

| TEST SPECIFICATIONS  |                 |   |                               |                                      |   | Date:   |                | Select Routing: |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
|--|-----------------|---|-------------------------------|--------------------------------------|---|---|----------------|-----------------|-----------------|-------|------|--------|--|--|--|--|-----------------|-------------|---------------------------|------|-------|--|------|-------|------|------|-------|
| <b>Saddle Butte Rockies Midstream, LLC - Hydrostatic Pressure Test</b>   |                 |   |                               |                                      |   | 6-Sep-2017                                      |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Gillham Well Connect   |                 |   |                               |                                      |   | Test Number: 1                                  |                | of 1            |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Project Name:<br>Schaumburg Lateral  |                 |   |                               | Project I.D. / AFE Number<br>17C003A |   | Facility Name or Number<br>Gillham Well Connect |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Installation Location<br>(M.P. or S.S.):   |                 | State:  | County/Parish:                | Class Location Designation           | N/A   | Selected Design Pressure                        | 1480           | Planned MAOP    | 1400            |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| 0+00 to 2+74   |                 | CO  | Weld                          |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Project Description:   |                 |   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Hydrostatic pressure test of the 4" well connect pipeline.   |                 |   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Testing at 1.25*MAOP = 1850 psig minimum test pressure. <b>2123 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><br>Test Duration <b>4</b> Hours (min)<br>Section Length 274 Ft.<br>Section Fill Volume 226 Gal<br>Max. Elevation Change 9 Ft.<br>Station Equations: 1 2 3<br>Back 0+00 0+00 0+00<br>Ahead 0+00 0+00 0+00 |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Pipe Information   |                 | <input type="checkbox"/> Input minimum and maximum pressure of test<br><input type="checkbox"/> Input minimum and maximum %SMYS of test |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| <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> </table>   |                 | O.D.  | 4.5                           | Wall Thickness                       |   |   |                |                 |                 | 0.188 | SMYS | 52,000 | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th></th> <th>Pressure (psig)</th> <th>% PIPE SMYS</th> </tr> <tr> <td>Max. Test Pressure (Pipe)</td> <td>2400</td> <td>55.2%</td> </tr> <tr> <td>Max. Test Pressure (Valves and Fittings)</td> <td>2560</td> <td>58.9%</td> </tr> <tr> <td>Min.</td> <td>1850</td> <td>42.6%</td> </tr> </table> |  |  |  | Pressure (psig) | % PIPE SMYS | Max. Test Pressure (Pipe) | 2400 | 55.2% | Max. Test Pressure (Valves and Fittings) | 2560 | 58.9% | Min. | 1850 | 42.6% |
| O.D.   | 4.5             |   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Wall Thickness   | 0.188           |   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| SMYS   | 52,000          |   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
|  | Pressure (psig) | % PIPE SMYS   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Max. Test Pressure (Pipe)  | 2400            | 55.2%   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Max. Test Pressure (Valves and Fittings)   | 2560            | 58.9%   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Min.   | 1850            | 42.6%   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Valve/Flange ANSI Class Rating<br>600# Valves/Fittings   |                 |   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Test Pressures   |                 |   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| Location   | Station         | Elevation (feet)  | Max. psig.                    | % SMYS @ Max.                        | Min. psig.  | % SMYS @ Min.                                   | Variance psig. | Target psig.    | % SMYS @ Target |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| BEGIN -  | 0+00            | 4627  | 2,396                         | 55.1%                                | 1,850   | 42.6%   | 546            | 2,123           | 48.9%           |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| HIGH ELEVATION   | 0+00            | 4627  | 2,396                         | 55.1%                                | 1,850   | 42.6%   | 546            | 2,123           | 48.9%           |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| LOW ELEVATION  | 0+29            | 4618  | 2,400                         | 55.2%                                | 1,854   | 42.7%   | 546            | 2,126           | 48.9%           |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| END  | 2+74            | 4624  | 2,397                         | 55.2%                                | 1,851   | 42.6%   | 546            | 2,124           | 48.9%           |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| <b>Chart Location (Test Point)</b>   | <b>0+00</b>     | <b>4627</b>   | <b>2,396</b>                  | <b>55.1%</b>                         | <b>1,850</b>  | <b>42.6%</b>                                    | <b>546</b>     | <b>2,123</b>    | <b>48.9%</b>    |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| REMARKS:   |                 |   |                               |                                      |   |   |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |
| ASME B16.5 2.6 System Hydrostatic Testing 2003:<br>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                                     |                |                 |                 |       |      |        |  |  |  |  |                 |             |                           |      |       |  |      |       |      |      |       |



