



Fire Prevention Fire Hydrant Flow Test



City of Pompano Beach • Bureau of Fire Prevention
100 West Atlantic Boulevard, Room 220 Pompano Beach, FL 33060
Phone: (954) 786-4695

City of Pompano Beach Fire Prevention will **WITNESS** all fire hydrant flow test that are required for fire flow purposes.

- City of Pompano Beach Code of Ordinances Title IX Chapter 95 Section 95.14(G). Fire hydrant flow tests.
 - The Fire Department shall witness all hydrant flow tests as required for fire protection systems.
 - All fire flow tests shall be in accordance with NFPA 291 and Broward County Amendments F-112.
 - Broward County Amendments F-112(e) - The static pressure at the water main shall be determined by a recorded method for a minimum twenty-four (24) hour period.
 - Morning of fire Hydrant static/residue connection contractor to provide documents of test equipment certification.

Information:

Date:	05/16/25
Company Requesting Flow Test:	WIGINTON FIRE SYSTEMS
Contact Name:	JOSE F QUINTERO
Contact Phone Number:	561-352-4892
Email Address:	JFQ@WIGINTON.NET
Associated Application Number:	
Associated Project Name:	115 NW 16TH ST

Proposed Date/Time for Fire Hydrant Flow Test: (8am – 9am)

- Request Hydrant Flow Test minimum 72 hours in advance.
- Connection of Fire Hydrant for 24 hour static/residual must be between 0730hrs and 0830hrs.

Requested Date:	05/20/25	Time:	
Alternate Date:		Time:	

Fire Hydrant Flow Test Location:

Hydrant Location - Static/Residual:	
Hydrant Location - Flow:	

Fire Hydrant Flow Test Witness Fee:

There is a \$150.00 fee for performing each flow test. All tests will be completed within 5 business days. Please include map/sketch showing streets/cross streets & locations of flow and residual fire hydrants. Return flow test application to the Bureau of Fire Prevention with form of payment for \$150.00.

Make check and money orders payable to "CITY OF POMPANO BEACH"

If mailing in application with payment send to the addressed listed below.

Pompano Beach Fire Prevention

100 W. Atlantic Blvd. – Room 220

Pompano Beach, FL 33060

NOTE TO TREASURY: Post to 001-0000-367.30-00

	Yes	No			
Flow Test Equipment Certification:	✓		Date:	5/21/25	
H#	Pitot	GPM	Static	Residual	Tip Size
FH-1 S/R/Flow	55	1245	75	65	2 1/2"
FH-2 Flow					2 1/2"
Total Hydrant Flow:					

- Fire Flow Data to be completed and entered on site.
- Fire flow data provided to Fire Prevention at a later date, must be signed/sealed by the Engineer of Record.

Christopher Simonson
Person Conducting Flow Test:

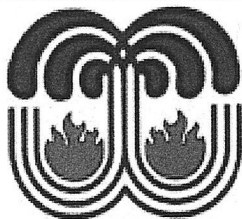
Fire Inspector Witnessing Flow Test:

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07/02/2025



WATER FLOW TEST DATA SHEET

Job Number: N/A
Job Name: 115 NW 16th St
Job Address: 115 NW 16th St Pompano Beach, Florida 33060

Date: 5/21/25 Time: 0800 ☒ AM ☐ PM Location: 115 NW 16th St Pompano Beach, FL 33060

Notes: FH-2 was metered hydrant. Per recommendation of FD all info from FH-1.

