

 <b>TEST SPECIFICATIONS</b> <b>Black Diamond Gathering, LLC - Pressure Test</b> <b>Rangeview M (PDC Challenger/Jagged)</b>		Date:		Select Routing:																																					
		15-Apr-2021																																							
Project Name:		Project I.D. / AFE Number		Facility Name or Number																																					
Rangeview M (PDC Challenger/Jagged) - OIL - 4" Lateral		5000527		Rangeview M (PDC Challenger/Jagged) - BDO-04-RVM-100/BDO-04-RVM-100-L1																																					
Contractor / Testing Company:		Technician																																							
Northwinds of Wyoming Construction																																									
Installation Location (M.P. or S.S.):		State:	County/Parish:	Class Location Designation	N/A	Selected Design Pressure	1480	Planned MAOP	1480																																
0+00 to 62+05		CO	Weld																																						
Lat:	40.32463	to	Lat:	40.32826																																					
Long:	-104.59194		Long:	-104.57534																																					
<b>Project Description:</b>																																									
Hydrostatic pressure test of 6205' of 4" Carbon Steel.																																									
Testing at 1.25*MAOP = 1850 psig minimum test pressure. <b>2,016</b> psig Target Test Pressure at Chart Location																																									
Max Test Pressure for ANSI 600 Valves and Fittings is 2660 psig where they are located.																																									
LEAK ONLY TEST <input type="checkbox"/> STRENGTH TEST <input type="checkbox"/> FABRICATION <input type="checkbox"/> NEW CONSTRUCTION <input checked="" type="checkbox"/> REPLACEMENT <input type="checkbox"/> RETEST <input type="checkbox"/> REFERENCE DRAWINGS ATTACHED <input checked="" type="checkbox"/>																																									
POST-INSTALLATION TEST <input checked="" type="checkbox"/> PRE-INSTALLATION TEST <input type="checkbox"/>																																									
<b>Test Design Criteria</b>					<b>Test Section - Reference Data</b>																																				
<b>Minimum Component Characteristics</b>		<b>Test Pressure Calculations</b>																																							
<b>Pipe Information</b>		<input type="checkbox"/> Input minimum and maximum pressure of test <input type="checkbox"/> Input minimum and maximum %SMYS of test			<b>Test Medium</b> Water <b>Test Duration</b> 8 hour Hours (min) <b>Section Length</b> 6,205 Ft. <b>Section Fill Volume</b> 5,126 Gal <b>Max. Elevation Change</b> 85 Ft.																																				
<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>O.D.</td><td>4.5</td></tr> <tr><td>Wall Thickness</td><td>0.188</td></tr> <tr><td>SMYS</td><td>52,000</td></tr> <tr><td>Grade</td><td>X52</td></tr> </table>		O.D.	4.5	Wall Thickness	0.188	SMYS	52,000	Grade	X52	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Pressure (psig)</th> <th>% PIPE SMYS</th> </tr> </thead> <tbody> <tr> <td>Max. Test Pressure (Pipe)</td> <td>2220</td> <td>51.1%</td> </tr> <tr> <td>Max. Test Pressure (Valves and Fittings)</td> <td>2220</td> <td>51.1%</td> </tr> <tr> <td>Min.</td> <td>1850</td> <td>42.6%</td> </tr> </tbody> </table>				Pressure (psig)	% PIPE SMYS	Max. Test Pressure (Pipe)	2220	51.1%	Max. Test Pressure (Valves and Fittings)	2220	51.1%	Min.	1850	42.6%	<b>Station Equations:</b> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>Back</td> <td>0+00</td> <td>0+00</td> <td>0+00</td> </tr> <tr> <td>Ahead</td> <td>0+00</td> <td>0+00</td> <td>0+00</td> </tr> </tbody> </table>						1	2	3	Back	0+00	0+00	0+00	Ahead	0+00	0+00	0+00
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<b>Valve/Flange ANSI Class Rating</b>																																									
600# Valves/Fittings																																									
<b>Test Pressures</b>																																									
Location	Station	Elevation (feet)	Max. psig.	% SMYS @ Max.	Min. psig.	% SMYS @ Min.	Variance psig.	Target psig.	% SMYS @Target																																
BEGIN -	0+00	4855	2,183	50.2%	1,850	42.6%	333	2,016	46.4%																																
HIGH ELEVATION	0+00	4855	2,183	50.2%	1,850	42.6%	333	2,016	46.4%																																
LOW ELEVATION	54+49	4770	2,220	51.1%	1,887	43.4%	333	2,053	47.3%																																
END	62+05	4775	2,218	51.0%	1,885	43.4%	333	2,051	47.2%																																
<b>Chart Location (Test Point)</b>	<b>0+00</b>	<b>4855</b>	<b>2,183</b>	<b>50.2%</b>	<b>1,850</b>	<b>42.6%</b>	<b>333</b>	<b>2,016</b>	<b>46.4%</b>																																
<b>REMARKS:</b>																																									
ASME B16.5 2.6 System Hydrostatic Testing 2003:																																									
Flanged joints and flanged fittings may be subjected to system hydrostatic tests at a pressure of 1.5 times the 38°C (100°F) rating rounded off to the next higher 1 bar (25 psi) increment. Testing at any higher pressure is the responsibility of the user, taking into account the requirements of the applicable code or regulation.																																									
<b>PRE-TEST APPROVAL / REVIEWED BY:</b>			<b>TEST PERFORMED / ACCEPTED BY:</b>			<b>POST-TEST REVIEWED BY:</b>																																			
Originator/Project Manager (Signature)	Date:	Test Performed by (Signature):	Date:	Construction Manager (signature)	Date:																																				
Craig Melton	04/15/2021	<i>[Signature]</i>	4/27/21	<i>[Signature]</i>	4-27-21																																				
Designed Reviewed if applicable (Signature)	Date:	Company Name (for Contractor or for Employee):	Date:																																						
		Northwind of Wyoming	4/27/21																																						
Compliance (Signature)	Date:	Witnessed & Accepted by Company Representative:	Date:	Actual MAOP																																					
		<i>[Signature]</i>	4/27/2021																																						





