

TEST SPECIFICATIONS						Date:		Select Routing:	
<b>Saddle Butte Rockies Midstream, LLC - Hydrostatic Pressure Test</b>						6-Nov-2017			
Rangeview D - Phase 1						Test Number: 1		of 1	
Project Name: Rangeview D				Project I.D. / AFE Number 17C006A		Facility Name or Number Rangeview D - Phase 1			
Installation Location (M.P. or S.S.):		State:	County/Parish:	Class Location Designation	N/A	Selected Design Pressure	1480	Planned MAOP	1400
0+00 to 181+56.4		CO	Weld						
Project Description:									
Hydrostatic pressure test of the 8" lateral pipeline. <span style="float: right;">* included piping to Brown lact unit</span>									
Testing at 1.25*MAOP = 1850 psig minimum test pressure. <b>2100 psig Target Test Pressure at Chart Location</b>									
Max Test Pressure for ANSI 600 Valves and Fittings is 2660 psig where they are located.									
Test shall be compliant with all test specifications in Exhibit D "Pipeline Construction Specifications" and all other Construction Documents.									
LEAK ONLY TEST <input type="checkbox"/> STRENGTH TEST <input checked="" type="checkbox"/> FABRICATION <input type="checkbox"/> NEW CONSTRUCTION <input checked="" type="checkbox"/> REPLACEMENT <input type="checkbox"/> RETEST <input type="checkbox"/> REFERENCE DRAWINGS ATTACHED <input type="checkbox"/>									
POST-INSTALLATION TEST <input checked="" type="checkbox"/> PRE-INSTALLATION TEST <input type="checkbox"/>									
Test Design Criteria					Test Section - Reference Data				
Minimum Component Characteristics		Test Pressure Calculations			Test Medium <b>Water</b> Test Duration <b>8</b> Hours (min) Section Length <b>18,157</b> Ft. Section Fill Volume <b>55,105</b> Gal Max. Elevation Change <b>63</b> Ft. Station Equations:    1    2    3 Back    0+00    0+00    0+00 Ahead    0+00    0+00    0+00				
Pipe Information		<input type="checkbox"/> Input minimum and maximum pressure of test <input type="checkbox"/> Input minimum and maximum %SMYS of test							
O.D.    8.625 Wall Thickness    0.219 SMYS    52,000									
Valve/Flange ANSI Class Rating 600# Valves/Fittings									
		Pressure (psig)    % PIPE SMYS							
		Max. Test Pressure (Pipe)			2350    89.0%				
		Max. Test Pressure (Valves and Fittings)			2660    100.7%				
		Min.			1850    70.1%				
Test Pressures									
Location	Station	Elevation (feet)	Max. psig.	% SMYS @ Max.	Min. psig.	% SMYS @ Min.	Variance psig.	Target psig.	% SMYS @Target
BEGIN -	0+00	4683	2,323	88.0%	1,850	70.1%	473	2,086	79.0%
HIGH ELEVATION	0+00	4683	2,323	88.0%	1,850	70.1%	473	2,086	79.0%
LOW ELEVATION	47+85	4620	2,350	89.0%	1,877	71.1%	473	2,113	80.0%
END	181+56.4	4650	2,337	88.5%	1,864	70.6%	473	2,100	79.5%
Chart Location (Test Point)	181+56.4	4650	2,337	88.5%	1,864	70.6%	473	2,100	79.5%
REMARKS:									
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.									
Test shall be compliant with all test specifications in Exhibit D "Pipeline Construction Specifications" and all other Construction Documents.									
PRE-TEST SPECIFIED / REVIEWED BY:			TEST PERFORMED / ACCEPTED BY:			POST-TEST REVIEWED BY:			
Originator (Signature)	Date:	Test Performed by (Signature):		Date:	Compliance (signature)		Date:		
Designed Reviewed if applicable (Signature)	Date:	Company Name (for Contractor or for Employee):		Date:	Engineering or Operations (Signature)		Date:		
Compliance (Signature)	Date:	Witnessed & Accepted by Company Representative:		Date:	Actual MAOP				
		(Signature) Charles Walker		11-20-17					



April 2006

MOP Establishment and Pressure Testing of Pipelines  
TG1601.190

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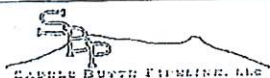
LIQUID PIPELINE  
PRESSURE TEST  
REPORT

Pressure Test Number 1 11-20-2017

MOP of tested facility is 1400 PSIG

Company: Saddle Butte Operations Area: \_\_\_\_\_  
Project: Rangerview D Phase 1 AFE: 17C006A  
Pipeline: \_\_\_\_\_  
Section: \_\_\_\_\_  
Station or Milepost From: 0+00 To: 181+56





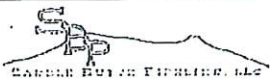
## INSTRUCTIONS

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In this worksheet, cells containing formulas are protected against input.  
Cells with **BLUE** text labels allow or require input.