TEST CONDUCTED BY: Chris Simonson - WFS

Static Pressure at Test Hydrant A (psi)	<u>75</u>	Residual Pressure at Test Hydrant A (psi)	<u>65</u>
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Flow Hydrant	Hydrant Outlet Size	No. Outlets Flowing	Pitot Pressure (psi)	Hydrant Outlet Coefficient	Theoretical Flow (Cd=1.00)	Actual Flow (gpm)
<u>X A</u>	<u>2 1/2"</u>	<u>1</u>	<u>55</u>	<u>0.90</u>	<u>1370</u>	<u>1245</u>
<u>C</u>						
<u>D</u>						

TEST OF CITY WATER SUPPLY

To obtain factual information about the water supply that is available for fire protection at any given location:

1. Consult a map which shows the location and size of the water mains and hydrants in the area of property to be protected.
2. Make an actual Water Flow Test

The proper method of making a Water Flow Test of the city water supply is to use 2 or more hydrants in the vicinity of the property. The static and residual pressures are measured at the hydrant in front of or nearest to the property (designate hydrant as Test Hydrant A). The water is allowed to flow from the hydrant next nearest the property and farthest from the source of supply (designate as Flow Hydrant B).

The Water Flow Test is conducted as follows:

1. Attach a gage to Test Hydrant A and read the static pressure.
2. Either attach a second gage to Flow Hydrant B or use a pitot gage at an outlet. With Flow Hydrant B wide open, read the pressure at both hydrants.
3. The pressure at Flow Hydrant B is used to compute the gallons flowing per minute.
4. The pressure reading at Test Hydrant A is the residual pressure.

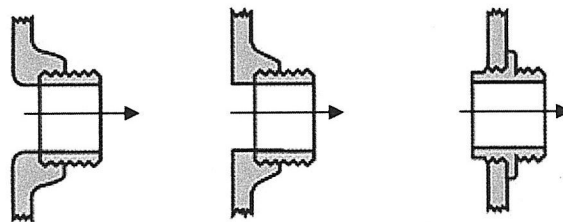
For best results, the volume of water flowing during a test should exceed the estimated demand for the system, including any allowance for hose streams. To accomplish this, it may be necessary to provide further tests with 2 outlets open on Flow Hydrant B, or by using additional hydrants.

The next hydrant adjacent to flowing hydrant may be opened (designate as Flow Hydrant C) and the test conducted with 2 or 4 outlets flowing. Each flowing stream must be measured with the pitot gage, and the residual pressure at Test Hydrant A must remain the same during the time all pitot gage readings are taken.

HYDRANT OUTLET COEFFICIENT

The hydrant coefficient is the degree to which water is impeded by the hydrant parts, including the outlet. If the hydrant could be constructed to pass all of the water through without any pressure loss, the coefficient would be 1.00. Because this is not possible, the theoretical flow from a hydrant is adjusted by a factor referred to as the Hydrant Outlet Coefficient (Cd).

Before a water flow Test is made, all hydrant outlets must be checked to determine the correct coefficient.



Outlet Smooth and Rounded
(Cd = 0.90)

Outlet Square and Sharp
(Cd = 0.80)

Outlet Square and Projecting into Barrel
(Cd = 0.70)

The sketches above show 3 general types of hydrant outlets and the coefficient each gives. To determine the type on the hydrant to be flowed, feel the contour of the inner edge. Then compare the internal opening with the sketches to get the proper coefficient. If the hydrant being checked is not like the sketches, or if the inner edge is rough and deeply corroded, it may be necessary to adjust the coefficient, e.g., from 0.90 to 0.85 or from 0.80 to 0.75.

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OUTLET SIZE

The actual size of the openings used in the Water Flow Test must be determined. Therefore, the inside diameter of hydrant outlets are measured to the nearest 1/16th of an inch.

Most hydrants encountered will have 2½" hose outlets and 4" or 4½" pumper connections. For this reason, the Theoretical Flow table below includes only these sizes. If other size outlets are used, the actual flow is calculated using the Discharge Formula.

The table is based on Theoretical Flow for a coefficient of 1.00. Discharge values given in the table must be multiplied by the Hydrant Outlet Coefficient (Cd) to arrive at the gallons flowing per minute (gpm).

Example: The Flow Hydrant has 2 hose outlets. These are examined and found to have square and sharp inner edges (Cd = 0.80). The outlets, when measured, are found to be exactly 2½". A Water Flow Test is made with 2 outlets flowing simultaneously. The pitot gage reading at each outlet is 14 psi.

The actual flow is: 2 x 0.80 x 698 = 119 gpm.

