

Authorization _____
 Work Order No. 1072-128-24913-122

MONTANA-DAKOTA UTILITIES CO.

RECORD OF PRESSURE TEST OF GAS PIPELINE

Date Tested: 5-21-93

Division: BISMARCK Town: BETHLEHEM SD

Line Location: THE WEST PART OF TOWN Street (s) _____

From: _____

To: _____

Line Size & Length: 2" - PLASTIC MAIN

Proposed Service: Low Pressure ☐ ; Medium Pressure ☒ ; Intermediate Pressure ☐
 (Check One) (Up to 8 oz.) (8-oz. to ~~60~~ psig) (Less than transmission but more than medium)

Design Pressure: 50 psig; Test Pressure: 100 psig

Test Medium: Water _____; Air X; Gas _____

Time: At Start of Test 5-17-1:00 A.M. At End of Test 5-21-93 A.M.

Length of Test: 4 days Hrs. _____ Minutes _____

Pressure and Temperature Readings During Test

Elapsed Time	Pressure, psig	Temperature, °F.
At Start of Test	<u>100</u>	_____
30 Minutes	_____	_____
One Hour	_____	_____
At End of Test	<u>100</u>	_____

Pressure Correction Factor: (To be calculated only if there is a change in the temperature of the test medium.)

$$\text{Final Pressure} = \frac{P_1 + P_a}{(T_1 + 460)} (T_2 + 460) - P_a$$

P_a = Atmospheric Pressure in psia

P_1 = Pressure of Test Medium at End of 30 Minute Reading, psig

T_1 = Temperature of " " " " " " " " °F.

T_2 = Temperature " " " " " Test, °F.

Calculated Final Pressure: 100 lbs

Test Made by: Don Schleg Approved: TF Spilman
 (Foreman) (Superintendent)

Note: Recording charts of pressure and temperature, if used, are to be attached to the original of this form and kept on file in the division office.

Authorization _____
 Work Order No. 1672-128-24913-122

MONTANA-DAKOTA UTILITIES CO.

RECORD OF PRESSURE TEST OF GAS PIPELINE

Date Tested: 5-21-93

Division: BISMARCK Town: BETHSBURG SD

Line Location: THE WEST PART OF TOWN Street (s) _____

From: _____

To: _____

Line Size & Length: 2" - PLASTIC MAIN

Proposed Service: Low Pressure ☐ ; Medium Pressure ☒ ; Intermediate Pressure ☐
 (Check One) (Up to 8 oz.) (8 oz. to 60 psig) (Less than transmission but more than medium)

Design Pressure: 50 psig; Test Pressure: 100 psig

Test Medium: Water _____; Air ☒; Gas _____

Time: At Start of Test 5-17-1:00 P.M. At End of Test 5-21-93 A.M.

Length of Test: _____ Hrs. _____ Minutes

Pressure and Temperature Readings During Test

Elapsed Time	Pressure, psig	Temperature, °F.
At Start of Test	<u>100</u>	_____
30 Minutes	_____	_____
One Hour	_____	_____
At End of Test	<u>100</u>	_____

Pressure Correction Factor: (To be calculated only if there is a change in the temperature of the test medium.)
 (For Air or Gas Only)

$$\text{Final Pressure} = \frac{(P_1 + P_a) (T_2 + 460)}{(T_1 + 460)} - P_a$$

P_a = Atmospheric Pressure in psia

P_1 = Pressure of Test Medium at End of 30 Minute Reading, psig

T_1 = Temperature of " " " " " " " " °F.

T_2 = Temperature " " " " " Test, °F.

Calculated Final Pressure: _____

Test Made by: Don Schleg

Approved: O. Gabrilson
 (Foreman)

Mike Zuehl
 (Superintendent)

Note: Recording charts of pressure and temperature, if used, are to be attached to the original of this form and kept on file in the division office.

MONTANA-DAKOTA UTILITIES CO.

RECORD OF PRESSURE TEST OF GAS PIPELINE

Date Tested: 5/21/93

Division: BISMARCK Town: BETTSBURD S.D.

Line Location: SOUTH WEST PART OF TOWN Street (s) _____

From: _____

To: _____

Line Size & Length: 2" PLASTIC MAIN

Proposed Service: Low Pressure ☐ ; Medium Pressure ☒ ; Intermediate Pressure ☐
(Check One) (Up to 8 oz.) (8 oz. to 60 psig) (Less than transmission but more than medium)

Design Pressure: 50 psig; Test Pressure: 100 psig

Test Medium: Water _____; Air ☒; Gas _____

Time: At Start of Test 1:30 5-14-93 A.M. At End of Test 5-21-93 9:00 A.M.