<i>General Information</i>	<ul style="list-style-type: none"> <li>Complete this Report and attached necessary exhibits for all SBP installed pipelines or pipeline segments or those re-qualified for service.</li> <li>Fill in all applicable information. If information is not applicable, write NA in the corresponding space on the Report.</li> </ul>
<i>Pipe Data</i>	<ul style="list-style-type: none"> <li>Record the details for each pipe section tested, including lengths, line fill, pipe fittings, etc.</li> <li>Add together pipe section lengths and line fill for a total pipe section length and line fill.</li> </ul>
<i>Test Water Data</i>	<ul style="list-style-type: none"> <li>Enter water source information (i.e., from municipal supply, well, river, lake, pond) in the Test Log or notes section of the Report.</li> <li>Source water temperature compared to ground temperature can assist with understanding the time for the water to stabilize.</li> </ul>
<i>Pressure Calculations</i>	<ul style="list-style-type: none"> <li>Elevation of high and low points and the elevation of the test pressure measure sites is required for calculation of the target test pressures.</li> </ul>
<i>Test Log</i>	<ul style="list-style-type: none"> <li>Fill out the Test Log at the time of the test. This is the actual log of the test.</li> <li>From the start of filling the test section, record pressure readings from the calibrated test gauge or deadweight tester used in the test.</li> <li>Record the test pressure and temperatures at intervals of 30 minutes to an hour and as necessary to represent the test pressure during the test period.</li> <li>The below ground pipe temperature sensor should be placed away from exposed pipe and far enough from the water injection point so that water injected will not affect the readings.</li> <li>In the Remarks column, enter start of test, end of test, and any remarks concerning unusual events, such as liquid added or withdrawn, weather conditions, etc.</li> </ul>
<i>Notes</i>	<ul style="list-style-type: none"> <li>Enter all pertinent comments about the test, including such things as weather conditions, radical weather changes, equipment malfunctions, or any other noteworthy event that may affect testing.</li> </ul>
<i>Profile</i>	<ul style="list-style-type: none"> <li>An elevation profile is required for any test section where the elevation varies more than 100 feet. The following items should be noted on the profile: <ul style="list-style-type: none"> <li>Location and elevation where test pressure measurements are taken</li> <li>High and low points</li> <li>Stationing or mileposts</li> <li>Horizontal and vertical scale of the drawing</li> </ul> </li> <li>Elevation data is available in electronic format from the KPL mapping system.</li> <li>If electronic elevation data is not available, take profile elevations from survey information or from U.S. Geological Service 7 1/2 minute topographical maps.</li> </ul>
<i>Failure Log</i>	<ul style="list-style-type: none"> <li>Record each failure event that causes the line to be taken "off test".</li> <li>Enter the date, time, and pressure at the time of failure.</li> <li>List the apparent cause of the failure if the actual cause cannot be determined. Pipe seam failure or leaking flange, for example, could be entered as the cause of test failure.</li> <li>Describe the repair method (i.e., changed-out pipe or tightened flange).</li> </ul>
<i>Supplementary Documentation</i>	<ul style="list-style-type: none"> <li>Check each supplementary documentation attached as part of this test record (i.e., test charts and/or equipment certifications).</li> <li>Write the corresponding Exhibit Number on the attached supplementary documentation.</li> </ul>
<i>Certification</i>	<ul style="list-style-type: none"> <li>Signatures of the Company and Contractor representatives in charge of the test are MANDATORY.</li> </ul>

# Range View



## PRESSURE CALCULATIONS

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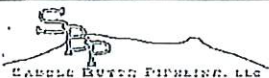
Location of Test Point <u>Latham</u> <u>Ditch</u>	Elevation of Test Point <u>4650</u> Ft. (Elevation) <u>181-56</u> Ft. (Station)	High Point <u>4683</u> Ft. (Elevation) <u>0+00</u> Ft. (Station) Location Name	Low Point <u>4620</u> Ft. (Elevation) <u>47+95</u> Ft. (Station) Location Name
Target MOP: <u>1400</u> Target Test Pressure Range 1st Min:                      Maximum: 2nd Min:	Test Duration: <u>6</u> hr High Point                      Low Point	Start Point <u>4683</u> Ft. (Elevation) <u>0+00</u> Ft. (Station) Location Name	End Point <u>4650</u> Ft. (Elevation) <u>181+56</u> Ft. (Station) Location Name

## TEST LOG

DATE	TIME	PRESSURE	AMBIENT TEMP	BELOW GROUND TEMP	ABOVE GROUND TEMP	REMARKS
11-26-17	6:15A	0	28	34	35	
	6:30	0	28	35	35	Build to 500
	6:30	517	28	36	36	
	6:45	517	28	36	39	Build to 1000
	7:00	1000	28	36	40	
	7:15	1000	28	36	41	Build to 1500
	7:25	1500	29	36	42	
	7:40	1500	29	36	43	Build to 2000
	7:52	2000	30	36	43	
	8:07	2000	30	36	43	Build to 2100 +
	8:11	2119	31	36	44	
	8:15	2119	31	36	44	
	8:30	2118	31	36	46	
	8:45	2118	32	36	48	
*	9:00	2118	34	36	49	*BEGIN TEST*
	9:15	2118	35	36	51	
	9:30	2118	36	36	52	Mostly cloudy
	9:45	2118	38	36	54	
	10:00	2118	40	36	56	
	10:15	2118	42	36	57	Check for leaks, check
	10:30	2118	44	36	58	1" Valves
	10:45	2118	45	36	60	
	11:00	2119	46	36	61	
	11:15	2119	46	36	63	
	11:30	2119	49	36	64	
	11:45	2118	53	36	65	
	12:00	2119	57	36	66	Mostly Sunny
	12:15	2119	61	36	66	
	12:30	2119	62	36	67	
	12:45	2119	64	37	67	
	1:00	2119	65	37	67	
	1:15	2119	66	37	67	
	1:30	2119	66	37	67	Check for leaks, and check
	1:45	2119	66	37	67	1" Valves
	2:00	2119	66	37	66	
	2:15	2120	66	37	66	Mostly Sunny
	2:30	2120	66	37	66	
	2:45	2120	66	37	66	
	3:00	2120	66	37	66	Sunny