THEORETICAL FLOW FROM HYDRANT OUTLETS			
Discharge Coefficient = 1.00			
Pitot Gage (psi)	Inside Diameter of Outlet		
	2½"	4"	4½"
1	186	477	604
2	264	675	854
3	323	827	1046
4	373	955	1208
5	417	1067	1351
6	457	1169	1480
7	493	1263	1598
8	527	1350	1709
9	559	1432	1812
10	590	1509	1910
11	618	1583	2003
12	646	1653	2093
13	672	1721	2178
14	698	1786	2260
15	722	1848	2340
16	746	1909	2416
17	769	1968	2491
18	791	2025	2562
19	813	2080	2633
20	834	2134	2701
22	874	2239	2833
24	913	2338	2959
26	951	2434	3080
28	987	2526	3196
30	1021	2614	3309
32	1055	2700	3417
34	1087	2783	3522
36	1119	2864	3624
38	1149	2942	3724
40	1179	3019	3820
42	1209	3093	3915
44	1237	3166	4007
46	1264	3237	4097
48	1292	3307	4185
50	1318	3375	4271
52	1344	3442	4356
54	1370	3507	4439
56	1395	3572	4520
58	1420	3635	4600
60	1444	3697	4679
62	1468	3758	4756
64	1491	3818	4832
66	1515	3877	4907
68	1537	3936	4981
70	1560	3993	5054
72	1582	4050	5126
74	1604	4106	5196
76	1625	4161	5266
78	1647	4215	5335
80	1668	4269	5403
82	1688	4322	5470
84	1708	4374	5536
86	1729	4426	5602
88	1749	4477	5667
90	1769	4528	5731

DISCHARGE FORMULA

With the size of the outlet known and the Hydrant Outlet Coefficient ascertained, the actual discharge from the Flow Hydrant can be calculated using a Discharge formula.

$$Q = 29.83 \times C_d \times D^2 \times \sqrt{P}$$

Q = Flow in gpm (gallons per minute)

Cd = Hydrant outlet coefficient

D = Diameter of hydrant outlet

P = Pressure in psi (pounds per square inch)

Example: The Water Flow test was made from 2 5/8" hose outlet and Cd = 0.90. The pitot gage reading was 22 psi.

$$Q = 29.83 \times 0.90 \times (2.625)^2 \times \sqrt{22}$$

$$Q = 29.83 \times 0.90 \times 6.89 \times 4.69$$

$$Q = 868 \text{ gpm}$$

CAUTIONS

1. Have permission from the Water Authority before making a Water Flow Test. Whenever Possible, have a representative of Authority present to assist with and witness the test.
2. Make certain that the discharge from Flow Hydrants will not tear up roadways, lawns, or otherwise cause damage to and/or flood any property.
3. Hydrants are always opened and closed slowly.
4. Allow water to flow clear before placing gages on hydrants or taking pitot gage readings.
5. Hydrant outlets must be flowing full solid streams during all tests.

SKETCH OF TEST LOCATION

1. Provide a layout of the underground pipe and indicate the size, length, location, and type of material (cement lined cast iron, asbestos cement, etc.).
2. Locate and identify all hydrants used in the test.
3. Establish the elevation of Test Hydrant A with respect to the property (e.g., the difference in elevation between the hydrant and the finished floor at the building).
4. Show the point of connection for the proposed system.
5. If required, provide additional information and details which will permit the test results to be adjusted to another location by means of hydraulic calculations.

