



Installation Data Pack for Serta

Pipe Type	America
Date	9/13/22
Installer	Fire Chief Equipment
Units	US
Altitude	0'
Designed with Hole Sizes	1/8"

NICET CERTIFICATION

MICHAEL A. BARCLAY
CERTIFIED ENGINEERING TECHNICIAN
NICET CERTIFICATION NO.: 106070, FIRE ALARM
SYSTEMS LEVEL III, SPECIAL HAZARDS SUPPRESSION
SYSTEMS LEVEL III

 9/15/2022
SIGNATURE

Detector : ASSD #8

Type	VEU
Sensitivity Objective	Early Warning
Endcap Usage	Create a Balanced Design
Application Defaults	default
Aspirator Speed	4
Air Temperature	68.0°F
Absolute Pressure	1013hPa
System Flowrate	120.3l/min
Total Pipe Length	859' 4"
Number Of Sample Points	32
Maximum Transport Time	104sec
Maximum Allowed TT	120sec
Minimum Hole Flow Rate	2.0l/min
Exhaust Length	0'
Exhaust Diameter	0.874
Exhaust Pressure Drop	0Pa
Invert	No

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Thresholds

Safety Factor (% reduction in alarm threshold) 0%

	Alert	Action	Fire 1	Fire 2
Recommended Thresholds (%/ft)	0.0152	0.0268	0.0383	0.0766
Smoke at least sensitive hole (%/ft)	0.5625	0.9844	1.4062	2.8125

