Appendix E
FLOOR PLANS (March 10-20, 2017)

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

N

University of Toronto

Office of Space Management

Medical Sciences Building

PCM Air Monitoring Program

7th Floor

Bldg #5

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March 13, 2017

ROOF

ROOF

2017-03-033
2017-03-032
2017-03-031
2017-03-034
2017-03-035
2017-03-030
2017-03-037
2017-03-038
2017-03-029
2017-03-036
2017-03-039
2017-03-028
2017-03-027
2017-03-026
2017-03-025
2017-03-042
2017-03-024
2017-03-040
2017-03-041

7271
7259
7256
7374K
7235
7231
7239K
7217 A
7207
7214
7202
7234
7345
7358
7358C
A
B
7307
7308
7344
7342
7326
7350S

Scale(ft) 10 20 30 40 50 60

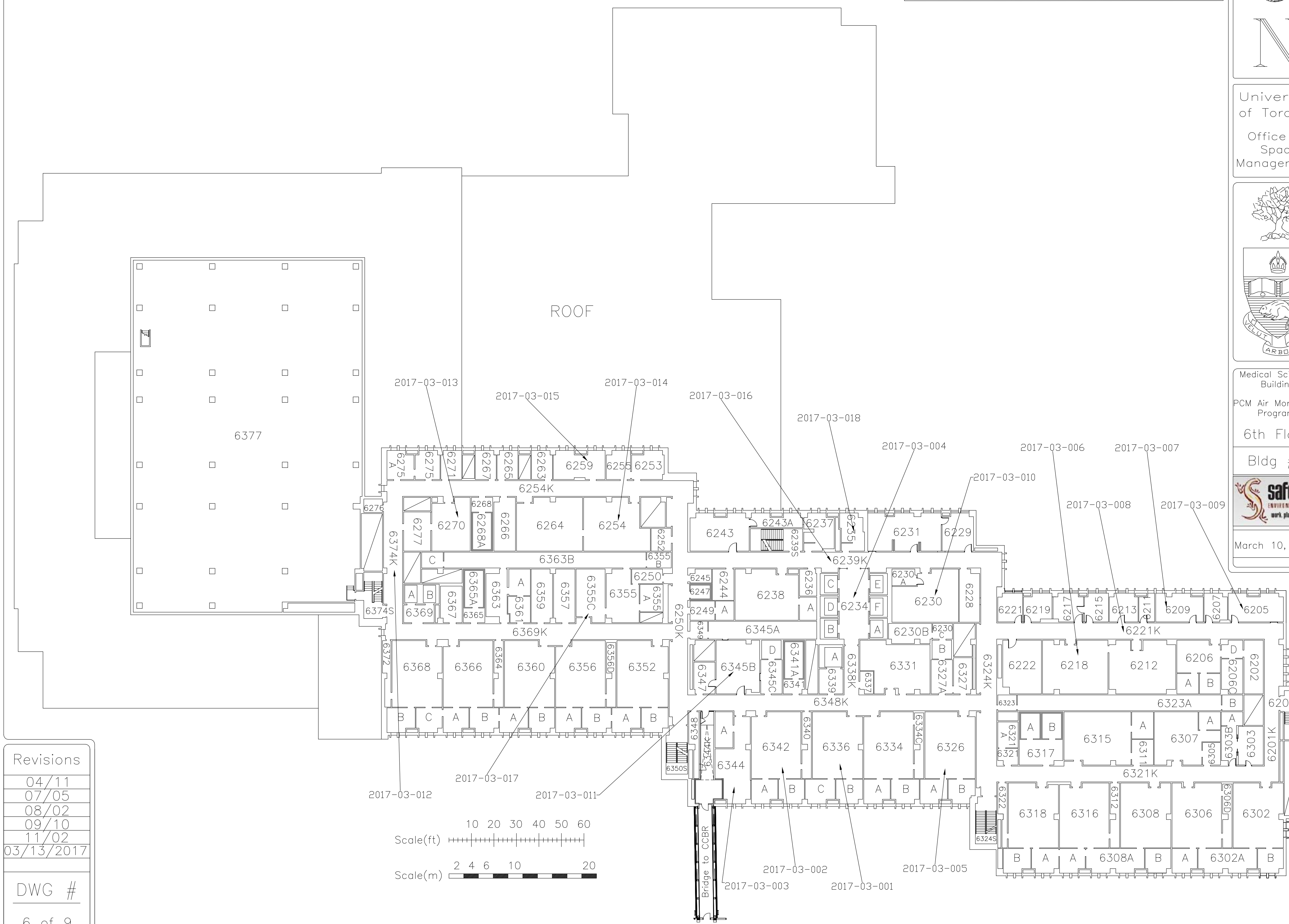
Scale(m) 2 4 6 10 20

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

DWG #

6 of 9

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



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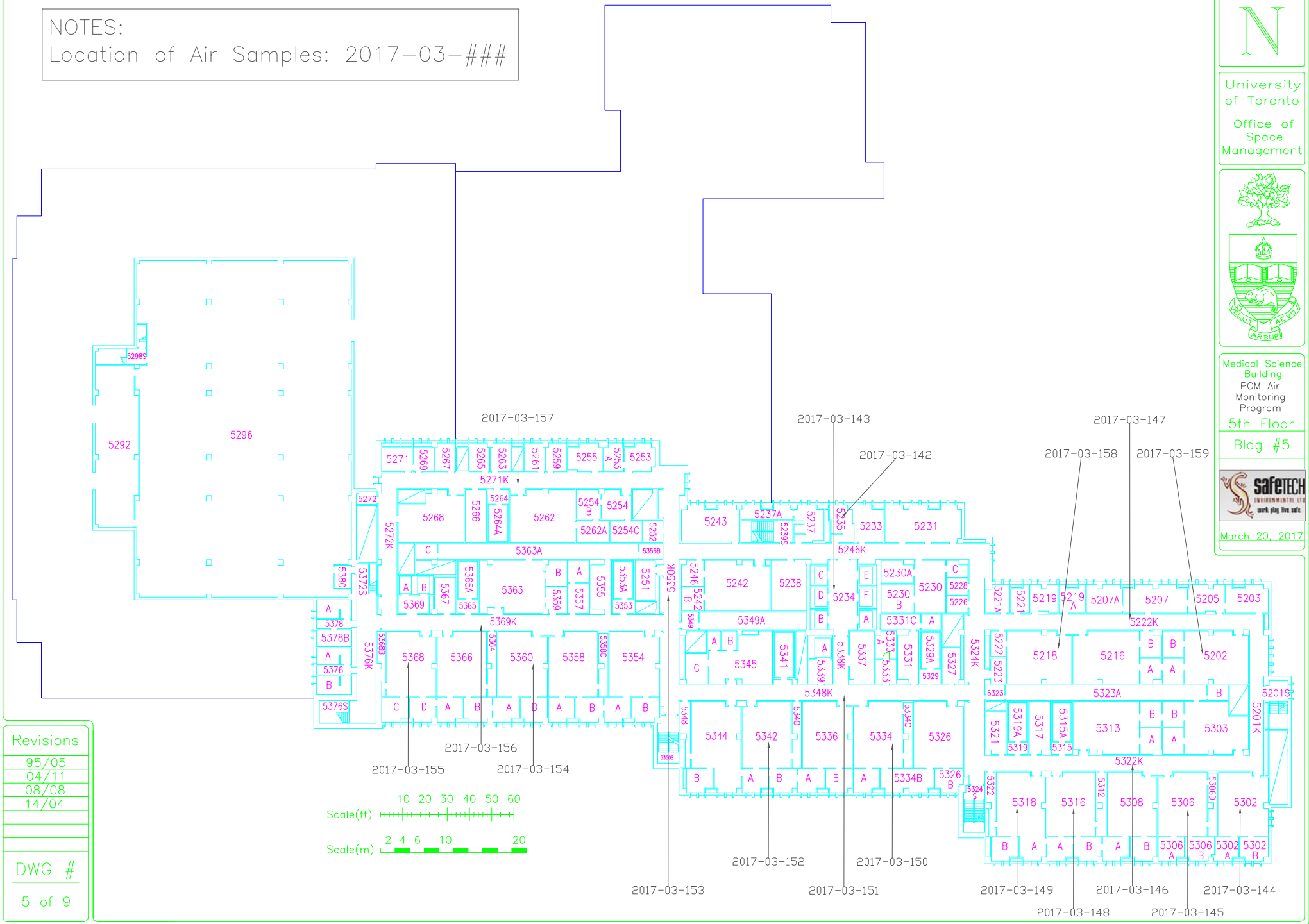
March 10, 2017