# Pipeline Pressure Test Documentation

Pressure Test Report

Form :

Revision

3

Revision Date

Project Name: Range view MC PDC Challenger / Tagged

AFE No.: 5000529

Contractor / Testing Company: North Winds

Technician: Osiel Lima

Test Section No.: 0

From Station No.: 0400

Test Description: Hydro Test 4" Oil lateral

To Station No.: 62+05

Test Type: Subpart E Test

Start of Test Period:

Date: 4-27-21

Time: 5:30 AM

Min. Test Duration: 8-Hrs

End of Test Period:

Date: 4-27-21

Time: 13:30 PM

Class Location: Not Applicable (Liquids)

Low Strength Pipe: O.D.: 4.5

W.T.: 0.188

SMYS: 52000

Grade: X52

Station Piping: Yes

Test Medium: H2O

Source of Medium:

N/A

Corrosion Inhibitor: No

Inhibitor Type:

N/A

Rate: N/A

Leak Detection: No

Material Type:

N/A

Rate: N/A

Deadweight Tester: Mfg: Crystal

Serial #: 916750

Calibration Date: 01-04-2021

Deadweight Tester Location: Station No. (ESN):

Elevation (ft):

Pressure Recorder: Mfg: Barton

Serial #: 242E-2671

Calibration Date: 4-21-21