# Rangobier



## TEST LOG (CONTINUED)

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DATE	TIME	PRESSURE	TEMP		REMARKS
			AMBIENT	BELOW GROUND	
11-20-17	3:15 P	2120	65	37	66
	3:30	2121	65	37	66
	3:45	2121	65	37	66
	4:00	2122	65	37	66
	4:15	2122	65	37	66
	4:30	2122	64	37	66
	4:45	2122	62	37	66
	* 5:00	2123	60	37	66
	5:15	2123	59	37	66
	5:30	1996	58	37	64
	5:35	1994	66	37	64
	5:40	1497	56	37	64
	5:55	1497	54	37	63
	6:00	997	54	37	63
	6:15	997	52	37	62
	6:20	501	52	37	62
	6:35	501	52	37	61
	6:40	0	51	37	60
	6:55	0	51	37	60



## TEST EQUIPMENT

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### PRESSURE RECORDER 1:

Mfg. Barton  
Model   
Serial No. 2022-007  
Range 0-3000 PSI  
0-1500 F  
Notes: Cal on 7-27-17

### PRESSURE RECORDER 2:

Mfg.   
Model   
Serial No.   
Range   
Notes:

### DEADWEIGHT TESTER OR CALIBRATED TEST GAUGE:

Mfg. Crystal Engineering  
Model XP2  
Serial No. 352036  
Date of last Calibration 7-27-17  
Calibrated by APLY  
Range 0-5000 PSI  
Notes:

### TEMPERATURE RECORDER:

Mfg. Barton  
Model   
Serial No. 265A 3511  
Range 0-150°  
Notes: Cal on 9-16-17

### CALIBRATION OF TEMPERATURE RECORDER

Temperature recorder reading	Test mercury thermometer reading	Remarks

### CALIBRATION OF PRESSURE RECORDER 1

Pressure recorder reading	Deadweight tester reading	Remarks

### CALIBRATION OF PRESSURE RECORDER 2

Pressure recorder reading	Deadweight tester reading	Remarks

### NOTES





## EQUIPMENT CALCULATED MOP SUMMARY WORKSHEET

PAGE 6 OF 9

## 1. Test Information:

Target MOP 1400Enter the desired MOP,  
if less than pipe  
internal design  
pressure.Date 11-20-17Time 6:15 AMTest Point Location Block valve @ Latham DitchTest Medium WaterTest Duration 8 hr