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

DWG #
6 of 9

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



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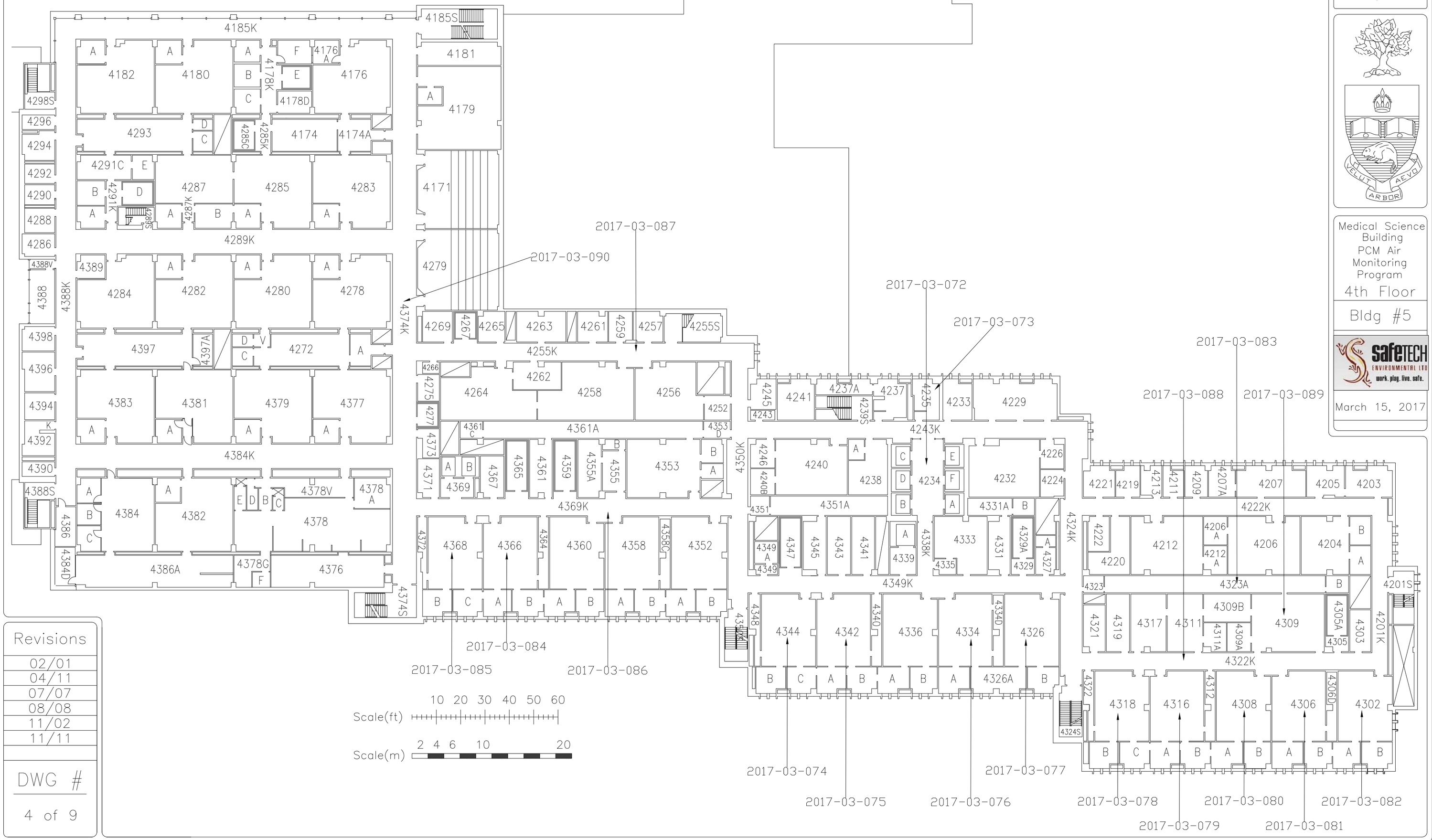
5th Floor
Bldg #5