Pipe Temp. Recorder: Mfg: Barton

Serial #: 242E-2671

Calibration Date: 4-21-21

Pre-approved Target Test Pressure: 2016 psig

Max Elevation Change: 85ft+

Target Test Pressure Range

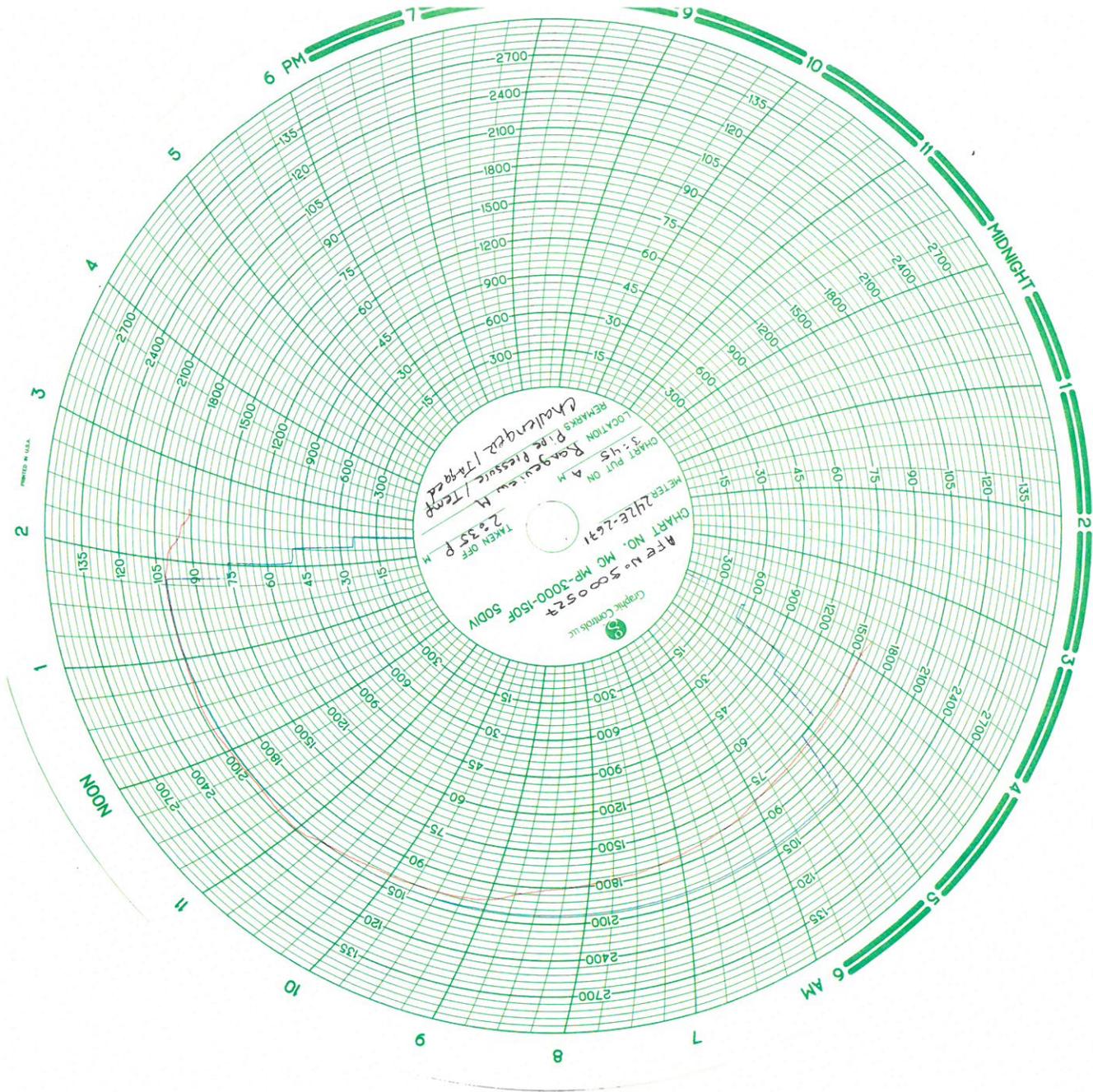
Maximum Test Pressure: 2220 psig

Minimum Test Pressure: 1850 psig

Time	Pressure (psig)	Pipe Temp.	Amb. Temp.	Weather	Visual Inspection	Comments
3:55	0	81	71	cloudy		let it run 10 min
4:05	0	78	71			Pressure up to 500 PSI
4:10	520	78	64		check for leaks	Hold 15 min
4:25	520	78	60			Pressure up to 1000 PSI
4:33	1017	78	60		check for leaks	Hold 15 min.
4:48	1017	78	60			Pressure up to 1500
4:53	1503	78	60		Heater on.	Hold 15 min.
5:08	1503	79	60			Pressure up to Target
5:12	2018	79	60		check for leaks	Target Pressure
5:30	2018	79	60			Start Test 8 hrs
5:45	2018	80	59			
6:00	2019	80	59			
6:15	2019	81	59			
6:30	2020	81	59			
6:45	2020	81	59			
7:00	2021	82	59			
7:15	2021	85	59			
7:30	2021	86	59			
7:45	2022	87	59			
8:00	2023	88	59			
8:15	2024	90	59			
8:30	2026	92	60			