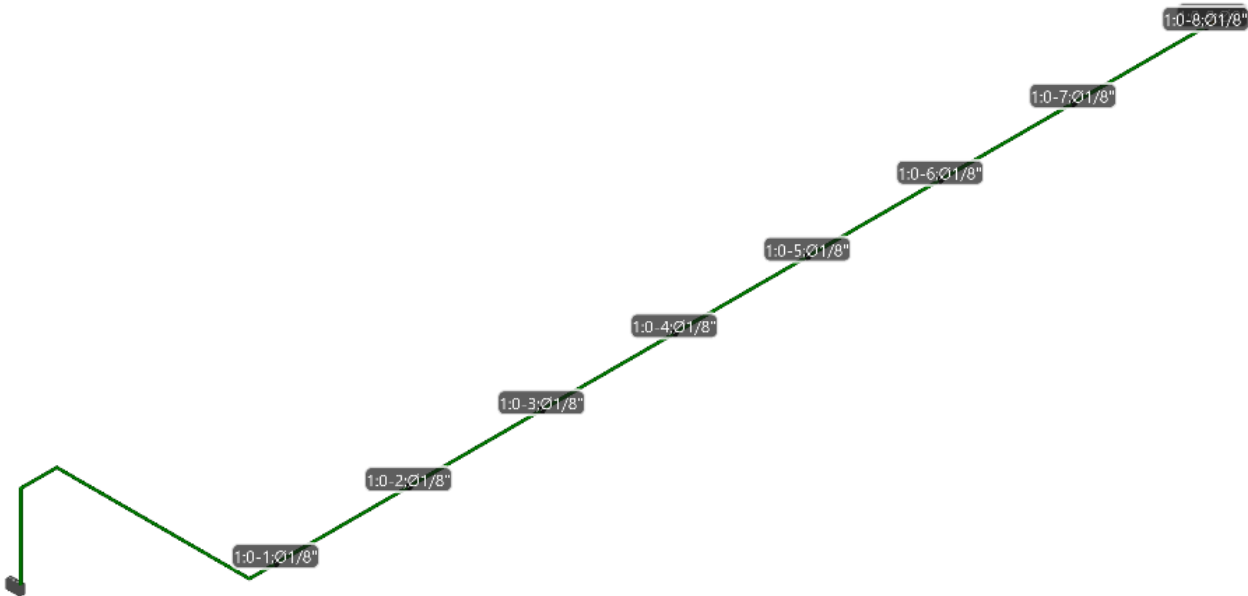
Group Details

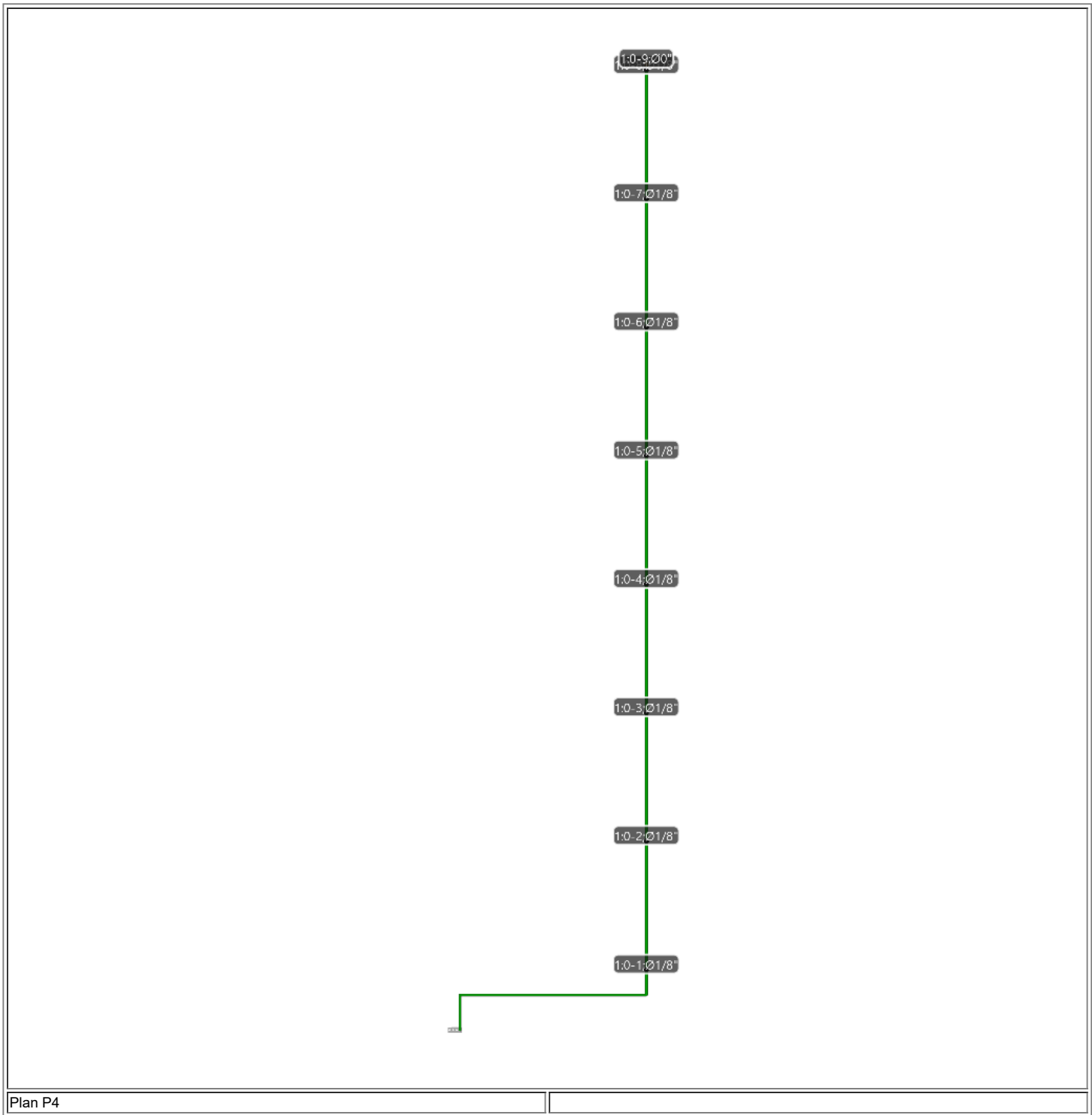
	Hole Sensitivity	Flow	Pressure	Transport Time	Hole Diameter	[Default Group]
Aggregate smoke from holes						0
Group Type						
Max Target Aggregate Sensitivity						
Min Target Aggregate Sensitivity						
Contribution ratio(%)						
Applied Max Aggregate Sensitivity						
Applied Min Aggregate Sensitivity						
Target Suction Pressure						25
Target Balance						70
Exclude from Autobalance						
1:Section0-1	1.0890	4.2	97	14	1/8"	✓
1:Section0-2	1.1579	4.0	86	19	1/8"	✓
1:Section0-3	1.2223	3.8	77	24	1/8"	✓
1:Section0-4	1.2780	3.6	71	31	1/8"	✓
1:Section0-5	1.3253	3.5	66	40	1/8"	✓
1:Section0-6	1.3639	3.4	62	51	1/8"	✓
1:Section0-7	1.3914	3.3	60	69	1/8"	✓
1:Section0-8	1.4058	3.3	58	104	1/8"	✓
2:Section0-1	1.0342	4.5	108	10	1/8"	✓