April 2006

MOP Establishment and Pressure Testing of Pipelines  
TG1601.190

PAGE 1 OF 9

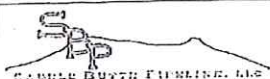
LIQUID PIPELINE  
PRESSURE TEST  
REPORT

Pressure Test Number 1

MOP of tested facility is 1400 PSIG  
9-13-17

Company: Saddle Butte Operations Area: \_\_\_\_\_  
Project: Schaumburg Lateral AFE: 17C003A  
Pipeline: Gillham Well Connect  
Section: A11  
Station or Milepost From: 0+00 To: 2+74



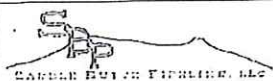


## INSTRUCTIONS

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>   |



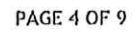
# PRESSURE CALCULATIONS

PAGE 3 OF 9

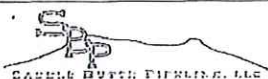
|   |   |  |  |
|---|---|--|--|
| Location of Test Point<br><u>Future</u> | Elevation of Test Point<br><u>4627</u> Ft. (Elevation)<br><u>0+00</u> Ft. (Station) | High Point<br><u>4627</u> Ft. (Elevation)<br><u>0+00</u> Ft. (Station)<br>Location Name  | Low Point<br><u>4618</u> Ft. (Elevation)<br><u>0+29</u> Ft. (Station)<br>Location Name |
| Target MOP: <u>1400</u>                 | Test Duration: <u>4</u> hr  | Start Point<br><u>4627</u> Ft. (Elevation)<br><u>0+00</u> Ft. (Station)<br>Location Name | End Point<br><u>4624</u> Ft. (Elevation)<br><u>2+74</u> Ft. (Station)<br>Location Name |
| Target Test Pressure Range              | High Point  | Low Point  |  |
| 1st Min: Maximum:                       |   |  |  |
| 2nd Min:                                |   |  |  |

## TEST LOG

| DATE    | TIME     | PRESSURE | AMBIENT TEMP | BELOW GROUND TEMP | ABOVE GROUND TEMP | REMARKS                   |
|---------|----------|----------|--------------|-------------------|-------------------|---------------------------|
| 9-13-10 | 6:15A    | 0        | 56           |                   | 69                |                           |
|         | 6:30     | 0        | 56           |                   | 69                | Build to 500              |
|         | 6:30     | 494      | 56           |                   | 69                |                           |
|         | 6:45     | 492      | 57           |                   | 67                | Build to 1000             |
|         | 6:45     | 997      | 57           |                   | 67                | Check for leaks           |
|         | 7:00     | 995      | 57           |                   | 66                | Build to 1500             |
|         | 7:00     | 1502     | 57           |                   | 66                |                           |
|         | 7:15     | 1501     | 57           |                   | 66                | Build to 2000             |
|         | 7:15     | 2001     | 57           |                   | 66                |                           |
|         | 7:30     | 2600     | 57           |                   | 65                | Build to 2123             |
|         | 7:30     | 2135     | 57           |                   | 65                |                           |
| *       | 7:45     | 2136     | 58           |                   | 65                | * BEGIN TEST *            |
|         | 8:00     | 2140     | 59           |                   | 65                | Partly Cloudy             |
|         | 8:15     | 2142     | 60           |                   | 65                | Check for leaks and check |
|         | 8:30     | 2146     | 62           |                   | 65                | 1" valves                 |
|         | 8:45     | 2155     | 64           |                   | 66                | Sunny                     |
|         | 9:00     | 2178     | 66           |                   | 68                |                           |
|         | 9:15     | 2190     | 67           |                   | 72                |                           |
|         | 9:30     | 2205     | 69           |                   | 73                |                           |
|         | 9:45     | 2220     | 70           |                   | 75                | Bleed to 2150             |
|         | 10:00    | 2160     | 71           |                   | 78                |                           |
|         | 10:15    | 2176     | 72           |                   | 82                |                           |
|         | 10:30    | 2205     | 74           |                   | 87                |                           |
|         | 10:45    | 2232     | 75           |                   | 92                | Bleed to 2150             |
|         | 11:00    | 2180     | 78           |                   | 94                |                           |
|         | 11:15    | 2220     | 81           |                   | 98                | Check for leaks and check |
|         | 11:30    | 2250     | 83           |                   | 99                | 1" valves                 |
| *       | 11:45    | 2290     | 85           |                   | 101               | * END TEST *              |
|         | 12:00 PM | 2316     | 85           |                   | 102               | Bleed to 2000             |
|         | 12:00    | 1994     | 85           |                   | 102               |                           |
|         | 12:15    | 2018     | 87           |                   | 104               | Bleed to 1500             |
|         | 12:15    | 1502     | 87           |                   | 104               |                           |
|         | 12:30    | 1529     | 89           |                   | 105               | Bleed to 1000             |
|         | 12:30    | 1007     | 89           |                   | 105               |                           |
|         | 12:45    | 1032     | 90           |                   | 106               | Bleed to 500              |
|         | 12:45    | 503      | 90           |                   | 106               |                           |
|         | 1:00     | 521      | 91           |                   | 107               | Bleed to 0                |
|         | 1:05     | 0        | 91           |                   | 107               |                           |
|         | 1:15     | 0        | 91           |                   | 108               |                           |







