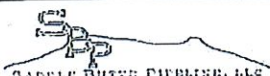


TEST SPECIFICATIONS						Date:		Select Routing:																									
<b>Saddle Butte Rockies Midstream, LLC - Hydrostatic Pressure Test</b>						17-Mar-2017																											
G Leg Phase 2 Part 1- Station 518+09 and South to G Leg Phase 1						Test Number: 1		of 1																									
Project Name: G Leg Phase 2			Project I.D. / AFE Number 15C024A			Facility Name or Number G Leg Phase 2																											
Installation Location (M.P. or S.S.):		State:	County/Parish:	Class Location Designation	1	Selected Design Pressure	1480	Planned MAOP	1400																								
318+87.2 to 518+09		CO	Weld																														
Project Description:																																	
Hydrostatic pressure test of the 8" G Leg Phase 2 Part 1 pipeline.																																	
Testing at 1.25*MAOP = 1850 psig minimum test pressure. <b>2195 psig Target Test Pressure at Chart Location</b>																																	
Max Test Pressure for ANSI 600 Valves and Fittings is 2545 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																																	
Minimum Component Characteristics			Test Pressure Calculations			Test Section - Reference Data																											
Pipe Information O.D. 8.625 Wall Thickness 0.219 SMYS 52,000			<input type="checkbox"/> Input minimum and maximum pressure of test <input type="checkbox"/> Input minimum and maximum %SMYS of test			Test Medium Water Test Duration 8 Hours (min) Section Length 19,922 Ft. Section Fill Volume 60,461 Gal Max. Elevation Change 199 Ft.																											
Valve/Flange ANSI Class Rating 600# Valves/Fittings			<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>2514</td> <td>95.2%</td> </tr> <tr> <td>Max. Test Pressure (Valves and Fittings)</td> <td>2545</td> <td>96.4%</td> </tr> <tr> <td>Min.</td> <td>1850</td> <td>70.1%</td> </tr> </tbody> </table>				Pressure (psig)	% PIPE SMYS	Max. Test Pressure (Pipe)	2514	95.2%	Max. Test Pressure (Valves and Fittings)	2545	96.4%	Min.	1850	70.1%	Station Equations: <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
	Pressure (psig)	% PIPE SMYS																															
Max. Test Pressure (Pipe)	2514	95.2%																															
Max. Test Pressure (Valves and Fittings)	2545	96.4%																															
Min.	1850	70.1%																															
	1	2	3																														
Back	0+00	0+00	0+00																														
Ahead	0+00	0+00	0+00																														
Test Pressures																																	
Location	Station	Elevation (feet)	Max. psig.	% SMYS @ Max.	Min. psig.	% SMYS @ Min.	Variance psig.	Target psig.	% SMYS @ Target																								
BEGIN -	318+87.2	5000	2,439	92.3%	1,861	70.5%	578	2,149	81.4%																								
HIGH ELEVATION	335+00	5025	2,428	91.9%	1,850	70.1%	578	2,138	81.0%																								
LOW ELEVATION	456+00	4826	2,514	95.2%	1,936	73.3%	578	2,225	84.3%																								
END	518+09	4877	2,492	94.4%	1,914	72.5%	578	2,203	83.4%																								
Chart Location (Test Point)	509+20	4895	2,484	94.1%	1,906	72.2%	578	2,195	83.1%																								
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)																										
Designed Reviewed if applicable (Signature)	Date:	Company Name (for Contractor or for Employee):				Date:	Engineering or Operations (Signature)																										
Compliance (Signature)	Date:	Witnessed & Accepted by Company Representative:				Date:	Actual MAOP																										
		(Signature)																															

3-20-17



April 2006

MOP Establishment and Pressure Testing of Pipelines  
TG1601.190

PAGE 1 OF 9

LIQUID PIPELINE  
PRESSURE TEST  
REPORT

Pressure Test Number

1

MOP of tested facility is

1400

PSIG

Company:

Saddle Butte

Operations Area:

Project:

G Leg Phase 2

AFE:

15C024A

Pipeline:

Section:

G Leg Phase 2 Part 1

Station or Milepost

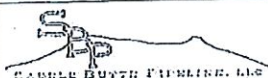
From:

318+87

To:

518+09





## INSTRUCTIONS

PAGE 2 OF 9

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>



# PRESSURE CALCULATIONS

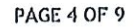
PAGE 3 OF 9

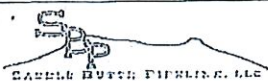
<b>Location of Test Point</b> G 2 Ph 4/ Wiedeman Interconnect	<b>Elevation of Test Point</b> 4895 Ft. (Elevation) 509420 Ft. (Station)	<b>High Point</b> 5025 Ft. (Elevation) 335400 Ft. (Station) Location Name	<b>Low Point</b> 4826 Ft. (Elevation) 456400 Ft. (Station) Location Name
<b>Target MOP:</b> 1400 <b>Target Test Pressure Range</b> 1st Min: 1850 Maximum: 2514 2nd Min: 2195	<b>Test Duration:</b> 6 hr <b>High Point</b> <b>Low Point</b>	<b>Start Point</b> 5000 Ft. (Elevation) 318487 Ft. (Station) Location Name	<b>End Point</b> 4877 Ft. (Elevation) 518409 Ft. (Station) Location Name

## TEST LOG

DATE	TIME	PRESSURE	AMBIENT TEMP	BELOW GROUND TEMP	ABOVE GROUND TEMP	REMARKS
3-20-17	7:30AM	0	43	50	56	
	7:45	0	44	50	56	
	7:55	0	44	50	56	Build to 500 PSI
	7:57	497	44	50	56	
	8:12	497	46	50	56	Build to 1000 PSI
	8:22	1001	47	50	55	
	8:37	1000	48	51	55	Build to 1500 PSI
	8:56	1501	51	51	56	
	9:11	1501	54	51	57	Build to 2000 PSI
	9:24	1999	58	51	59	Turned heat on in testing hood
	9:39	1999	64	50	61	Build to 2195 +
	9:45	2208	66	48	63	
*	10:00	2208	69	48	66	* BEGIN TEST *
	10:15	2208	70	48	67	Sunny, warm wind 6mph
	10:30	2208	71	47	70	All exposed piping is
	10:45	2208	72	47	72	covered and heated. Clouds
	11:00	2208	73	47	73	are expected around noon
	11:15	2208	74	47	75	Partly cloudy
	11:30	2208	75	46	77	
	11:45	2208	76	46	79	
	12:00	2209	76	46	81	Mostly cloudy
	12:15	2209	77	46	83	
	12:30	2209	77	46	85	
	12:45	2209	77	45	86	
	1:00	2209	77	45	87	
	1:15	2209	78	45	88	
	1:30	2209	78	45	89	
	1:45	2209	78	46	90	
	2:00	2209	78	46	90	Cloudy
	2:15	2209	78	46	93	
	2:30	2209	79	46	95	
	2:45	2209	79	45	96	
	3:00	2209	79	45	97	
	3:15	2209	79	45	99	
	3:30	2209	79	45	99	Cloudy
	3:45	2209	78	45	100	
	4:00	2209	78	45	101	
	4:15	2209	77	45	102	
	4:30	2209	77	45	102	







## TEST EQUIPMENT

PAGE 5 OF 9

## PRESSURE RECORDER 1:

Mfg. Barton  
Model \_\_\_\_\_  
Serial No. 202E-007  
Range 0-3000 PSI  
0-150° F  
Notes: Cal on 11-12-16

## PRESSURE RECORDER 2:

Mfg. \_\_\_\_\_  
Model \_\_\_\_\_  
Serial No. \_\_\_\_\_  
Range \_\_\_\_\_  
Notes: \_\_\_\_\_

## DEADWEIGHT TESTER OR CALIBRATED TEST GAUGE:

Mfg. Crystal Engineering  
Model XP2i  
Serial No. 364359  
Date of last Calibration 11-2-16  
Calibrated by PMC  
Range 0-5000 PSI  
Notes: \_\_\_\_\_

## TEMPERATURE RECORDER:

Mfg. Barton  
Model \_\_\_\_\_  
Serial No. 202A-121213  
Range 0-150° F  
Notes: Cal on 11-12-16

## 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

<b>1. Test Information:</b>		Date	3-20-17	Time	7:30 AM
Target MOP	1400	Test Point Location	62/Wiedeman Interconnect		
Enter the desired MOP, If less than pipe internal design pressure.		Test Medium	Water		
		Specific Gravity of Test Medium			
		Min. Test Press. at test site 125% of min. MOP + elev.	110%		
		Maximum allowable % of SMYS =	100%		
<b>2. Pipe Specifications:</b>		Pipe (#1) O.D.	8.625	MOP	
Manufacture Type		Grade	X-52	Seam Joint Factor	
		SMYS	52000	Design Factor (F)	
		Wall thickness	.219	Volume	
		Length (ft.):	19,922		
		Max allowable test pressure, psig			
<b>3. Pipe Specifications:</b>		Pipe (#2) O.D.		MOP	
Manufacture Type		Grade		Seam Joint Factor	
		SMYS		Design Factor (F)	
		Wall thickness		Volume	
		Length (ft.):			
		Max allowable test pressure, psig			
<b>4. Pipe Specifications:</b>		Pipe (#3) O.D.		MOP	
Manufacture Type		Grade		Seam Joint Factor	
		SMYS		Design Factor (F)	
		Wall thickness		Volume	
		Length (ft.):			
		Max allowable test pressure, psig			
<b>5. Pipe Specifications:</b>		Pipe (#4) O.D.		MOP	
Manufacture Type		Grade		Seam Joint Factor	
		SMYS		Design Factor (F)	
		Wall thickness		Volume	
		Length (ft.):			
		Max allowable test pressure, psig			
<b>6. Pipe Specifications:</b>		Pipe (#5) O.D.		MOP	
Manufacture Type		Grade		Seam Joint Factor	
		SMYS		Design Factor (F)	
		Wall thickness		Volume	
		Length (ft.):			
		Max allowable test pressure, psig			
<b>7. Pipe Specifications:</b>		Pipe (#6) O.D.		MOP	
Manufacture Type		Grade		Seam Joint Factor	
		SMYS		Design Factor (F)	
		Wall thickness		Volume	
		Length (ft.):			
		Max allowable test pressure, psig			
<b>8. Pipe Fittings Specifications:</b>		Pipe Fitting O.D.		MOP	
Manufacture Type		Grade		Seam Joint Factor	
Fitting Description		SMYS		Design Factor (F)	
		Wall thickness			
		Max allowable test pressure, psig			
<b>9. Pipe Fittings Specifications:</b>		Pipe Fitting O.D.		MOP	
Manufacture Type		Grade		Seam Joint Factor	
Fitting Description		SMYS		Design Factor (F)	
		Wall thickness			
		Max allowable test pressure, psig			
<b>10. Pipe Fittings Specifications:</b>		Pipe Fitting O.D.		MOP	
Manufacture Type		Grade		Seam Joint Factor	
Fitting Description		SMYS		Design Factor (F)	
		Wall thickness			
		Max allowable test pressure, psig			



EQUIPMENT CALCULATED MOP SUMMARY WORKSHEET  
(continued)

PAGE 7 OF 9

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

PAGE 8 OF 9

### 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: \_\_\_\_\_  
\_\_\_\_\_

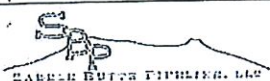
### FAILURE:

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

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

### REPAIR:

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



## SUPPLEMENTARY DOCUMENTATION

PAGE 9 OF 9

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)

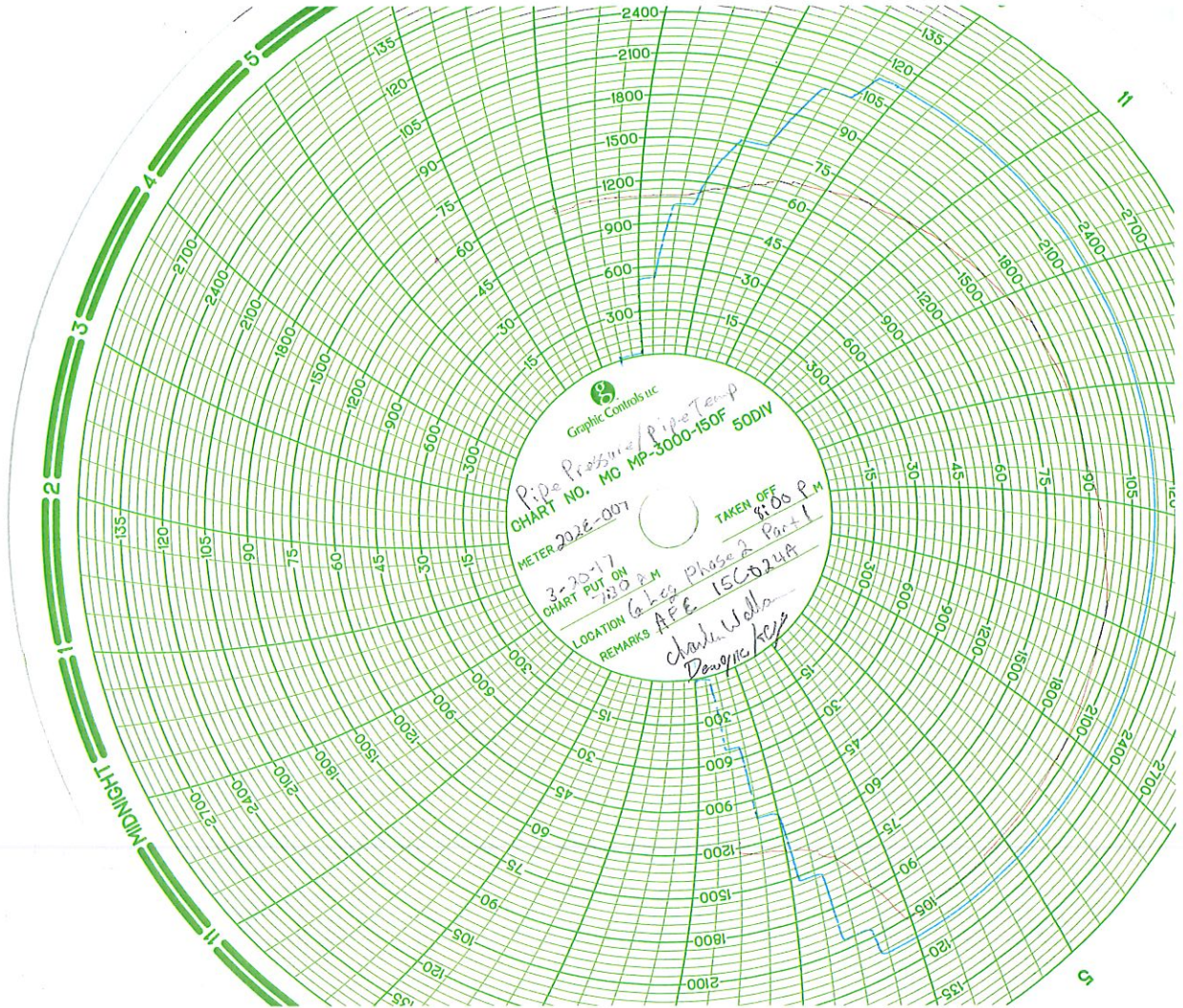
Inspector

By: Charles Wallace Charles Wallace Date: 3-20-17  
(Please print) (Signature)

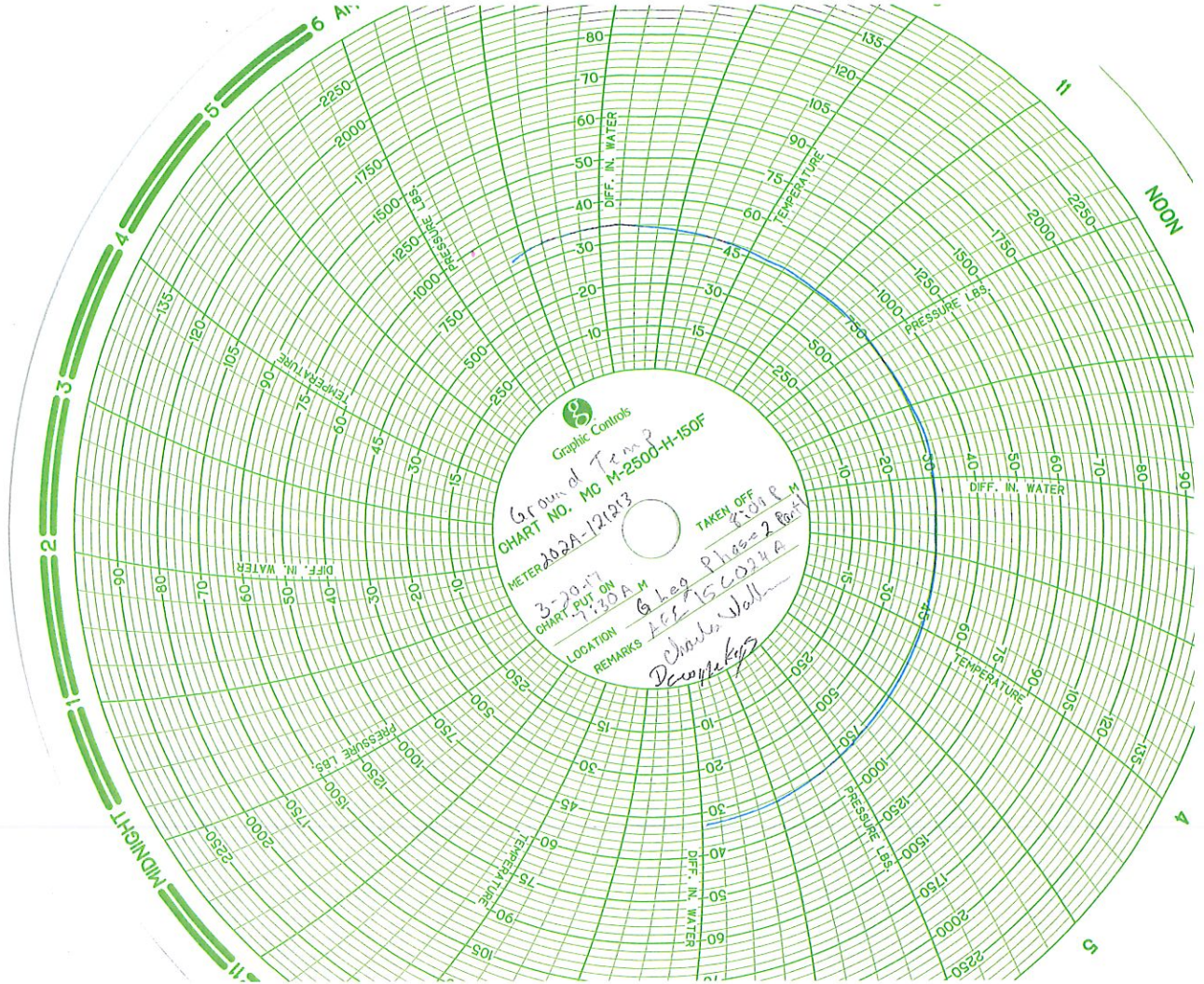
Name of Testing Contractor

North winds of Wyoming  
By: Dewey Kays Dewey Kays Date: 3-20-17  
(Please print) (Signature)













# Non-Conformance Report

## PROCESS MEASUREMENT COMPANY

2475 W. 2ND AVE 34A DENVER, CO , 80223

303-937-7226 Fax: 303-936-2731

[www.pmc-calibration.com](http://www.pmc-calibration.com)

### Calibration Performed By:

PMC-DENVER

2475 W. 2ND AVE 34A

DENVER, CO , 80223

### For:

PIPELINE SUPPLY AND SERVICE

9700 E 104TH AVE

I.D.: CR-2

Description: PRESSURE GAGE

Manufacturer: CRYSTAL

Gage Type:

Temp./RH: 71.9 F / 21.8

Cal. Interval: 12 MONTHS

Serial Number: 364359

Model Number: XP2I

Performed By: MATTHEW KNOWLES

Cal. Due Date: 11/2/2017

Calibration Result: ADJ.

Cal Date: 11/2/2016

### Equipment Used To Calibrate Equipment:

Company	I.D.	Description	Last Cal.	Cal. Due Date
02-PMC-DENVER	PMCD-064	TEMP/ HUMIDITY METER	5/16/2016	5/16/2017
03-PMC OMAHA	PMCO-134	DEAD WEIGHT TEST SET 0-20	5/3/2016	5/3/2017

### Procedures Used In Event:

Company	Procedure Name	Description	Revision Level	Revision Date
PROCESS MEASURE	SCP05-022	PRESSURE AND VACUUM GAUGES	0	2/9/2015

# 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:** 11/12/2016  
**DUE DATE:** 11/12/2017

**INDICATED TEMPERATURE RANGE:** # 0 – 150°F  
**INDICATED PRESSURE RANGE:** #0 – 2500 PSI  
**SERIAL NO:** 202A-121213  
**MANUFACTURER:** BARTON/ 12" RECORDER

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

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

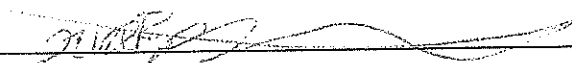
**BASED ON INTERNATIONAL STANDARDS OF GRAVITY:** (980.665 cm./sq.).

**TYPE OF STANDARD USED TO CALIBRATE:** REFINERY DEADWEIGHT TEST UNIT SPT (35225-3) SERIAL No. 5268: KESSLER TEST THERMOMETERS: SERIAL NO, CALIBRATION DATE: SEPTEMBER 14, 2015

**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





# 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: 11/12/2016

DUE DATE: 11/12/2017

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.

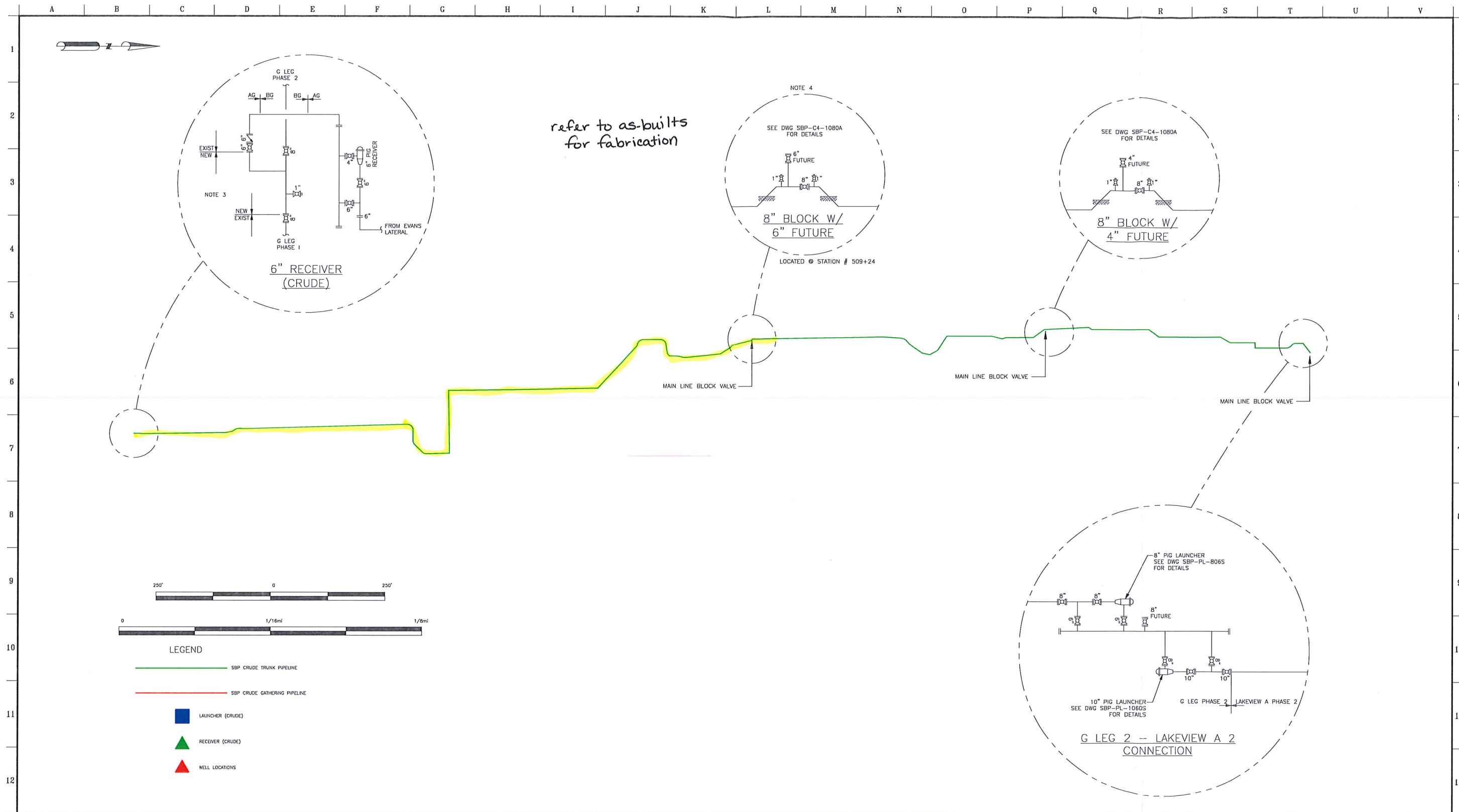
BASED ON INTERNATIONAL STANDARDS OF GRAVITY: (980.665 cm./sq.).

TYPE OF STANDARD USED TO CALIBRATE: REFINERY DEADWEIGHT TEST UNIT SPT. (35225-3) SERIAL No. 5268: KESSLER TEST THERMOMETERS; SERIAL NO. CALIBRATION DATE: SEPTEMBER 14, 2015

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



44 Inverness Dr. E., Ste. E100  
Englewood, CO 80112  
303.768.9191 Office  
303.768.9292 Fax

REFERENCE DRAWINGS		REVISIONS				ENGINEERING RECORD			
NO.	TITLE	NO.	FIRM	DATE	DESCRIPTION	BY	CHK.	APP.	DATE
0		0	SESI	9/21/16	ISSUED FOR RELEASE	PDE	DMN		07/20/16
1		1	SESI	11/16/16	RE-ISSUED FOR RELEASE	BME	DMN		
2		2	SESI	01/05/17	ISSUED FOR CONSTRUCTION	BME	DMN		
3		3	SESI	03/02/17	RE-ISSUED FOR CONSTRUCTION	MRB	DMN		
						AFE No.			
						SE&C JOB NO.			
						PROJ. ENGR.			
						SCALE: AS NOTED			

**SADDLE BUTTE**  
PIPELINE

FLOW SCHEMATIC  
G LEG PHASE 2

PLOT SCALE	DWG. NO.	REV
G_LEG_PHASE 2	G_LEG_PHASE 2	3