2:Section0-2	1.0978	4.2	96	14	1/8"	✓
2:Section0-3	1.1572	4.0	86	20	1/8"	✓
2:Section0-4	1.2087	3.8	79	26	1/8"	✓
2:Section0-5	1.2510	3.7	74	34	1/8"	✓
2:Section0-6	1.2855	3.6	70	45	1/8"	✓
2:Section0-7	1.3099	3.5	67	62	1/8"	✓
2:Section0-8	1.3226	3.5	66	95	1/8"	✓
3:Section0-1	1.0320	4.5	108	10	1/8"	✓
3:Section0-2	1.0954	4.2	96	14	1/8"	✓
3:Section0-3	1.1545	4.0	87	19	1/8"	✓
3:Section0-4	1.2059	3.8	79	26	1/8"	✓
3:Section0-5	1.2480	3.7	74	34	1/8"	✓
3:Section0-6	1.2823	3.6	70	45	1/8"	✓
3:Section0-7	1.3066	3.5	68	61	1/8"	✓
3:Section0-8	1.3192	3.5	66	95	1/8"	✓
4:Section0-1	1.0625	4.3	102	12	1/8"	✓
4:Section0-2	1.1288	4.1	91	17	1/8"	✓
4:Section0-3	1.1907	3.9	81	22	1/8"	✓
4:Section0-4	1.2443	3.7	74	28	1/8"	✓
4:Section0-5	1.2892	3.6	69	37	1/8"	✓
4:Section0-6	1.3258	3.5	66	48	1/8"	✓
4:Section0-7	1.3517	3.4	63	65	1/8"	✓
4:Section0-8	1.3652	3.4	62	100	1/8"	