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Toll Free 1.800.327.7257

www.jmcinstruments.com

CR-5

### CERTIFIED CALIBRATION

CUSTOMER Cross Country ORDER NO. \_\_\_\_\_

ITEM Digital Gauge RANGE 0-5000PSIG ITEM NO. 5194-2

TRUE VALUE PSIG	INDICATED VALUE	
	INCREASING READINGS	DECREASING READINGS
0.00	0	0
500.00	499.7	499.8
1000.00	999.5	999.6
1500.00	1498.9	1499.3
2000.00	1998.6	1999.1
2500.00	2498.3	2498.8
3000.00	2997.8	2998.4
3500.00	3497.5	3497.9
4000.00	3996.8	3997.3
4500.00	4496.6	4497.0
5000.00	4996.2	4996.2

Tested On: Deadweight Tester S/N# 1GA4474

Traceable to National Institute of Standards and Technology certificate # 17-043

Tested By: Brian McLein Date January 4 2021

Remarks:

<u>Crystal</u>	<u>XP2i</u>	<u>SN# 916750</u>
Accuracy is +/- <u>0.25</u>		% of Full Scale or Better
Test Conditions <u>68 °F; 618</u>		mmHg Atm. Pressure

# Cross Country Infrastructure Services. Inc

Sales and Service

2251 Rifle Street - Aurora, Colorado 80011

Phone 303.361.6797 Fax 303.361.6836

C-2

## NIST CALIBRATION DATA

Model Number	Serial Number	Customer	Range	Accuracy
Barton	202A-121213	NorthWinds of Wyo.	3000# - 150F	1/2%

Work Performed:	Calibration: Output/Reading	Results: Pressure
Calibrate to Mfg. Spec.	0 PSI	0 PSI
	600 PSI	600 PSI
	1200 PSI	1200 PSI
	1800 PSI	1800 PSI
	2400 PSI	2400 PSI
	3000 PSI	3000 PSI
	33 Deg	32 DEG
	55 DEG	55 DEG
	109 DEG	109 DEG
	149 DEG	149 DEG

PO Number	Sales Order Number	Date of Test
Calibrated	Certified	12/1/2020 4:47:56 PM

Remarks: ALL CALIBRATIONS ARE GOOD FOR ONE YEAR FROM DATE OF TEST

### Standard Used:

Manufacturer	Model	Instrument	Calibration Date	Certification #
Perma-Cal	101FTM15B21	Pressure Gauge	03/06/2020	17-043
Tech Instrumentation	TM99A	Thermometer	03/06/2020	59448

Don F.

Signature

Don Fuchs

12-1-2020

# Cross Country Infrastructure Services. Inc

Sales and Service

2251 Rifle Street - Aurora, Colorado 80011

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C-3

## NIST CALIBRATION DATA

Model Number	Serial Number	Customer	Range	Accuracy
Barton	242E-2671	NorthWinds of Wyo.	3000# - 150F	1/2%

Work Performed:	Calibration: Output/Reading	Results: Pressure
Calibrate to Mfg. Spec.	0 PSI	0 PSI
	600 PSI	600 PSI
	1200 PSI	1200 PSI
	1800 PSI	1800 PSI
	2400 PSI	2400 PSI
	3000 PSI	3000 PSI
	33 Deg	33 DEG
	68 DEG	68 DEG
	100 DEG	100 DEG
	150 DEG	150 DEG

PO Number	Sales Order Number	Date of Test
Calibrated	Certified	4/21/2021 11:02:37 AM

Remarks: ALL CALIBRATIONS ARE GOOD FOR ONE YEAR FROM DATE OF TEST

### Standard Used:

Manufacturer	Model	Instrument	Calibration Date	Certification #
Perma-Cal	101FTM15B21	Pressure Gauge	03/05/2021	17-043
Tech Instrumentation	TM99A	Thermometer	03/05/2021	59448

Don F.

Signature Don Erick 4-21-21