March 20, 2017

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

DWG #
5 of 9

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



Revisions
02/01
04/11
07/07
08/08
11/02
11/11

DWG #

4 of 9

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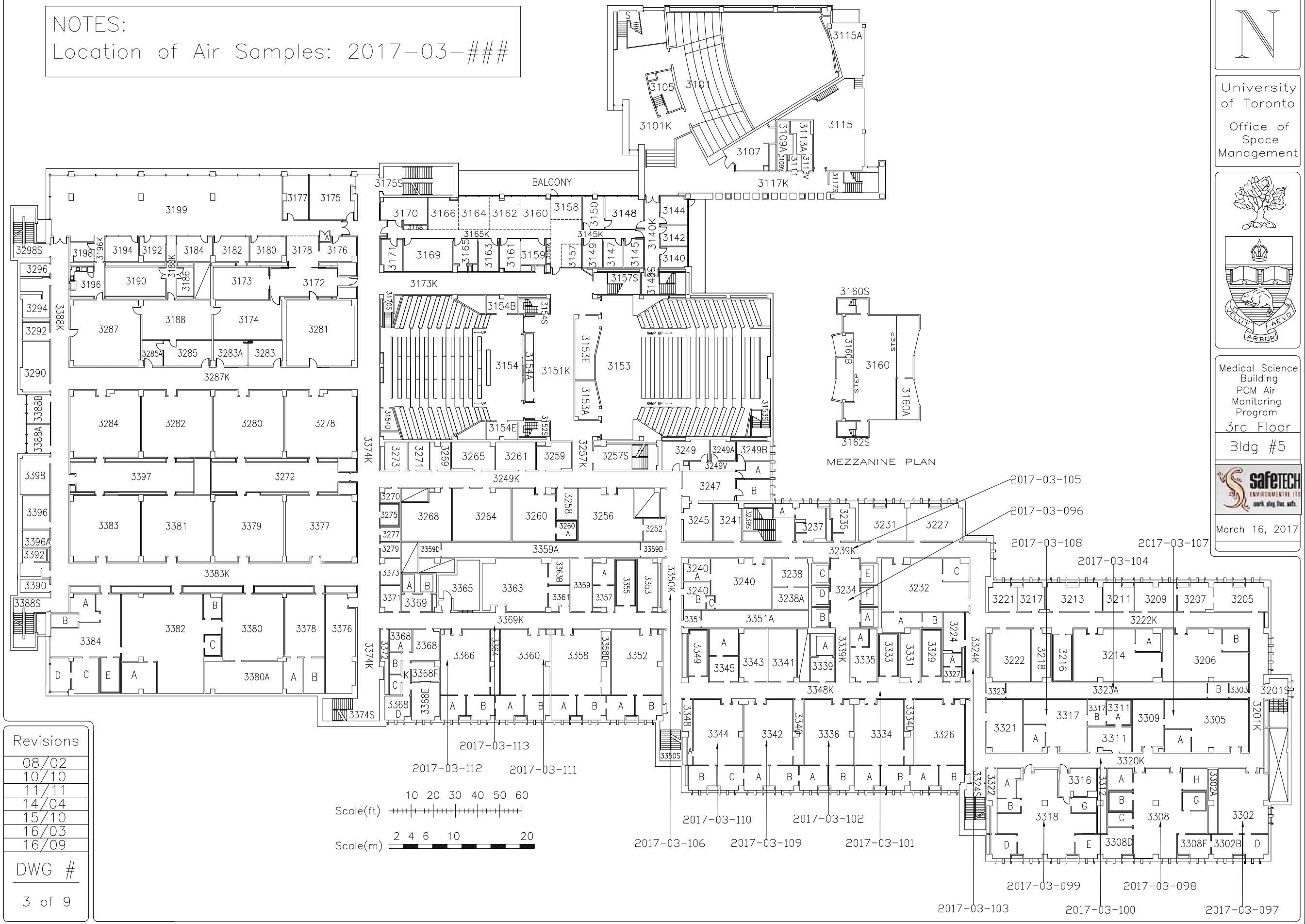
March 15, 2017

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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Bldg #5

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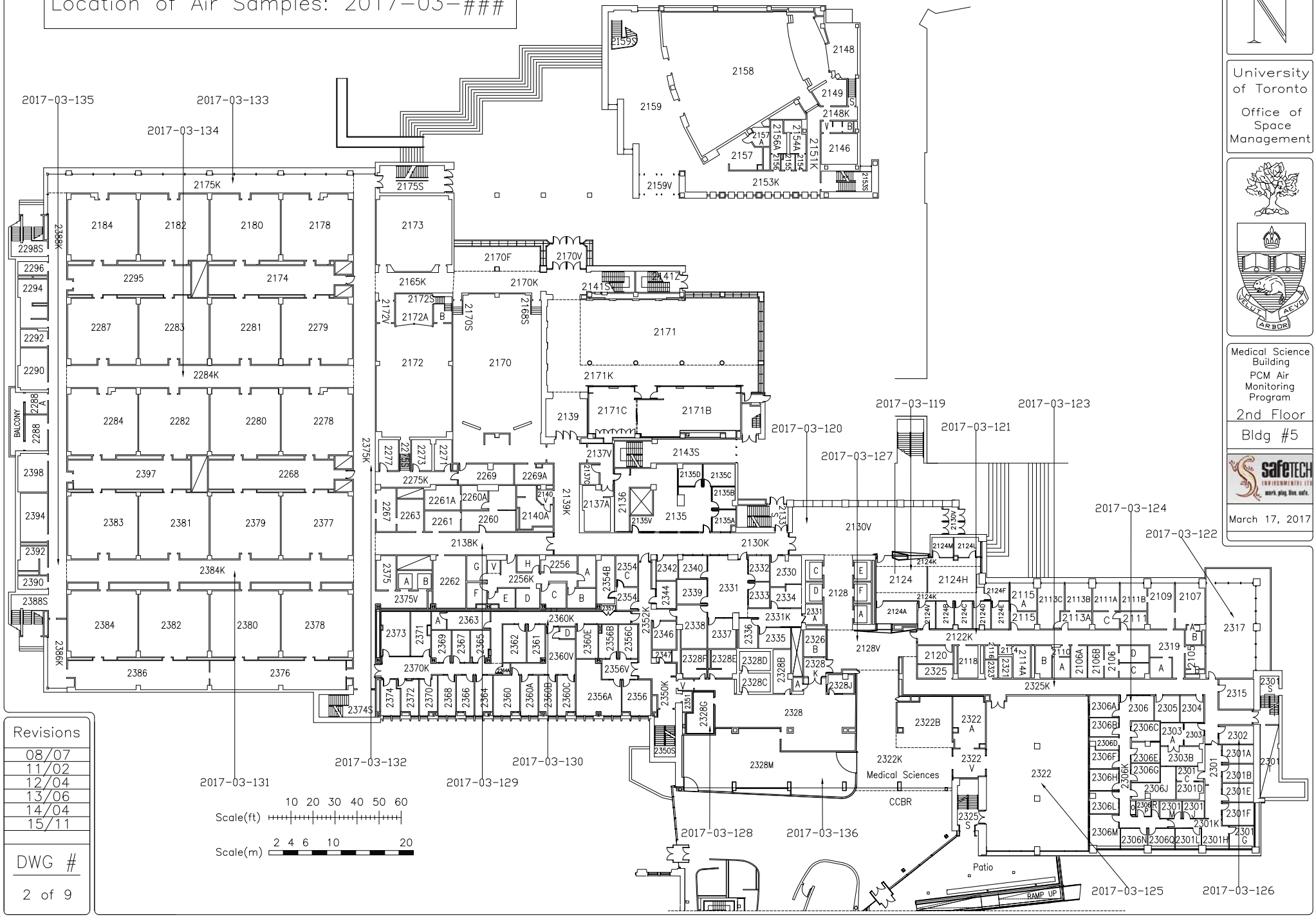
March 16, 2017