## TEST EQUIPMENT

PAGE 5 OF 9

### PRESSURE RECORDER 1:

Mfg. Barton  
Model \_\_\_\_\_  
Serial No. 2026-007  
Range 0-3000 PSI  
0-150° F  
Notes: Cal on 7-27-17

### PRESSURE RECORDER 2:

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

### DEADWEIGHT TESTER OR CALIBRATED TEST GAUGE:

Mfg. Crystal  
Model XP12  
Serial No. 364359  
Date of last Calibration 4-27-17  
Calibrated by PSS  
Range 0-5000 PSI  
Notes: \_\_\_\_\_

### TEMPERATURE RECORDER:

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

### 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  | 9-13-17    | Time              | 6:15 Am |
| Target MOP  | 1400 | Test Point Location                                   | Schramberg | Future            |         |
| Enter the desired MOP,<br>if less than pipe<br>internal design<br>pressure. |      | Test Medium   | Water      | Test Duration     | 4hr     |
|   |      | Specific Gravity of Test Medium                       |            |                   |         |
|   |      | Min. Test Press. at test site 125% of min. MOP + elv. | 1850       |                   | 110%    |
|   |      | Maximum allowable % of SMYS =                         | 100%       |                   |         |
| <b>2. Pipe Specifications:</b>  |      | Pipe (#1) O.D.  | 4.5        | MOP               | 1400    |
| Manufacture Type  |      | Grade   | X52        | Seam Joint Factor |         |
|   |      | SMYS  | 52,000     | Design Factor (F) |         |
|   |      | Wall thickness  | .188       | Volume            |         |
|   |      | Length (ft.):   | 274        |                   |         |
| 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   |      |   |            |                   |         |

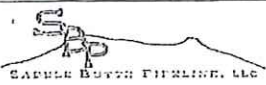


EQUIPMENT CALCULATED MOP SUMMARY WORKSHEET  
(continued)

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 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: \_\_\_\_\_  
\_\_\_\_\_

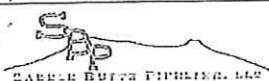
### FAILURE:

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)