Length of Test: _____ Hrs. _____ Minutes

Pressure and Temperature Readings During Test

Elapsed Time	Pressure, psig	Temperature, °F.
At Start of Test	<u>100</u>	_____
30 Minutes	_____	_____
One Hour	_____	_____
At End of Test	<u>100</u>	_____

Pressure Correction Factor: (To be calculated only if there is a change in the temperature of the test medium.)

$$\text{Final Pressure} = \frac{(P_1 + P_a)(T_2 + 460)}{(T_1 + 460)} - P_a$$

P_a = Atmospheric Pressure in psia

P_1 = Pressure of Test Medium at End of 30 Minute Reading, psig

T_1 = Temperature of " " " " " " " " °F.

T_2 = Temperature " " " " " " " " Test, °F.

Calculated Final Pressure: _____

Test Made by: Don Schlag Approved: G. Gabrielson Mike Smith
(Foreman) (Superintendent)

Note: Recording charts of pressure and temperature, if used, are to be attached to the original of this form and kept on file in the division office.

MONTANA-DAKOTA UTILITIES CO.

RECORD OF PRESSURE TEST OF GAS PIPELINE

Date Tested: 5/21/93

Division: BISMARCK Town: BETTSBURD S.D.

Line Location: SOUTH WEST PART OF TOWN Street (s) _____

From: _____

To: _____

Line Size & Length: 2" PLASTIC MAIN

Proposed Service: Low Pressure ☐ ; Medium Pressure ☒ ; Intermediate Pressure ☐
(Check One) (Up to 8 oz.) (8 oz. to 60 psig) (Less than transmission but more than medium)

Design Pressure: 50 psig; Test Pressure: 100 psig

Test Medium: Water _____; Air X; Gas _____

Time: At Start of Test 1:30 A.M. At End of Test 5-21-93 9:00 A.M.

Length of Test: 4 1/2 Days Hrs. _____ Minutes

Pressure and Temperature Readings During Test

Elapsed Time	Pressure, psig	Temperature, °F.
At Start of Test	<u>100</u>	_____
30 Minutes	_____	_____
One Hour	_____	_____
At End of Test	<u>100</u>	_____

Pressure Correction Factor: (To be calculated only if there is a change in the temperature of the test medium.)

$$\text{Final Pressure} = \frac{(P_1 + P_a)(T_2 + 460)}{(T_1 + 460)} - P_a$$

P_a = Atmospheric Pressure in psia

P_1 = Pressure of Test Medium at End of 30 Minute Reading, psig

T_1 = Temperature of " " " " " " " " °F.

T_2 = Temperature " " " " " Test, °F.

Calculated Final Pressure: 100 psig

Test Made by: Don Schleg Approved: TF Spelman
(Foreman) (Superintendent)

Note: Recording charts of pressure and temperature, if used, are to be attached to the original of this form and kept on file in the division office.

MONTANA-DAKOTA UTILITIES CO.

RECORD OF PRESSURE TEST OF GAS PIPELINE

Date Tested: 6-11-93-6-14-93Division: BISMARCK Town: REHYSBURG S.D.

Line Location: _____ Street (s) _____

From: TESTED ALL THE 4" + 2" PLASTIC PIPETo: THAT WAS INSTALLED SO EARLY
(includes everything except 2" (P) to go out to John Deere Implement.)

Line Size & Length: _____

Proposed Service: Low Pressure ☐ ; Medium Pressure ☒ ; Intermediate Pressure ☐
(Check One) (Up to 8 oz.) (8 oz. to 60 psig) (Less than transmission but more than medium)Design Pressure: _____ psig; Test Pressure: 100 psigTest Medium: Water _____; Air X; Gas _____Time: At Start of Test 2:00 A.M. At End of Test 8:00 A.M.Length of Test: 66 Hrs. _____ Minutes

Pressure and Temperature Readings During Test

Elapsed Time	Pressure, psig	Temperature, °F.
At Start of Test	<u>100</u>	_____
30 Minutes	_____	_____
One Hour	_____	_____
At End of Test	<u>100</u>	_____

Pressure Correction Factor: (To be calculated only if there is a change in the temperature of the test medium.) 24

$$\text{Final Pressure} = \frac{(P_1 + P_a) (T_2 + 460)}{(T_1 + 460)} - P_a$$

 P_a = Atmospheric Pressure in psia P_1 = Pressure of Test Medium at End of 30 Minute Reading, psig T_1 = Temperature of " " " " " " " " °F. T_2 = Temperature " " " " " Test, °F.

Calculated Final Pressure: _____

Test Made by: Donald R. Schleg Approved: G. Gabrielson 7/6/93
(Foreman) (Superintendent)

Note: Recording charts of pressure and temperature, if used, are to be attached to the original of this form and kept on file in the division office.