Specific Gravity of Test Medium \_\_\_\_\_

Min. Test Press. at test site 125% of min. MOP + elev. 1850

110% \_\_\_\_\_

Maximum allowable % of SMYS = 100%

## 2. Pipe Specifications:

Manufacture Type \_\_\_\_\_

Grade X-5Pipe (#1) O.D. 8.625SMYS 52,000MOP 1400

Seam Joint Factor \_\_\_\_\_

Wall thickness .219

Design Factor (F) \_\_\_\_\_

Length (ft.): 18,157Volume 55,105

Max allowable test pressure, psig \_\_\_\_\_

## 3. Pipe Specifications:

Manufacture Type \_\_\_\_\_

Grade \_\_\_\_\_

Pipe (#2) O.D. \_\_\_\_\_

SMYS \_\_\_\_\_

MOP \_\_\_\_\_

Seam Joint Factor \_\_\_\_\_

Wall thickness \_\_\_\_\_

Design Factor (F) \_\_\_\_\_

Length (ft.): \_\_\_\_\_

Volume \_\_\_\_\_

Max allowable test pressure, psig \_\_\_\_\_

## 4. Pipe Specifications:

Manufacture Type \_\_\_\_\_

Grade \_\_\_\_\_

Pipe (#3) O.D. \_\_\_\_\_

SMYS \_\_\_\_\_

MOP \_\_\_\_\_

Seam Joint Factor \_\_\_\_\_

Wall thickness \_\_\_\_\_

Design Factor (F) \_\_\_\_\_

Length (ft.): \_\_\_\_\_

Volume \_\_\_\_\_

Max allowable test pressure, psig \_\_\_\_\_

## 5. Pipe Specifications:

Manufacture Type \_\_\_\_\_

Grade \_\_\_\_\_

Pipe (#4) O.D. \_\_\_\_\_

SMYS \_\_\_\_\_

MOP \_\_\_\_\_

Seam Joint Factor \_\_\_\_\_

Wall thickness \_\_\_\_\_

Design Factor (F) \_\_\_\_\_

Length (ft.): \_\_\_\_\_

Volume \_\_\_\_\_

Max allowable test pressure, psig \_\_\_\_\_

## 6. Pipe Specifications:

Manufacture Type \_\_\_\_\_

Grade \_\_\_\_\_

Pipe (#5) O.D. \_\_\_\_\_

SMYS \_\_\_\_\_

MOP \_\_\_\_\_

Seam Joint Factor \_\_\_\_\_

Wall thickness \_\_\_\_\_

Design Factor (F) \_\_\_\_\_

Length (ft.): \_\_\_\_\_

Volume \_\_\_\_\_

Max allowable test pressure, psig \_\_\_\_\_

## 7. Pipe Specifications:

Manufacture Type \_\_\_\_\_

Grade \_\_\_\_\_

Pipe (#6) O.D. \_\_\_\_\_

SMYS \_\_\_\_\_

MOP \_\_\_\_\_

Seam Joint Factor \_\_\_\_\_

Wall thickness \_\_\_\_\_

Design Factor (F) \_\_\_\_\_

Length (ft.): \_\_\_\_\_

Volume \_\_\_\_\_

Max allowable test pressure, psig \_\_\_\_\_

## 8. Pipe Fittings Specifications:

Manufacture Type \_\_\_\_\_

Grade \_\_\_\_\_

Pipe Fitting O.D. \_\_\_\_\_

SMYS \_\_\_\_\_

MOP \_\_\_\_\_

Seam Joint Factor \_\_\_\_\_

Fitting Description \_\_\_\_\_

Wall thickness \_\_\_\_\_

Design Factor (F) \_\_\_\_\_

Max allowable test pressure, psig \_\_\_\_\_

## 9. Pipe Fittings Specifications:

Manufacture Type \_\_\_\_\_

Grade \_\_\_\_\_

Pipe Fitting O.D. \_\_\_\_\_

SMYS \_\_\_\_\_

MOP \_\_\_\_\_

Seam Joint Factor \_\_\_\_\_

Fitting Description \_\_\_\_\_

Wall thickness \_\_\_\_\_

Design Factor (F) \_\_\_\_\_

Max allowable test pressure, psig \_\_\_\_\_

## 10. Pipe Fittings Specifications:

Manufacture Type \_\_\_\_\_

Grade \_\_\_\_\_

Pipe Fitting O.D. \_\_\_\_\_

SMYS \_\_\_\_\_

MOP \_\_\_\_\_

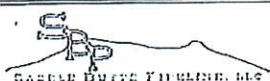
Seam Joint Factor \_\_\_\_\_

Fitting Description \_\_\_\_\_

Wall thickness \_\_\_\_\_

Design Factor (F) \_\_\_\_\_

Max allowable test pressure, psig \_\_\_\_\_

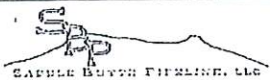


EQUIPMENT CALCULATED MOP SUMMARY WORKSHEET  
(continued)

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11. Manufactured:		Weldolet, etc. O.D.	Working Pressure
Manufacture Type	Grade		
Fitting Description			
		Max allowable test pressure, psig	
12. Manufactured:		Pipe Flanges O.D.	Working Pressure
Manufacture Type	Class		
	Temperature Derating Factor (T)		
		Max allowable test pressure, psig	
13. Manufactured:		Pipe Flanges O.D.	Working Pressure
Manufacture Type	Class		
	Temperature Derating Factor (T)		
		Max allowable test pressure, psig	
14. Manufactured:		Block Valve Size	Working Pressure
Manufacture Type	Class		
	Temperature Derating Factor (T)		
		Max allowable test pressure, psig	
15. Calculated MOPs (psi):			
Test Pressure Range @Test Site, psig		125% to psig	110% to psig
Note: Add <input type="text" value="0"/> psi to min. test range			
Maximum test pressure at test site, psig			
CALCULATED TARGET MOP OF PIPELINE SECTION		PSIG	





## FAILURE LOG

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### FAILURE:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am / pm Failure Pressure: \_\_\_\_\_

Apparent Cause: \_\_\_\_\_  
\_\_\_\_\_

### REPAIR:

Describe Repair Method: \_\_\_\_\_  
\_\_\_\_\_

### FAILURE:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am / pm Failure Pressure: \_\_\_\_\_

Apparent Cause: \_\_\_\_\_  
\_\_\_\_\_

### REPAIR:

Describe Repair Method: \_\_\_\_\_  
\_\_\_\_\_

### FAILURE:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am / pm Failure Pressure: \_\_\_\_\_

Apparent Cause: \_\_\_\_\_  
\_\_\_\_\_

### REPAIR:

Describe Repair Method: \_\_\_\_\_  
\_\_\_\_\_

### FAILURE:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am / pm Failure Pressure: \_\_\_\_\_

Apparent Cause: \_\_\_\_\_  
\_\_\_\_\_

### REPAIR:

Describe Repair Method: \_\_\_\_\_  
\_\_\_\_\_

### FAILURE:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am / pm Failure Pressure: \_\_\_\_\_

Apparent Cause: \_\_\_\_\_  
\_\_\_\_\_

### REPAIR:

Describe Repair Method: \_\_\_\_\_  
\_\_\_\_\_



## SUPPLEMENTARY DOCUMENTATION

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The following marked exhibits are attached as a part of this Test Report:

- EXHIBIT NO. 1 ☐ Sketch of Tested Piping (including how section is isolated), with material list
- EXHIBIT NO. 2 ☐ Profile of pipeline section and/or segment
- EXHIBIT NO. 3 ☐ Pressure Chart, with pressure test number, date, test section name, Inspector name and signature
- EXHIBIT NO. 4 ☐ Temperature Chart, with pressure test number, date, test section name, Inspector name and signature
- EXHIBIT NO. 5 ☐ Pressure Recorder Certification Papers
- EXHIBIT NO. 6 ☐ Temperature Recorder Certification Papers
- EXHIBIT NO. 7 ☐ Deadweight or Calibrated Test Gauge Certification Papers
- EXHIBIT NO. 8 ☐ Field test data log, if hand written
- EXHIBIT NO. 9 ☐ Pressure Test Procedure, if applicable, with MOP Area Representative and Engineer signature approval

## CERTIFICATION

I certify this pipeline or pipeline section has been tested and successfully met the terms of SBP MOP Establishment and Pressure Testing of Pipelines Technical Guideline and, where applicable, the contract document between SBP and its prime contractor.

MOP Area Representative

By: \_\_\_\_\_ Date: \_\_\_\_\_  
(Please print) (Signature)

Engineer

By: \_\_\_\_\_ Date: \_\_\_\_\_  
(Please print) (Signature)

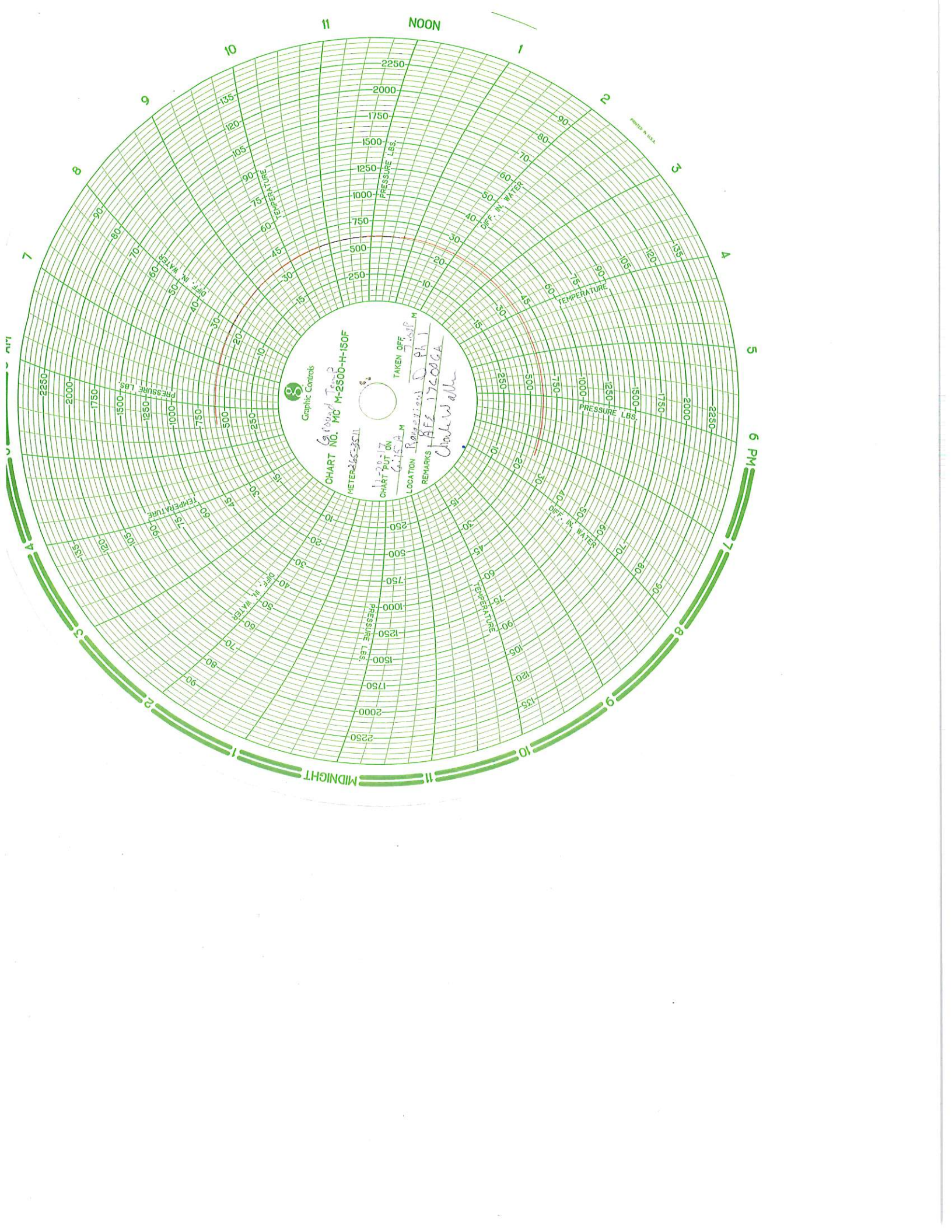
Inspector

By: Charles Wallace Charles Waller Date: 11-20-17  
(Please print) (Signature)