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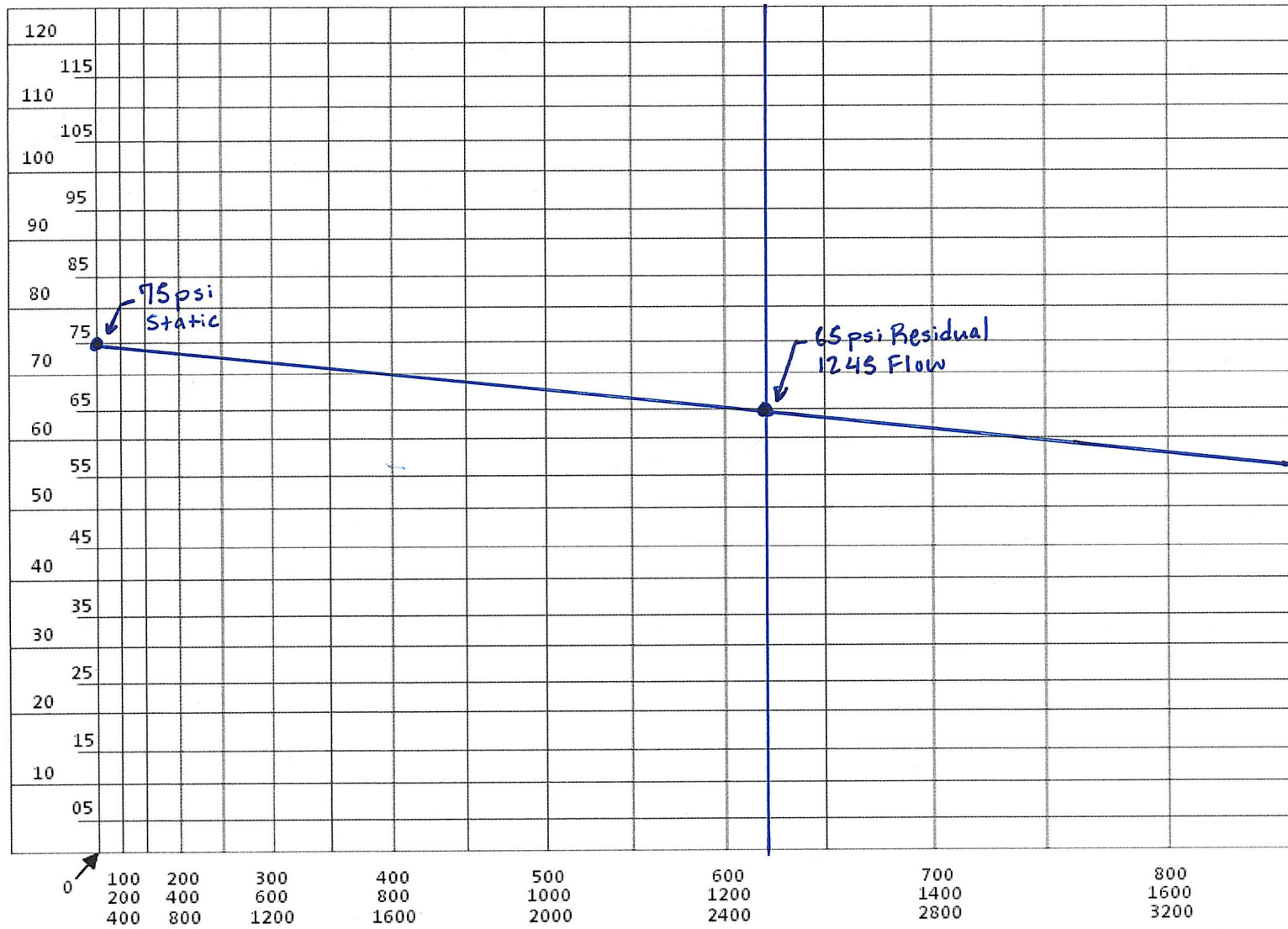
PZ25-12000014

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Date	5/21/25	Static Pressure	75		
Job Number	N/A	Residual Pressure	65		
Job Name	115 NW 16 th St	Flow (gpm)	1245		
Job Address	115 NW 16 th St Pompano Beach, FL 33060	Outlet Diameter	2 1/2"	Coefficient	0.90

PRESSURE (psi)



FLOW (gpm)

* Results @ 20 PSI Residual

3121 G.P.M.

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Pompano Beach Fire Rescue Fire Prevention Fire Hydrant Flow Test Requirements

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- Morning of fire Hydrant static/residue connection contractor to provide documents of test equipment certification. Showing that all devices have been calibrated within the last 12 months, and each certificate has matching serial numbers with the devices that will be used for that test.