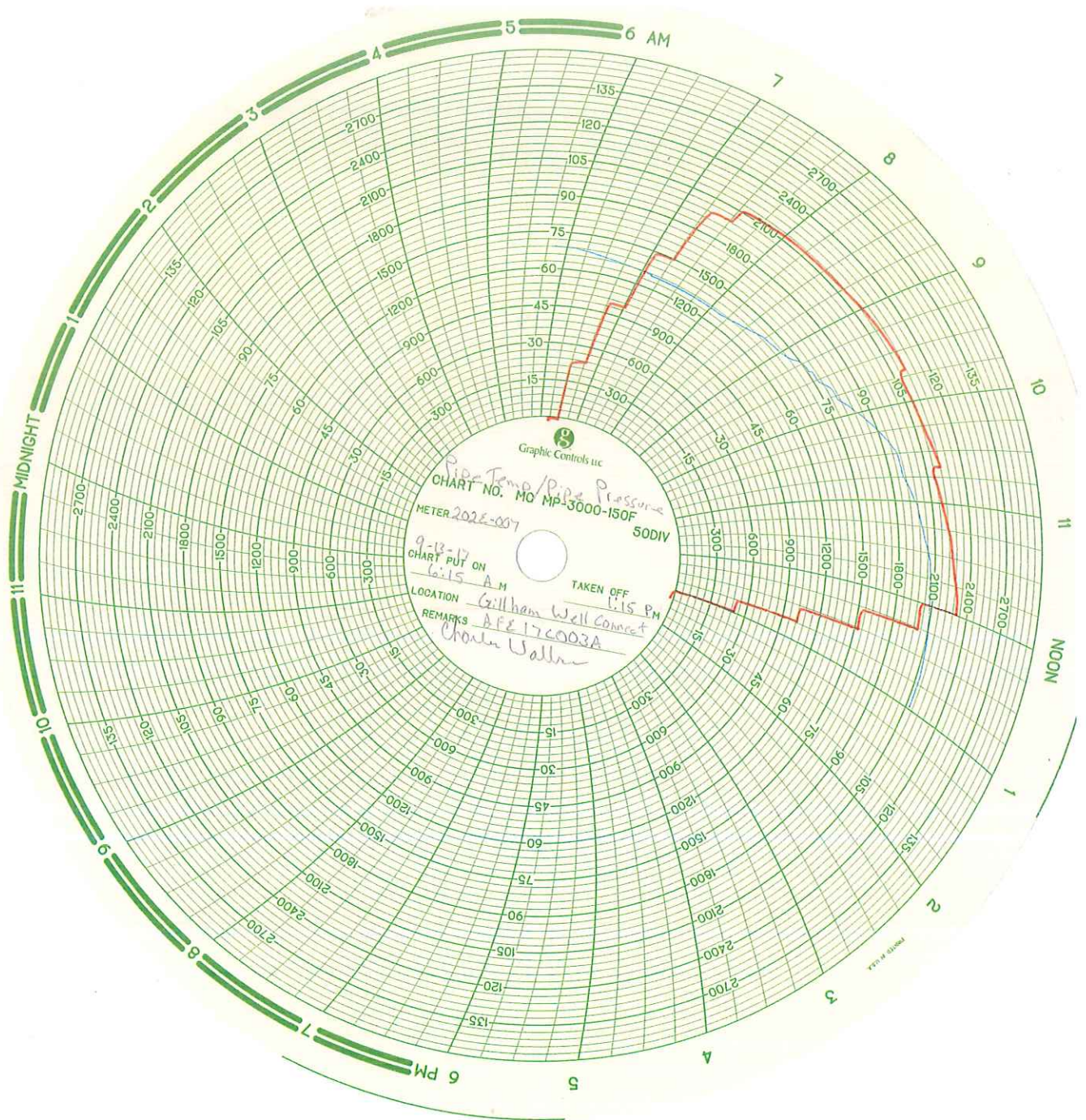
Inspector

By: Charles Wallace Chad Wall Date: 9-13-17  
(Please print) (Signature)

Name of Testing Contractor

North Winds of Wyoming  
By: Jessica Keya Jessica Keya Date: 9-13-17  
(Please print) (Signature)