Name of Testing Contractor

North Winds of Wyoming  
By: Dwayne Keys Dwayne Keys Date: 11-20-17  
(Please print) (Signature)





Graphic Controls

CHART NO. MC M-2500-H-150F

METER 465-3211

CHART PUT ON

11-20-17

LOCATION

REMARKS

APPE 172006A

Chowdhury

TAKEN OFF

11-20-17

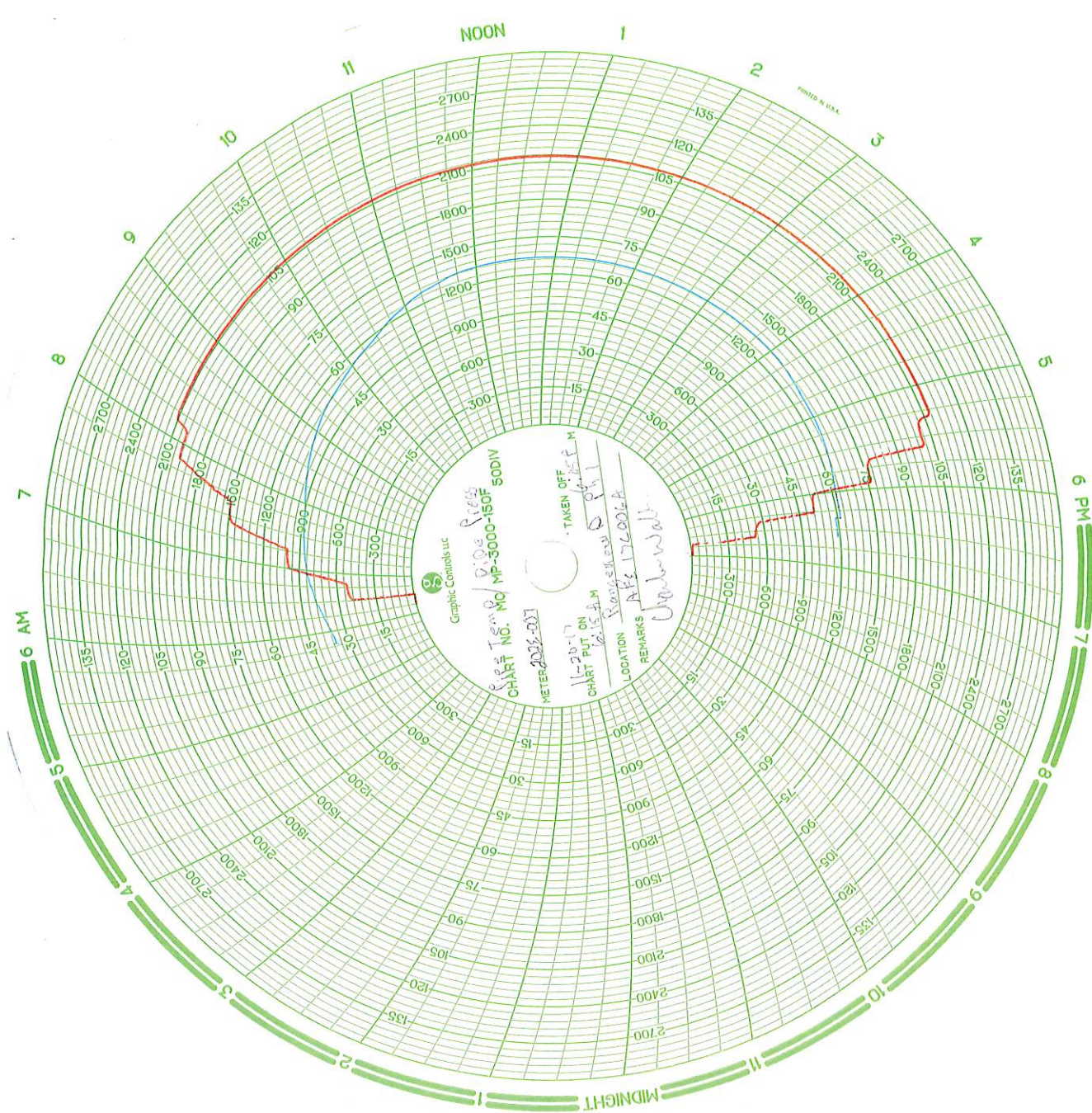
LOCATION

REMARKS

APPE 172006A

Chowdhury







Ground Temp  
Range view D

C-1

# PSS-COMPANIES



9700 E. 104<sup>TH</sup> AVE, UNIT F- HENDERSON, CO 80640 - Phone (303)857-7986 - Fax (303)389-4945

## CALIBRATION CERTIFICATE

**CERTIFICATE NUMBER: CO**

**Details +/- 1.0% ACCURACY**

**DATE CALIBRATED:** 09/16/2017

**DUE DATE:** 09/15/2018

**INDICATED TEMPERATURE RANGE:** # 0 – 150°F

**INDICATED PRESSURE RANGE:** #0 – 2500 PSI

**SERIAL NO:** 265A3511

**MANUFACTURER:** BARTON/ 12" RECORDER

**TYPE OF INSTRUMENT CALIBRATED:** TEMPERATURE / PRESSURE RECORDER

**INSTRUMENT FINDINGS/STATUS:** UNIT IS IN TOLERANCE/ INSTRUMENT MEETS OR EXCEEDS SPECIFICATIONS.

**BASED ON INTERNATIONAL STANDARDS OF GRAVITY:** (980.665 cm./sq.).

**TYPE OF STANDARD USED TO CALIBRATE:** REFINERY DEADWEIGHT TEST UNIT SPT.  
(35225-3) SERIAL No. 5268: KESSLER TEST THERMOMETERS; SERIAL NO. CALIBRATION  
DATE: JANUARY 30, 2017

**ALL STANDARD DIRECTLY TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGIES TEST NO:** (N.I.S.T.) 2.6/172490 & 6.6/139577.

**CALCULATED USING MASS VALUES, AREA, AO, AND STATED GRAVITY.**  
**ROOM TEMPERATURE/HUMIDITY (AT TIME OF TEST):** 66°F / 25%.

CALIBRATED BY: NICK BEDFORD



C 3

# PSS-COMPANIES



9700 E. 104<sup>TH</sup> AVE, UNIT F- HENDERSON, CO 80640 - Phone (303)857-7986 - Fax (303)389-4945

## CALIBRATION CERTIFICATE

CERTIFICATE NUMBER: CO

Details +/- 1.0% ACCURACY

DATE CALIBRATED: 07/27/2017

DUE DATE: 07/27/2018

INDICATED TEMPERATURE RANGE: # 0 – 150°F

INDICATED PRESSURE RANGE: #0 – 3000 PSI

SERIAL NO: 202E-007

MANUFACTURER: BARTON/ 12" RECORDER