						✓
Number of holes						32
Flow Share(%)						100
Aggregate Sensitivity						
Balance(%)						73
Suction pressure (least)						58

Pipe:P4

Total Pipe Length	229' 1"
Ambient Pressure	0Pa
Sector Pressure	135Pa
Number of Sample Points	8
Pipe Flowrate	29.0l/min





Section0

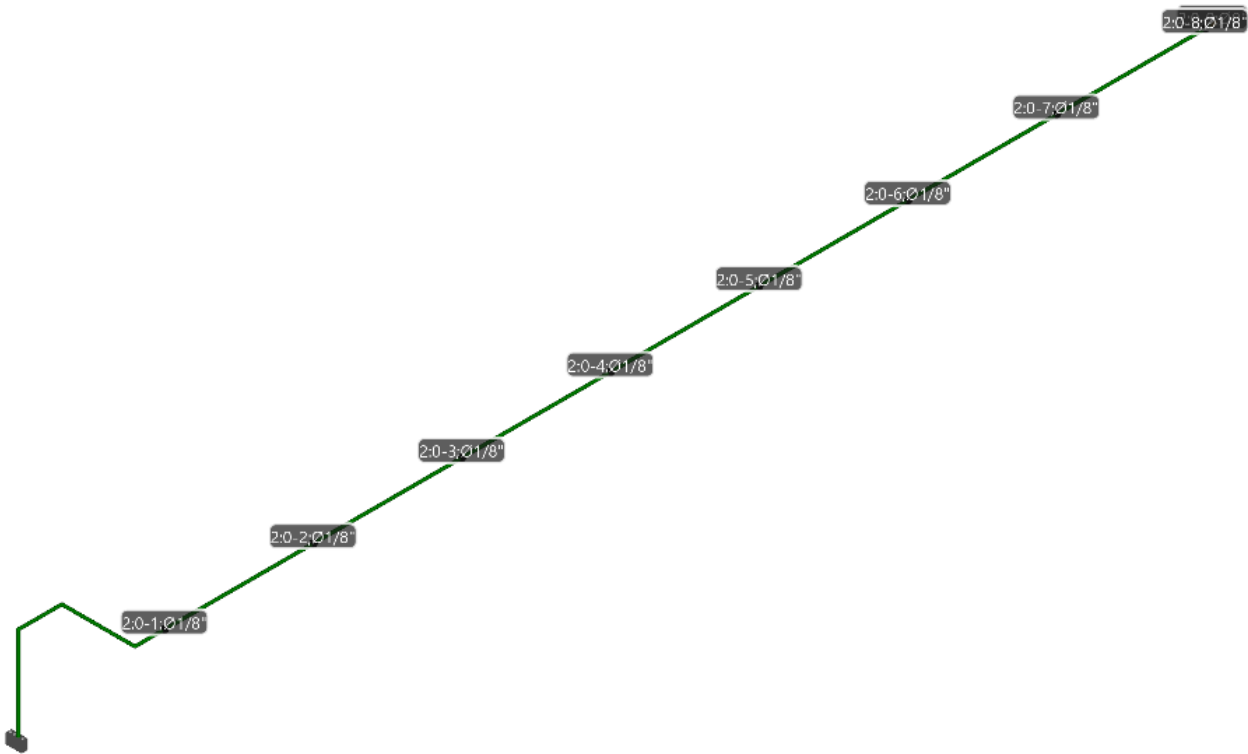
Pipe Diameter 0.874

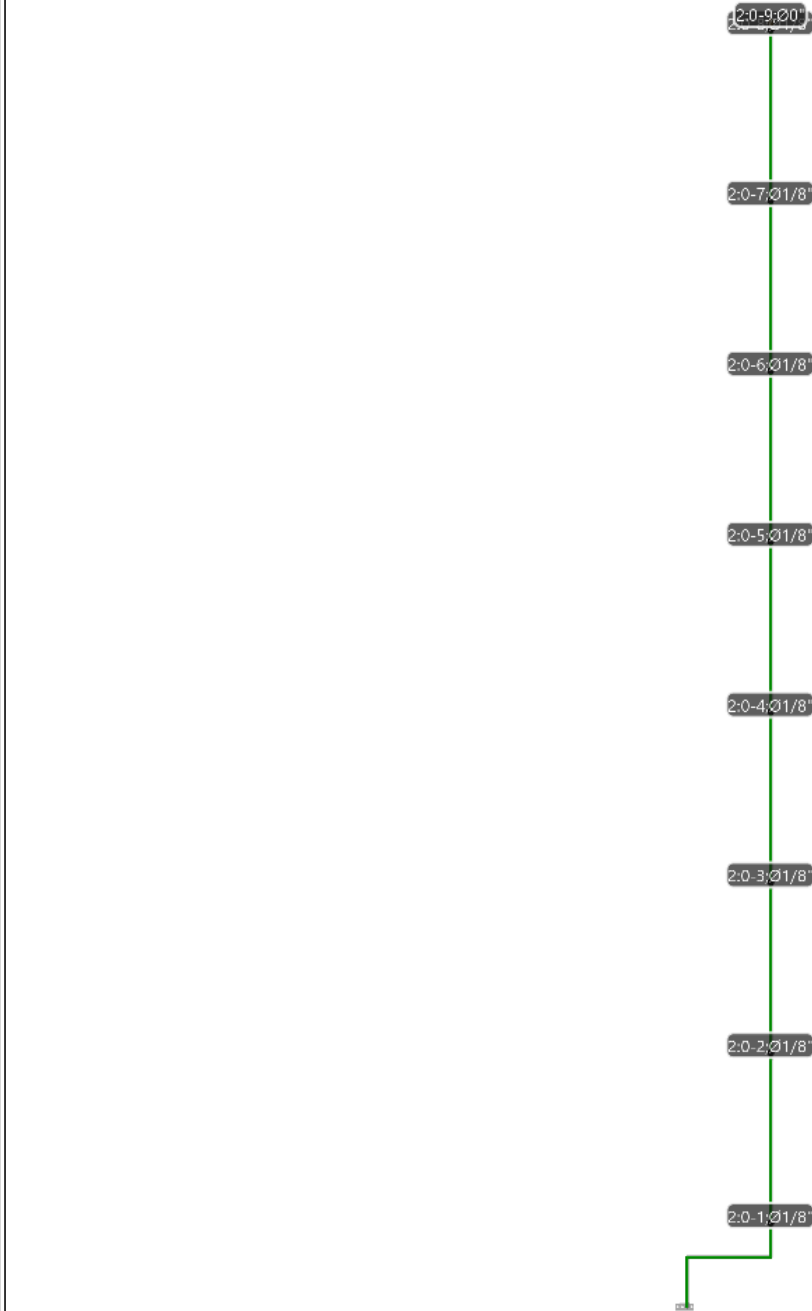
#		Distance ft	Relative ft	Direction	Hole Diameter in	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/ft	Pipe Diameter in	Capillary Diameter	Intersection Pressure
-	Bend 90	15'	15'	F										
-	Bend 90	21' 6"	6' 6"	R										
-	Bend 90	56' 3 1/2"	34' 9 1/2"	F										
1:Section0-1	Hole	61' 1"	4' 9 1/2"		1/8"		14	97	4.2	3.5	1.0890	0.874		
1:Section0-2	Hole	85' 1"	24'		1/8"		19	86	4.0	3.3	1.1579	0.874		

[illegible]

Pipe:P8

Total Pipe Length	206' 7"
Ambient Pressure	0Pa
Sector Pressure	135Pa
Number of Sample Points	8
Pipe Flowrate	30.7l/min





