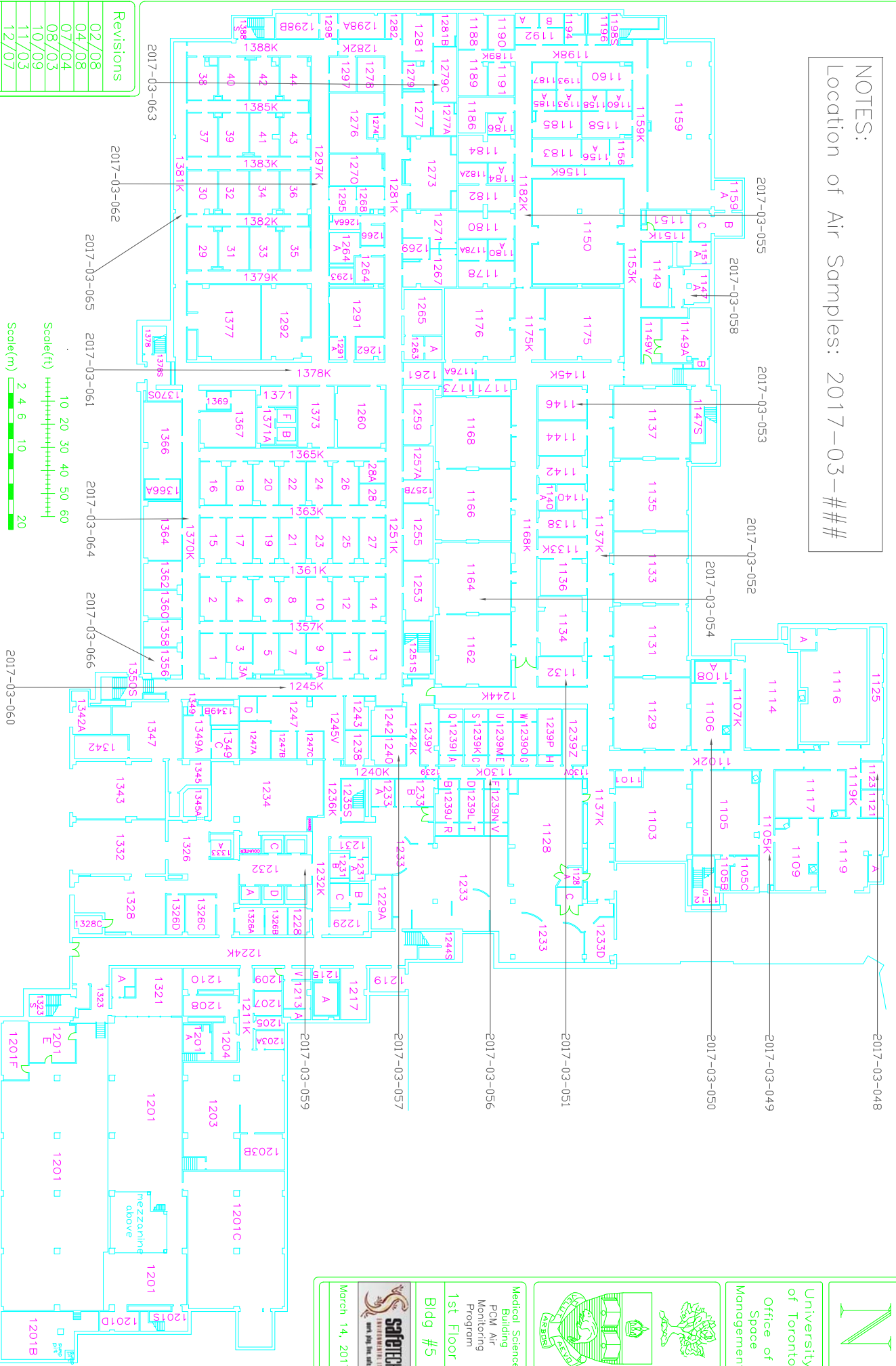
Safetich  
March 17, 2017



North Arrow

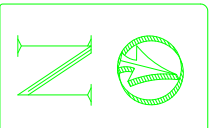
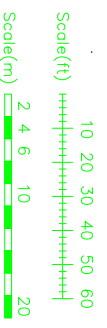
Medical Science Building  
PCM Air Monitoring Program  
2nd Floor  
Bldg #5

NOTES:  
Location of Air Samples: 2017-03-###

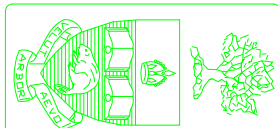


Revisions
02/08
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07/04
08/03
10/09
11/03
12/07

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Medical Science Building  
PCM Air Monitoring Program  
1st Floor  
Bldg #5