TYPE OF INSTRUMENT CALIBRATED: TEMPERATURE / PRESSURE RECORDER

INSTRUMENT FINDINGS/STATUS: UNIT IS IN TOLERANCE/ INSTRUMENT MEETS OR EXCEEDS SPECIFICATIONS.

BASED ON INTERNATIONAL STANDARDS OF GRAVITY: (980.665 cm./sq.).

TYPE OF STANDARD USED TO CALIBRATE: REFINERY DEADWEIGHT TEST UNIT SPT. (35225-3) SERIAL No. 5268: KESSLER TEST THERMOMETERS; SERIAL NO. CALIBRATION DATE: JANUARY 30, 2017

ALL STANDARD DIRECTLY TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGIES TEST NO: (N.I.S.T.) 2.6/172490 & 6.6/139577.

CALCULATED USING MASS VALUES, AREA, AO, AND STATED GRAVITY.  
ROOM TEMPERATURE/HUMIDITY (AT TIME OF TEST): 66°F / 25%.

CALIBRATED BY: NICK BEDFORD





7200 E. Dry Creek Rd, STE C-102, Centennial, CO 80112  
Ph. 303-804-0867 Cal.Lab@Apex-Instruments.com

# Calibration Certificate

**Certificate Number: 172224**

**Customer:**

Pipeline Supply & Service  
Henderson, CO

**Manufacturer:** Crystal Engineering  
**Model Number:** XP2i 5000 psi  
**Serial Number:** 352036  
**Description:** Digital Test Gauge  
**Procedure:** CRY\_P\_XP2i  
**Calibrated To:** Manufacturer's Specifications  
**Technician:** Austin Molyneux

**Calibration Date:** 7/27/2017  
**Due Date:** 7/27/2018  
**As Found:** In Tolerance  
**As Left:** As Found  
**Temperature:** 72 F  
**Humidity:** 30 %

**Tolerance Specs:**

0 - 20%: +/- (0.02% of FS)  
20% - 100%: +/- (0.1% of Rdg)

**Technician Notes:**

As Left Userspan: 1.00017

Approved Signatory: 

Apex Instruments certifies that the instrument listed above meets the specifications of the manufacturer at the completion of its calibration. Standards used are traceable to the National Institute of Standards and Technology (NIST), or have been derived from accepted values, natural physical constants, or through the use of the ratio method of self-calibration techniques.

Methods used are in accordance with the procedure listed above. This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

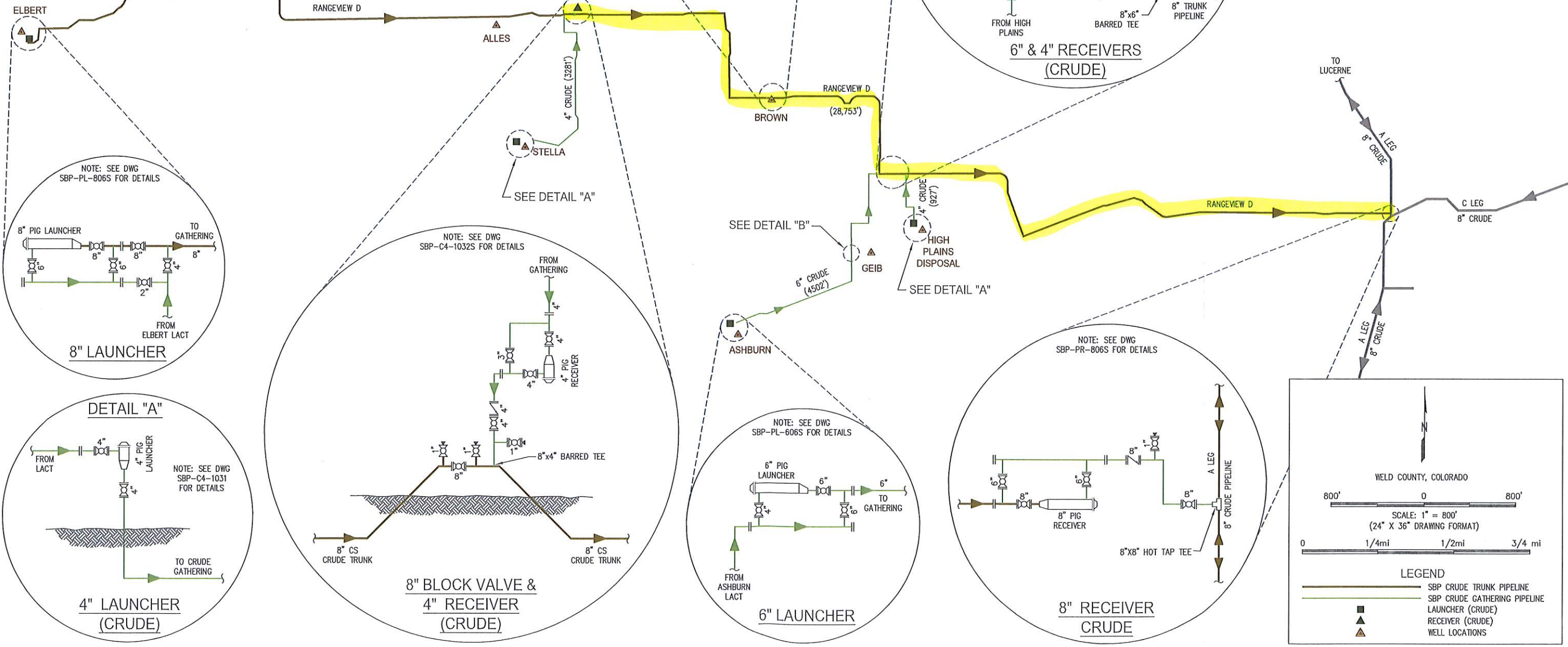
This certificate does not guarantee the continued performance of the instrument listed above. Any modifications or services performed hereafter may void this certificate.

This certificate is not to be reproduced other than in full, except with prior written approval from Apex Instruments Inc.

Description	Model Number	Serial Number	Calibration Date	Due Date	ID
Electronic Deadweight Tester	RPM4-E-DWT A100M/A10M	1709	11/2/2016	11/2/2017	APX00024



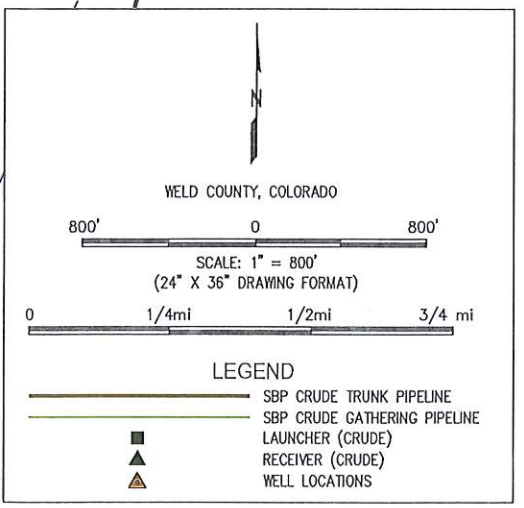
APX00674



**NOTES:**

- 1) FLOW SCHEMATIC IS FOR GRAPHICAL REPRESENTATION ONLY.
- 2) ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- 3) CAM ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSURED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOWN ON THIS PLAN.
- 4) COORDINATE SYSTEM BASED ON NAD 83 COLORADO STATE PLANE, NORTH ZONE.
- 5) PROPOSED PIPELINE ROUTES FROM IMPORTED SHAPE FILES PROVIDED BY SADDLE BUTTE PIPELINE II, LLC.

REFERENCE DRAWINGS		REVISIONS				DRAWN BY:		PREPARED FOR:	
DWG. NO.	TITLE	NO.	DESCRIPTION	DATE	BY	CHK.	APPR.	<div> </div> <p>FLOW SCHEMATIC RANGEVIEW D LATERAL RANGEVIEW GATHERING SYSTEM WELD COUNTY, COLORADO</p>	
								PROJECT NUMBER	DRAWING NUMBER
								RV-PL-MAP-0025	REV. 4



Oct 11, 2017 - 4:10pm by tmdunay - Path = S:\Durango\client info\SBP\Schematics\DWG\RV-PL-MAP-0025.dwg