Plan P8

Section0

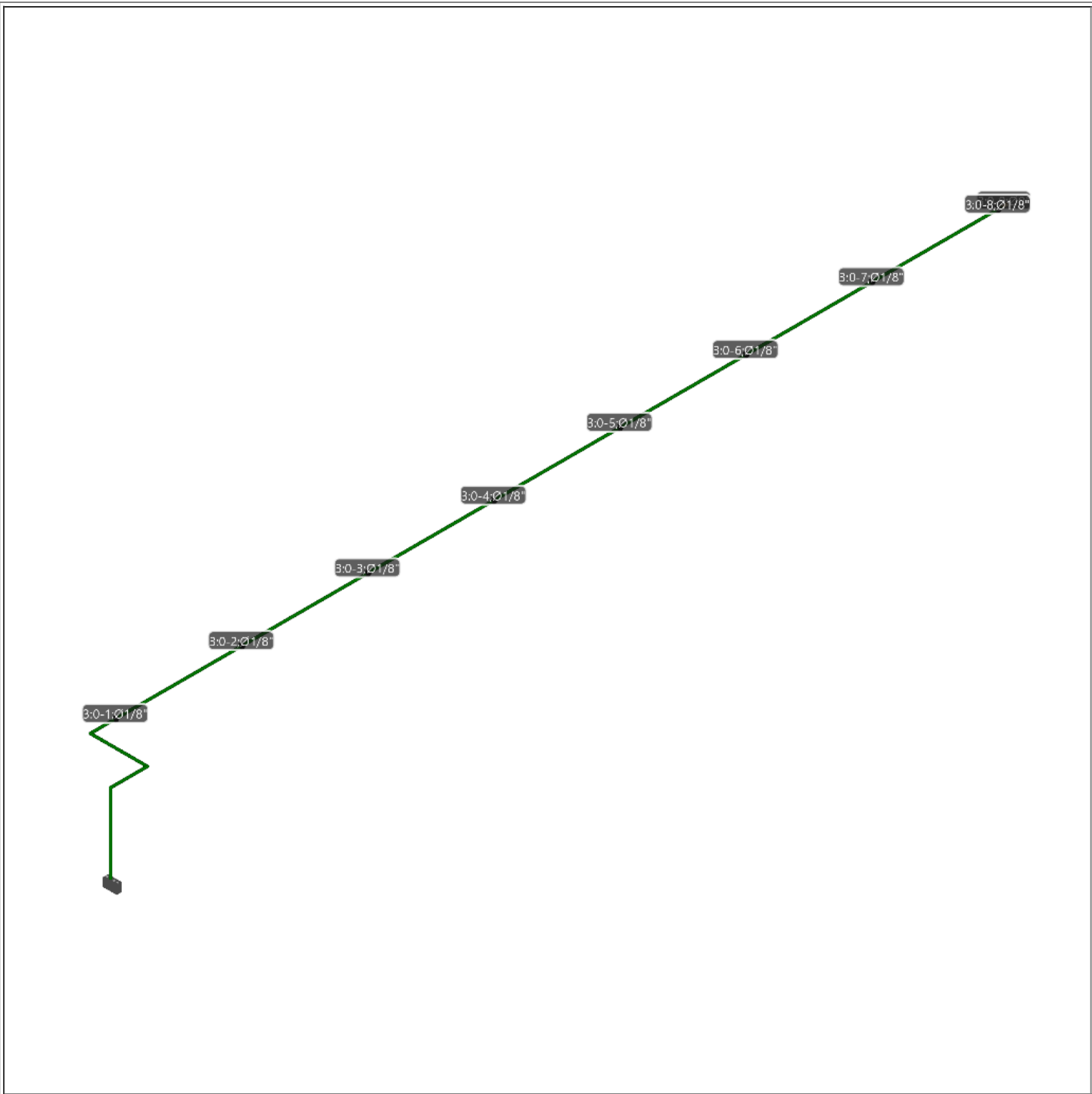
Pipe Diameter 0.874

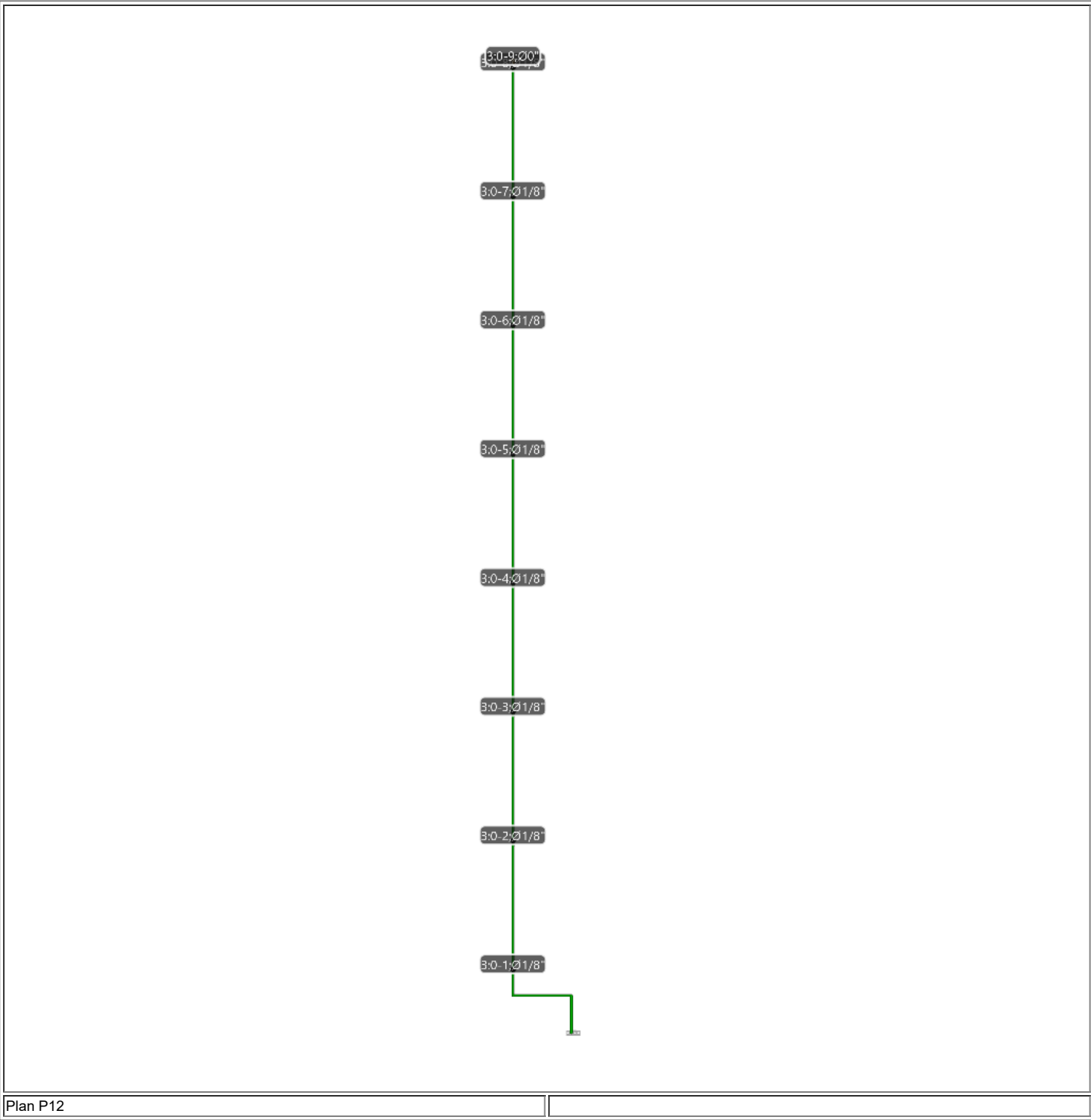
#		Distance ft	Relative ft	Direction	Hole Diameter in	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/ft	Pipe Diameter in	Capillary Diameter	Intersection Pressure
-	Bend 90	15'	15'	F										
-	Bend 90	22'	7'	R										
-	Bend 90	33' 9 1/2"	11' 9 1/2"	F										
2:Section0-1	Hole	38' 7"	4' 9 1/2"		1/8"		10	108	4.5	3.7	1.0342	0.874		
2:Section0-2	Hole	62' 7"	24'		1/8"		14	96	4.2	3.5	1.0978	0.874		

[illegible]

Pipe:P12

Total Pipe Length	205' 8"
Ambient Pressure	0Pa
Sector Pressure	135Pa
Number of Sample Points	8
Pipe Flowrate	30.8l/min