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



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

DWG #
2 of 9

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PCM Air Monitoring Program
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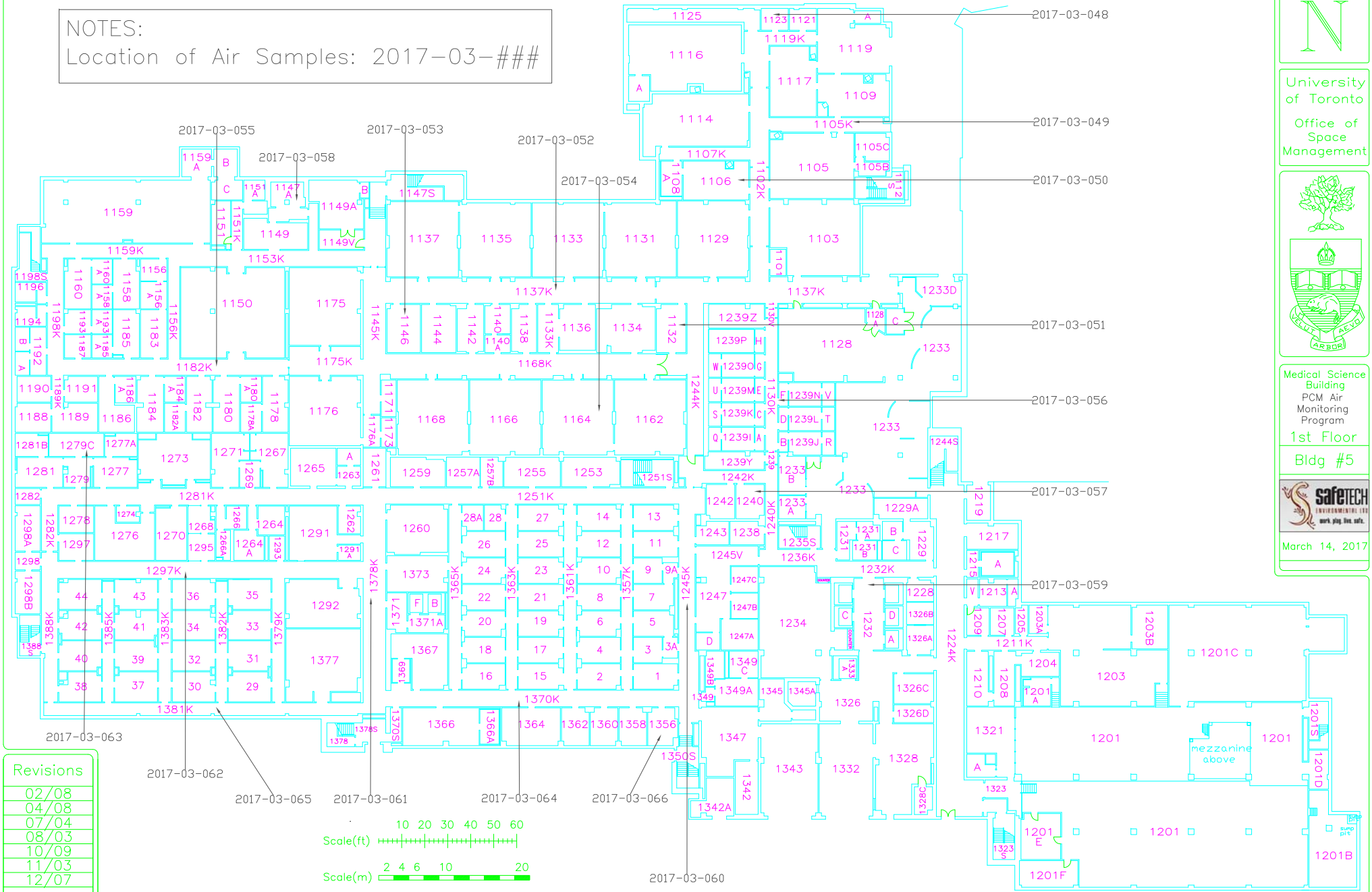
Bldg #5

March 17, 2017

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



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

DWG #

1 of 9

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1st Floor
Bldg #5

March 14, 2017

Appendix F
PUMP CALIBRATION SHEET

safeTECH ENVIRONMENTAL LTD.

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	15.06	16.40	18.04	14.76

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safeTECH ENVIRONMENTAL LTD.

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	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

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safeTECH ENVIRONMENTAL LTD.

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	15.01	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

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Pump Calibration Form

Calibration Device: BIOS DryCal DC Lite HV

Date: March 15, 2017

Name: Josh Hamilton

Temperature: ~~4°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

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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

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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

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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

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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

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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

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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

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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	~~15.10~~					
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

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Appendix G
PCM ANALYSIS EXAMPLE CALCULATION SHEET

SafeTECH ENVIRONMENTAL LTD.

PCM Air Sample Analysis

Project Name:	U. of T – MSB 6th Floor		
Project Number:	19917		
Sample ID:	2017-03-001	Sample Type:	PCM.
Sample Collected By:	J.H.	Date:	March 10, 2017
Sample Analyzed By:	S.C.	Date:	March 11, 2017
Calibration	Left Eye Focus ☑	Phase Ring Alignment Required Yes ☒ No ☐	
	Right Eye Focus (with Bertrand Lens) ☑		
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)	55 fibres	
Total Fields Counted in Sample (FLS)	100 fields	
Reticle Field Area (RFA)	Scope # 1 = 0.00801 mm²	Scope # 2 = 0.00817 mm²
	Scope # 3 = 0.00801 mm² ✓	Scope # 4 = 0.00785 mm²
Area of Filter (AF)	385 mm²	
NIOSH 7400 Counting Rules Used	A	
Fibre Density (E)	fibres/mm²	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	/5	80	–	90	–	100	–

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