SAFETECH  
March 14, 2017



# Appendix F

## PUMP CALIBRATION SHEET

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# Pump Calibration Form

Calibration Device: DryCal

Date: March 10, 2017

Name: Josh Hamilton

Temperature: 17.5°C

Barometric Pressure: 101.7 KPA

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.01	15.00	14.99	15.00	16.50	13.50
MSB-2	15.32	15.10	15.03	15.15	16.66	13.64
MSB -3	14.96	15.04	15.00	15.00	16.50	13.50
MSB -4	15.22	15.14	15.02	15.13	16.64	13.62
MSB-5	15.28	15.12	15.01	15.14	16.65	13.63
MSB -6	13.82	14.30	14.97	14.36	15.80	12.92
MSB -7	12.50	14.16	14.80	13.82	15.20	12.44
MSB-8	14.40	14.91	15.03	14.78	16.26	13.30
MSB -9	16.61	15.03	14.99	15.54	17.09	13.99
MSB -10	18.51	15.76	15.00	16.40	18.04	15.76



# Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 13, 2017

Name: Josh Hamilton

Temperature: 20°C

Barometric Pressure: 101.7 KPA

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	14.48	15.01	15.03	14.84	<del>15.93</del> 15.93	13.53
MSB-2	15.16	15.04	15.01	15.07	16.57	13.51
MSB-3	14.68	14.95	15.01	14.88	16.37	13.39
MSB-4	14.75	15.12	15.01	14.96	16.46	13.46
MSB-5	14.95	14.99	15.00	14.98	16.48	13.48
MSB-6	14.61	14.97	15.00	14.86	16.35	13.37
MSB-7	14.35	14.75	14.76	14.62	16.08	13.16
MSB-8	14.67	15.00	14.99	14.89	16.36	13.40
MSB-9	14.81	14.95	14.99	14.92	16.41	13.43
MSB -10	14.96	14.99	15.00	14.98	16.48	13.48



# Pump Calibration Form

Calibration Device:       BIOS DryCal DC Lite HV      

Date:       March 14, 2017      

Name:       Josh Hamilton      

Temperature:       19°C      

Barometric Pressure:       102.1      

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.03	15.03	15.04	15.03	16.53	13.53
MSB-2	15.01	15.01	15.00	15.01	16.51	13.51
MSB -3	14.95	14.96	14.97	14.96	16.46	13.46
MSB -4	15.01	15.01	15.01	15.01	16.51	13.51
MSB-5	14.99	15.04	15.01	15.02	16.52	13.52
MSB -6	13.65	13.79	13.92	13.79	15.17	12.41
MSB -7	14.67	14.52	14.49	14.56	16.02	13.10
MSB-8	15.04	15.04	15.10	15.06	16.57	13.55
MSB -9	15.03	15.04	15.04	15.04	16.54	13.54
MSB -10	15.05	15.04	15.04	15.04	16.54	13.54





# Pump Calibration Form

Calibration Device:       BIOS DryCal DC Lite HV      

Date:       March 15, 2017      

Name:       Josh Hamilton      

Temperature:       ~~19°C~~ 22°C      

Barometric Pressure:       100.9 kPa      

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.11	15.11	15.12	15.11	16.62	13.60
MSB-2	15.04	15.04	15.07	15.06	16.57	13.55
MSB -3	15.01	15.03	15.01	15.02	16.52	13.52
MSB -4	14.97	14.97	14.96	14.97	16.47	13.47
MSB-5	15.05	15.01	15.10	15.05	16.56	13.55
MSB -6	13.96	14.14	13.94	14.03	15.43	12.63
MSB -7	14.41	14.63	14.63	14.56	16.02	13.10
MSB-8	15.10	15.10	15.03	15.08	16.59	13.57
MSB -9	15.04	15.07	15.08	15.06	16.57	13.55
MSB -10	15.01	15.01	15.01	15.01	16.51	13.51



# Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 16, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 101. kPa

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.03	15.03	15.04	15.03	16.53	13.53
MSB-2	15.11	15.01	15.01	15.04	16.54	13.54
MSB -3	15.00	15.04	15.05	15.03	16.53	13.53
MSB -4	14.92	14.92	14.92	14.92	16.41	13.43
MSB-5	14.97	15.00	14.95	14.97	16.47	13.47
MSB -6	14.13	13.86	14.13	14.04	15.44	12.64
MSB -7	14.53	14.33	14.52	14.46	15.91	13.01
MSB-8	15.07	15.09	15.04	15.06	16.57	13.55
MSB -9	15.05	15.04	15.03	15.04	16.54	13.54
MSB -10	14.97	14.97	14.95	14.96	16.46	13.46



## Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 17, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 102.5