Section0

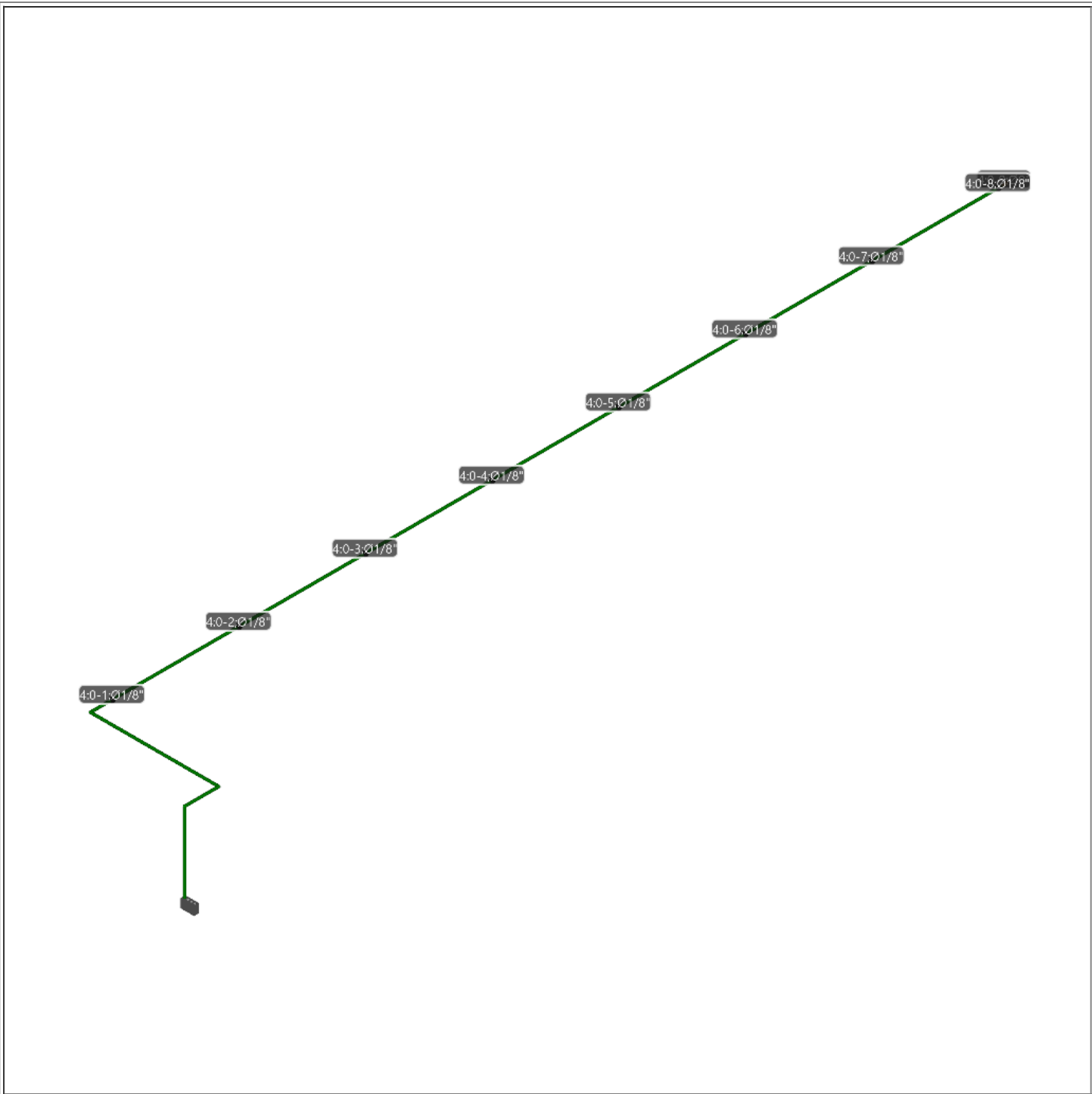
Pipe Diameter 0.874

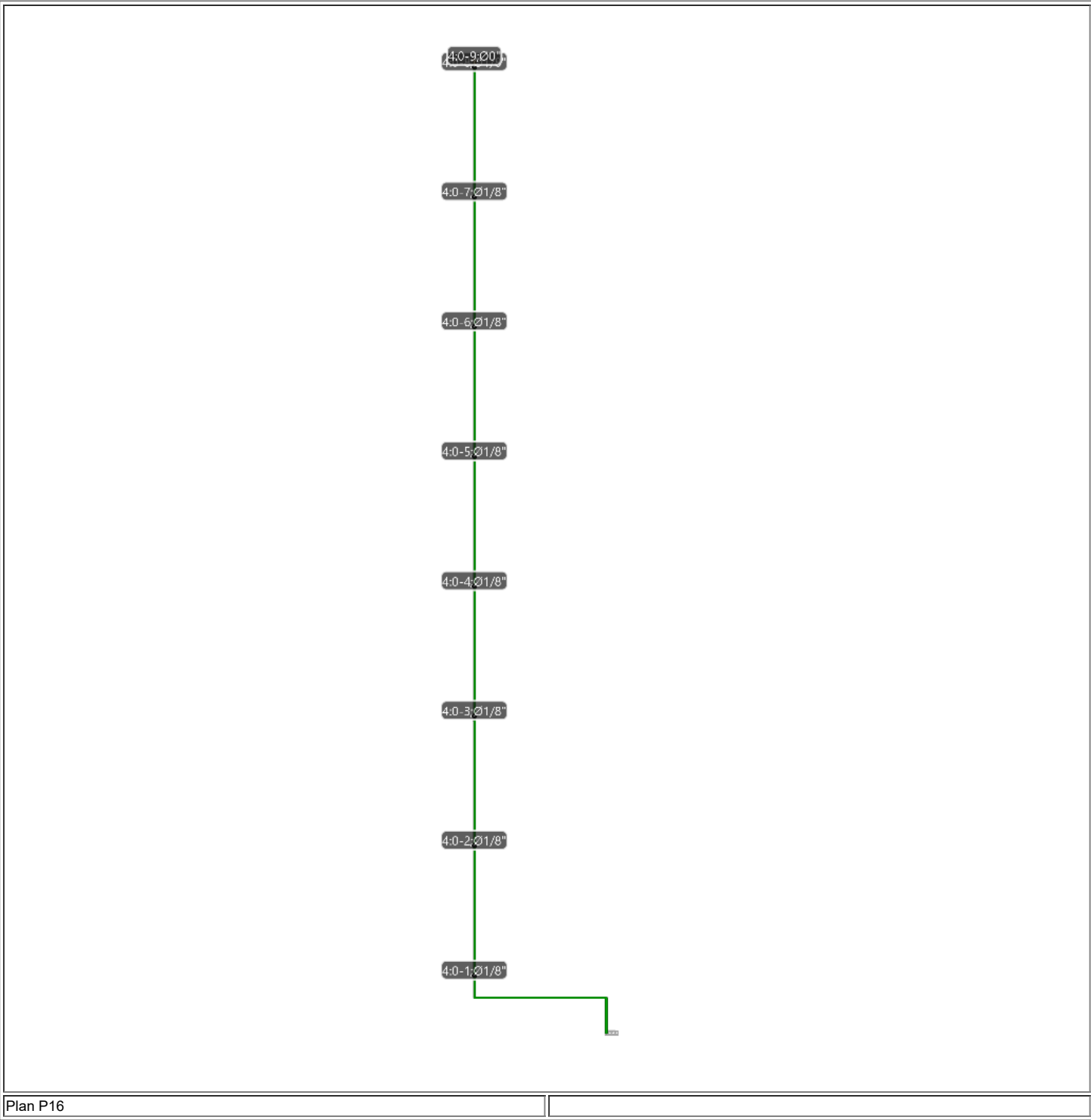
#		Distance ft	Relative ft	Direction	Hole Diameter in	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/ft	Pipe Diameter in	Capillary Diameter	Intersection Pressure
-	Bend 90	15'	15'	F										
-	Bend 90	22'	7'	L										
-	Bend 90	32' 10 1/2"	10' 10 1/2"	F										
3:Section0-1	Hole	37' 8"	4' 9 1/2"		1/8"		10	108	4.5	3.7	1.0320	0.874		
3:Section0-2	Hole	61' 8"	24'		1/8"		14	96	4.2	3.5	1.0954	0.874		

[illegible]

Pipe:P16

Total Pipe Length	218'
Ambient Pressure	0Pa
Sector Pressure	135Pa
Number of Sample Points	8
Pipe Flowrate	29.8l/min





Plan P16

Section0

Pipe Diameter 0.874

#		Distance ft	Relative ft	Direction	Hole Diameter in	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/ft	Pipe Diameter in	Capillary Diameter	Intersection Pressure
-	Bend 90	15'	15'	F										
-	Bend 90	21' 6"	6' 6"	L										
-	Bend 90	45' 10 1/2"	24' 4 1/2"	F										
4:Section0- 1	Hole	50'	4' 1 1/2"		1/8"		12	102	4.3	3.6	1.0625	0.874		
4:Section0- 2	Hole	74'	24'		1/8"		17	91	4.1	3.4	1.1288	0.874		

4:Section0-3	Hole	98'	24'		1/8"		22	81	3.9	3.2	1.1907	0.874		
4:Section0-4	Hole	122'	24'		1/8"		28	74	3.7	3.1	1.2443	0.874		
4:Section0-5	Hole	146'	24'		1/8"		37	69	3.6	3.0	1.2892	0.874		
4:Section0-6	Hole	170'	24'		1/8"		48	66	3.5	2.9	1.3258	0.874		
4:Section0-7	Hole	194'	24'		1/8"		65	63	3.4	2.8	1.3517	0.874		
4:Section0-8	Hole	218'	24'		1/8"		100	62	3.4	2.8	1.3652	0.874		
4:Section0-9	Endcap	219' 1 1/2"	1' 1 1/2"		0"							0.874		