WIGINTON FIRE DicksonPressure\PSI	1	5/16/2025 13:27	-42.000
WIGINTON FIRE DicksonPressure\PSI	2	5/16/2025 13:42	78.700
WIGINTON FIRE DicksonPressure\PSI	3	5/16/2025 13:57	76.300
WIGINTON FIRE DicksonPressure\PSI	4	5/16/2025 14:12	79.100
WIGINTON FIRE DicksonPressure\PSI	5	5/16/2025 14:27	79.200
WIGINTON FIRE DicksonPressure\PSI	6	5/16/2025 14:42	80.400
WIGINTON FIRE DicksonPressure\PSI	7	5/16/2025 14:57	81.000
WIGINTON FIRE DicksonPressure\PSI	8	5/16/2025 15:12	80.800
WIGINTON FIRE DicksonPressure\PSI	9	5/16/2025 15:27	81.400
WIGINTON FIRE DicksonPressure\PSI	10	5/16/2025 15:42	80.400
WIGINTON FIRE DicksonPressure\PSI	11	5/16/2025 15:57	81.500
WIGINTON FIRE DicksonPressure\PSI	12	5/16/2025 16:12	81.100
WIGINTON FIRE DicksonPressure\PSI	13	5/16/2025 16:27	81.900
WIGINTON FIRE DicksonPressure\PSI	14	5/16/2025 16:42	81.300
WIGINTON FIRE DicksonPressure\PSI	15	5/16/2025 16:57	82.300
WIGINTON FIRE DicksonPressure\PSI	16	5/16/2025 17:12	81.900
WIGINTON FIRE DicksonPressure\PSI	17	5/16/2025 17:27	81.500
WIGINTON FIRE DicksonPressure\PSI	18	5/16/2025 17:42	83.100
WIGINTON FIRE DicksonPressure\PSI	19	5/16/2025 17:57	79.900
WIGINTON FIRE DicksonPressure\PSI	20	5/16/2025 18:12	81.300
WIGINTON FIRE DicksonPressure\PSI	21	5/16/2025 18:27	81.100
WIGINTON FIRE DicksonPressure\PSI	22	5/16/2025 18:42	80.200
WIGINTON FIRE DicksonPressure\PSI	23	5/16/2025 18:57	80.400
WIGINTON FIRE DicksonPressure\PSI	24	5/16/2025 19:12	80.300
WIGINTON FIRE DicksonPressure\PSI	25	5/16/2025 19:27	80.800
WIGINTON FIRE DicksonPressure\PSI	26	5/16/2025 19:42	80.400
WIGINTON FIRE DicksonPressure\PSI	27	5/16/2025 19:57	80.400
WIGINTON FIRE DicksonPressure\PSI	28	5/16/2025 20:12	80.500
WIGINTON FIRE DicksonPressure\PSI	29	5/16/2025 20:27	80.400
WIGINTON FIRE DicksonPressure\PSI	30	5/16/2025 20:42	79.900
WIGINTON FIRE DicksonPressure\PSI	31	5/16/2025 20:57	81.500
WIGINTON FIRE DicksonPressure\PSI	32	5/16/2025 21:12	81.000
WIGINTON FIRE DicksonPressure\PSI	33	5/16/2025 21:27	80.500
WIGINTON FIRE DicksonPressure\PSI	34	5/16/2025 21:42	81.000
WIGINTON FIRE DicksonPressure\PSI	35	5/16/2025 21:57	81.200
WIGINTON FIRE DicksonPressure\PSI	36	5/16/2025 22:12	81.300
WIGINTON FIRE DicksonPressure\PSI	37	5/16/2025 22:27	80.900
WIGINTON FIRE DicksonPressure\PSI	38	5/16/2025 22:42	81.900
WIGINTON FIRE DicksonPressure\PSI	39	5/16/2025 22:57	81.200
WIGINTON FIRE DicksonPressure\PSI	40	5/16/2025 23:12	81.300
WIGINTON FIRE DicksonPressure\PSI	41	5/16/2025 23:27	81.300
WIGINTON FIRE DicksonPressure\PSI	42	5/16/2025 23:42	81.200
WIGINTON FIRE DicksonPressure\PSI	43	5/16/2025 23:57	81.100
WIGINTON FIRE DicksonPressure\PSI	44	5/17/2025 0:12	81.300
WIGINTON FIRE DicksonPressure\PSI	45	5/17/2025 0:27	80.700
WIGINTON FIRE DicksonPressure\PSI	46	5/17/2025 0:42	80.800
WIGINTON FIRE DicksonPressure\PSI	47	5/17/2025 0:57	81.100
WIGINTON FIRE DicksonPressure\PSI	48	5/17/2025 1:12	81.500
WIGINTON FIRE DicksonPressure\PSI	49	5/17/2025 1:27	81.700
WIGINTON FIRE DicksonPressure\PSI	50	5/17/2025 1:42	84.300
WIGINTON FIRE DicksonPressure\PSI	51	5/17/2025 1:57	81.100
WIGINTON FIRE DicksonPressure\PSI	52	5/17/2025 2:12	80.900
WIGINTON FIRE DicksonPressure\PSI	53	5/17/2025 2:27	81.700
WIGINTON FIRE DicksonPressure\PSI	54	5/17/2025 2:42	81.300
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WIGINTON FIRE DicksonPressure\PSI	56	5/17/2025 3:12	81.300
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WIGINTON FIRE DicksonPressure\PSI	64	5/17/2025 5:12	81.300