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.01	15.06	15.02	15.03	16.53	13.53
MSB-2	15.01	15.04	15.00	15.02	16.52	13.52
MSB -3	15.07	14.97	15.01	15.02	16.52	13.52
MSB -4	15.08	15.01	15.01	15.03	16.53	13.53
MSB-5	15.11	15.01	15.03	15.05	16.56	13.55
MSB -6	14.10	14.02	14.13	14.08	15.49	12.67
MSB -7	14.53	14.46	14.51	14.50	15.95	13.05
MSB-8	15.07	14.98	15.01	15.03	16.53	13.53
MSB -9	14.98	15.07	15.01	15.03	16.53	13.53
MSB -10	14.91	15.10	15.01	15.01	16.51	13.51





# Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 20, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 102.1 kPa

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.06	15.01	15.01	15.03	16.53	13.53
MSB-2	14.95	15.02	15.02	15.00	16.50	13.50
MSB-3	15.10	14.98	15.02	15.03	16.53	13.53
MSB-4	14.97	15.04	15.01	15.01	16.51	13.51
MSB-5	15.13	15.01	15.01	15.05	16.56	13.55
MSB-6	14.06	14.21	14.11	14.13	15.54	12.72
MSB-7	14.38	14.49	14.53	14.47	15.92	13.02
MSB-8	14.91	15.07	15.01	15.00	16.50	13.50
MSB-9	15.15	15.01	15.01	15.06	16.56	13.55
MSB-10	15.07	15.02	15.00	15.03	16.53	13.53



# Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 21, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 101.9 kPa

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.04	15.02	15.02	15.03	16.53	13.53
MSB-2	15.05	15.04	15.00	15.03	16.53	13.53
MSB -3	14.96	15.03	15.01	15.00	16.50	13.50
MSB -4	15.00	14.99	15.02	15.01	16.51	13.51
MSB-5	15.05	15.07	15.03	15.05	16.56	13.55
MSB -6	14.01	14.15	14.11	14.09	15.50	12.68
MSB -7	14.56	14.51	14.48	14.52	15.97	13.07
MSB-8	15.10	15.05	15.00	15.03	16.53	13.53
MSB -9	14.95	15.05	15.00	15.00	16.50	13.50
MSB -10	15.16	15.02	15.00	15.06	16.56	13.55



# Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 22, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 102 kPa

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB-1	14.99	15.03	15.00	15.01	16.52	13.52
MSB-2	15.06	14.99	15.06	15.04	16.54	13.54
MSB-3	15.07	15.00	14.99	15.02	16.52	13.52
MSB-4	15.00	15.01	14.99	15.00	16.50	13.50
MSB-5	15.01	15.03	15.02	15.02	16.52	13.52
MSB-6	14.05	14.24	14.10	14.13	15.54	12.72
MSB-7	14.61	14.32	14.45	14.46	15.91	13.02
MSB-8	15.00	15.02	15.00	15.01	16.51	13.51
MSB-9	14.98	15.06	15.02	15.02	16.52	13.51
MSB-10	14.97	15.02	15.01	15.00	16.50	13.50



## Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 23, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 102.2

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB-1	15.03	15.08	14.97	15.03	16.53	13.53
MSB-2	14.95	14.95	14.93	14.94	16.43	13.45
MSB-3	14.99	15.00	15.00	15.00	16.50	13.50
MSB-4	15.12	15.12	15.11	15.12	16.63	13.61
MSB-5	15.10	15.12	15.07	15.10	16.61	13.59
MSB-6						
MSB-7						
MSB-8	15.08	15.01	15.08	15.06	16.57	13.56
MSB-9	15.00	15.00	15.00	15.00	16.50	13.50
MSB-10	14.99	15.00	15.00	15.00	16.50	13.50



## Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 24, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 101.48

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.10	15.00	15.02	15.04	16.54	13.54
MSB-2	15.03	15.00	15.01	15.02	16.52	13.52
MSB -3	14.91	15.09	15.00	15.00	16.50	13.50
MSB -4	15.09	15.07	15.02	15.06	16.57	13.55
MSB-5	15.03	15.05	15.01	15.03	16.53	13.53
MSB -6						
MSB -7	<del>15.10</del>					
MSB-8	15.10	14.90	15.02	15.01	16.51	13.51
MSB -9	15.03	15.01	15.00	15.02	16.52	13.52
MSB -10	15.07	15.02	15.00	15.03	16.53	13.53



# Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 29, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 102.6

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.07	15.05	15.07	15.06	16.57	13.55
MSB-2	14.97	14.97	14.96	14.97	16.47	13.47
MSB -3	15.07	15.00	15.01	15.03	16.53	13.53
MSB -4	15.00	14.91	14.87	14.93	16.42	13.44
MSB-5	15.03	15.04	14.99	15.02	16.52	13.52
MSB -6	15.10	15.08	15.08	15.09	16.60	13.58
MSB -7	15.04	14.99	14.99	15.01	16.51	13.51
MSB-8	14.95	14.96	14.97	14.96	16.46	13.46
MSB -9	15.04	15.03	15.01	15.03	16.53	13.53
MSB -10						





## Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 30, 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 102.4

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.04	15.04	15.04	15.04	16.54	13.54
MSB-2	14.97	14.97	14.97	14.97	16.47	13.47
MSB -3	14.95	14.93	14.93	14.94	16.44	13.44
MSB -4	15.00	14.89	14.95	14.95	16.45	13.45
MSB-5	15.04	15.08	15.01	15.04	16.54	13.54
MSB -6	15.01	15.01	15.01	15.01	16.51	13.51
MSB -7	15.03	15.03	15.03	15.03	16.53	13.53
MSB-8	15.10	15.10	15.11	15.10	16.60	13.60
MSB -9	14.99	14.97	14.96	14.97	16.47	13.47
MSB -10						





## Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 31 2017

Name: Josh Hamilton

Temperature: 22°C

Barometric Pressure: 100.9 kPa

Pump Number	Flow Rate (L/min)			Average Flow Rate (L/min)	Average Flow Rate (L/min) +10%	Average Flow Rate (L/min) -10%
	Trial #1	Trial #2	Trial #3			
MSB -1	15.04	15.05	15.05	15.05	16.55	13.55
MSB-2	14.96	14.97	15.00	14.98	16.48	13.48
MSB -3	15.00	15.00	14.99	15.00	16.50	13.50
MSB -4	14.96	14.99	14.89	14.95	16.45	13.45
MSB-5	14.95	15.01	14.91	14.95	16.45	13.45
MSB -6	15.04	15.21	15.19	15.12	16.62	13.62
MSB -7	14.96	14.97	14.96	14.96	16.46	13.46
MSB-8	14.96	14.96	14.96	14.96	16.46	13.46
MSB -9	15.04	15.03	15.03	15.03	16.5	13.53
MSB -10						

# Appendix G

## PCM ANALYSIS EXAMPLE CALCULATION SHEET

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# PCM Air Sample Analysis

Project Name:	U. CRT - MSB 6 M Flow		
Project Number:	19917		
Sample ID:	2017-03-001	Sample Type:	PCM.
Sample Collected By:	D.H.	Date:	March 10, 2017
Sample Analyzed By:	S.C.	Date:	March 11, 2017
Calibration	Left Eye Focus <input checked="" type="checkbox"/>	Phase Ring Alignment Required Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	Right Eye Focus (with Bertrand Lens) <input checked="" type="checkbox"/>		
Sample Location:	Room # 6336		
Start Time:	9:47	Sample Duration (min)	92
Finish Time:	11:19	Flow Rate (L/min)	15.0

Volume (V)	1380	L
Total Fibres Counted in Sample (FCS)	5.5	fibres
Total Fields Counted in Sample (FLS)	100	fields
Reticle Field Area (RFA)	Scope # 1 = 0.00801 mm <sup>2</sup>	Scope # 2 = 0.00817 mm <sup>2</sup>
	Scope # 3 = 0.00801 mm <sup>2</sup> <input checked="" type="checkbox"/>	Scope # 4 = 0.00785 mm <sup>2</sup>
Area of Filter (AF)	385	mm <sup>2</sup>
NIOSH 7400 Counting Rules Used	A	
Fibre Density (E)		$E = (FCS/FLS)/RFA$
Fibre Concentration (C)	0.002	fibres/cc $C = (E*385)/(V*1000)$

1	/	11	-	21		31	-	41	-	51	/	61	-	71	-	81	-	91	
2	/	12	-	22	-	32	-	42	-	52	/	62	-	72	-	82	-	92	-
3	-	13	-	23	-	33	-	43	-	53	-	63	-	73	-	83	-	93	-
4	-	14	-	24	-	34	-	44	-	54		64	-	74	-	84	-	94	-
5	-	15	-	25	-	35	-	45	-	55	-	65	-	75	-	85	-	95	-
6	/	16	-	26	-	36	-	46	-	56	-	66	-	76	-	86	-	96	/
7	-	17	-	27	-	37	-	47	-	57	-	67	-	77	-	87		97	/
8	-	18	-	28	-	38	-	48	-	58	-	68	-	78	-	88	-	98	/
9	-	19	-	29	-	39	-	49	-	59	-	69	-	79	-	89	-	99	/
10	/	20	/	30	-	40	-	50	-	60		70	15	80	/	90	-	100	/