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



# PIPELINE SUPPLY &

## Calibration Certificate

**Date Calibrated:** 04/27/2017 **Due Date:** 04/27/2018

**Indicated Pressure Range:** 0-5000 PSI

**Serial No:** 364359

**Manufacture:** AMETEK

**Type of Instrument Calibrated:** CRYSTAL PRESSURE XP2I DIGITAL TEST GAUGE

**Instrument Findings / Status:** Unit is in tolerance and meets or exceeds specifications.

**Based on International Standings of Gravity:** (980.665cm./sq.)

**Based on Calibrated piston area:** NA

**Type of standard used to calibrate:** Chandler Dead Weight test unit spt. (35255-3) Serial No. 5278

**All Standards directly traceable to National Institute of Standards & Technologies Test No. N.I.S.T.)-**


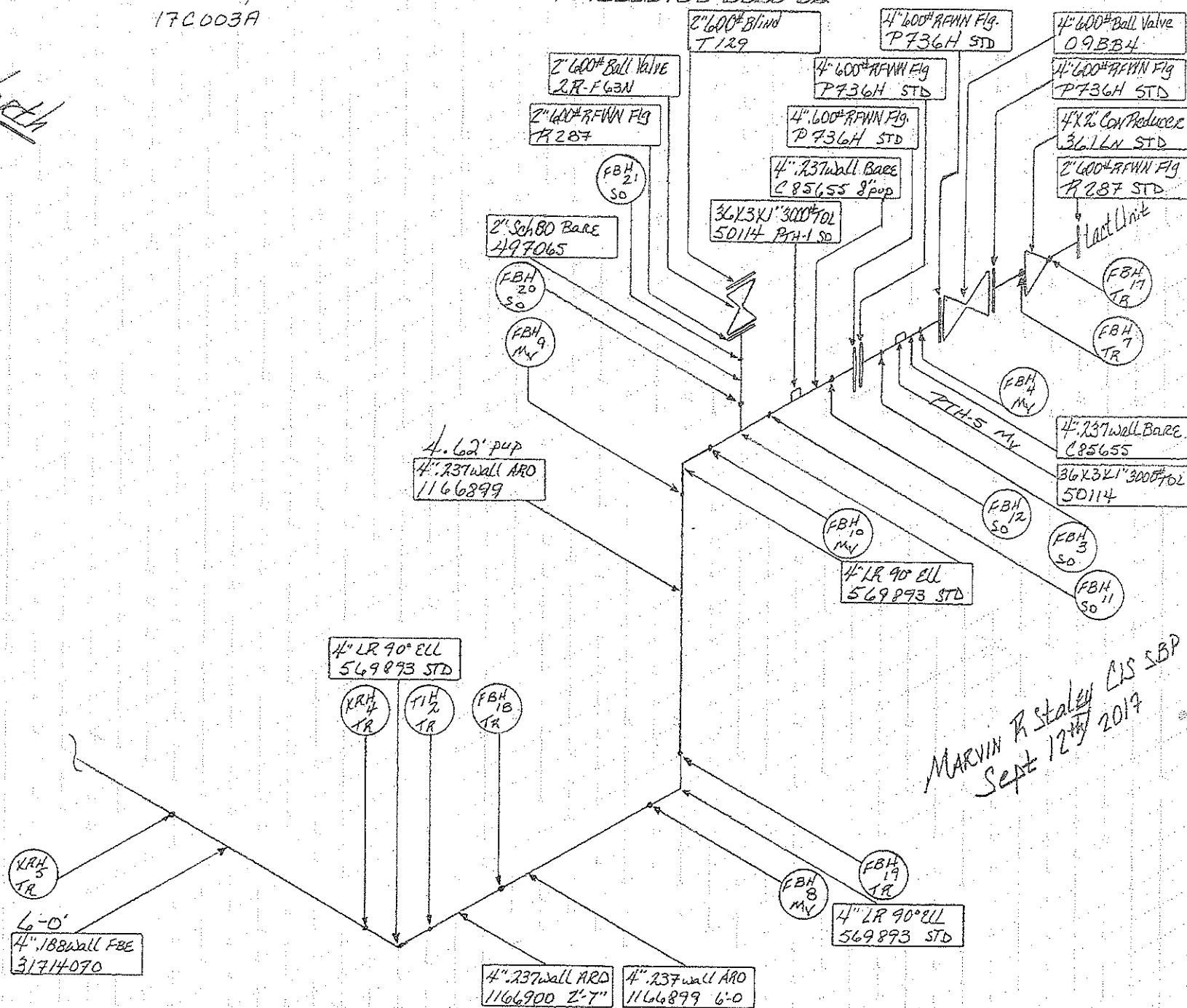
2.6/172490 & 6.6/139577

**Calculated using mass Values, Area, AO, and Stated Gravity. Room Temperature / Humidity at the time of testing:** 72°F @ 22%Humidity

**Specifics:** +/-0.05% Accuracy

**Calibrated by:** NICK BEDFORD @ PSS/9700 E 104TH AVE HENDERSON CO 80640

17C003A

A hand-drawn arrow pointing towards the top-left corner of the page, with the word "North" written above it.