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07/02/2025

WIGINTON FIRE DicksonPressure\PSI	65	5/17/2025 5:27	81.200
WIGINTON FIRE DicksonPressure\PSI	66	5/17/2025 5:42	81.700
WIGINTON FIRE DicksonPressure\PSI	67	5/17/2025 5:57	80.700
WIGINTON FIRE DicksonPressure\PSI	68	5/17/2025 6:12	81.500
WIGINTON FIRE DicksonPressure\PSI	69	5/17/2025 6:27	81.200
WIGINTON FIRE DicksonPressure\PSI	70	5/17/2025 6:42	81.300
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WIGINTON FIRE DicksonPressure\PSI	72	5/17/2025 7:12	81.200
WIGINTON FIRE DicksonPressure\PSI	73	5/17/2025 7:27	80.800
WIGINTON FIRE DicksonPressure\PSI	74	5/17/2025 7:42	80.800
WIGINTON FIRE DicksonPressure\PSI	75	5/17/2025 7:57	80.900
WIGINTON FIRE DicksonPressure\PSI	76	5/17/2025 8:12	81.200
WIGINTON FIRE DicksonPressure\PSI	77	5/17/2025 8:27	80.900
WIGINTON FIRE DicksonPressure\PSI	78	5/17/2025 8:42	80.700
WIGINTON FIRE DicksonPressure\PSI	79	5/17/2025 8:57	80.700
WIGINTON FIRE DicksonPressure\PSI	80	5/17/2025 9:12	81.000
WIGINTON FIRE DicksonPressure\PSI	81	5/17/2025 9:27	80.600
WIGINTON FIRE DicksonPressure\PSI	82	5/17/2025 9:42	80.800
WIGINTON FIRE DicksonPressure\PSI	83	5/17/2025 9:57	77.500
WIGINTON FIRE DicksonPressure\PSI	84	5/17/2025 10:12	78.100
WIGINTON FIRE DicksonPressure\PSI	85	5/17/2025 10:27	77.700
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WIGINTON FIRE DicksonPressure\PSI	88	5/17/2025 11:12	78.200
WIGINTON FIRE DicksonPressure\PSI	89	5/17/2025 11:27	70.300
WIGINTON FIRE DicksonPressure\PSI	90	5/17/2025 11:42	70.000
WIGINTON FIRE DicksonPressure\PSI	91	5/17/2025 11:57	69.800
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WIGINTON FIRE DicksonPressure\PSI	98	5/17/2025 13:42	-42.000
WIGINTON FIRE DicksonPressure\PSI	99	5/17/2025 13:57	0.500

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