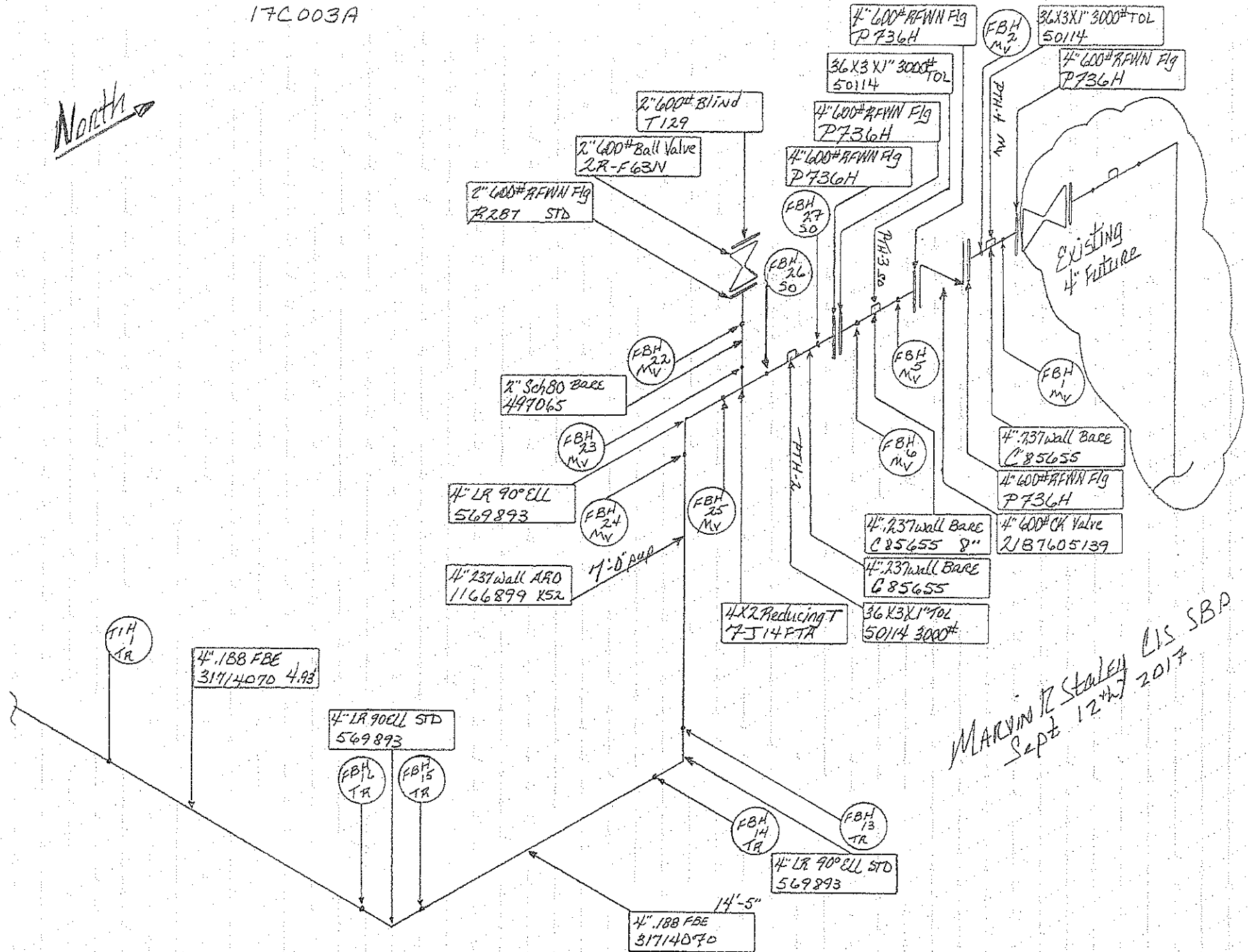
MARVIN R Staley CIS SRP  
Sept 12<sup>th</sup> 2017





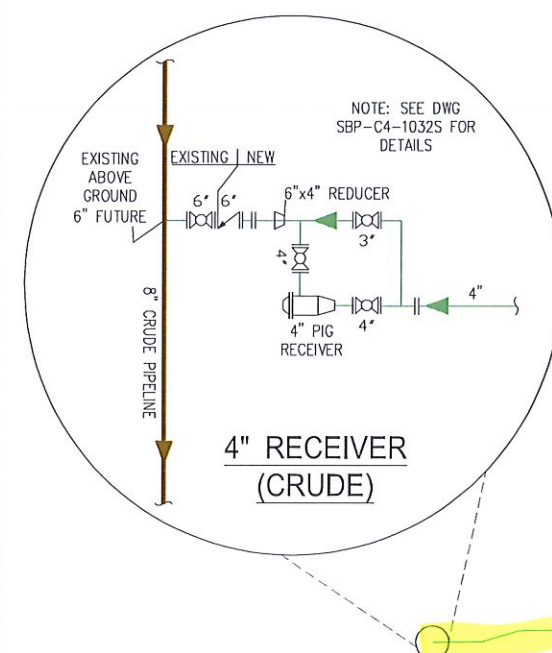
Well connect; from Gillham Well Connect (Lact) to 4" Future  
17C003A

North



MARVIN R. STALEY  
SEP 12<sup>th</sup> 2017  
LIS SBP





NOTES:

