





## HYDRO-TEST DESIGN FORM

Line Name:

MUTUAL 7-17 PAD TO BIG HORN CTB (LIQUID & GAS COMBO)

Line Type:

Duration of Test = 8 hr

AFE #

SDR 7 HDPE

Footage:

FE AFE: # Coming Soon

4,444

Volume:

164 BBL

FE 11297

### Elevation Data

Elevation at MUTUAL 7-17H PAD

= 8,155 ft

Elevation at Tie-in Location

= 8,145 ft

Elevation at Highest Point

= 8,155 ft

Elevation at Lowest Point

= 8,145 ft

**ELEVATION PROFILE REQUIRED**

### Hydro-Test Specifications

Absolute Minimum Test Pressure

= 152.5 psig

Absolute Maximum Test Pressure

= 183 psig

Test Location: MUTUAL 7-17H PAD

Pressure Range at Test Location:

Minimum = 153 psig

Maximum = 179 psig

Hydro Test Designed by: Braden Hail

Date: 11/18/2016

### EXHIBIT 3

Hydro Test Number:								A/E:	Date:
Testing Contractor:								Page	of
Name:								Exposed Pipe:	ft
Inspector:								Buried Pipe:	ft
Test Section Name:								Pipe Size:	
Circle type of instrument used to get reading noted in the log. C = Chart or D = Digital									
		C / D	BURIED PIPE TEMP	C / D	EXPOSED PIPE TEMP	C / D	GROUND TEMP		
DIGITAL OR DEADWEIGHT PRESSURE									
DATE	TIME								
11-23-16	12:00	165.7	42		45			Start Test Add pressure	
	12:15	171.2	42		44				
	12:30	168.5	42		44				
	12:45	170.9	43		47				
	1:00	172.5	43		46				
	1:15	170.7	43		45			Leak check / No leaks	
	1:30	172.7	44		45				
	1:45	171.7	44		45				
	2:00	173.6	44		44				
	2:15	172.3	43		44			Add pressure	
	2:30	171.3	43		44				
	2:45	174.7	42		44				
	3:00	173.1	42		44				
	3:15	175.4	42		44			Leak check / No leaks	
	3:30	174.5	42		43				
	3:45	173.6	42		43				
	4:00	176.4	41		42			Turned on Flameless Heater	
	4:15	178.3	40		68				
	4:30	177.1	40		77				
	4:45	176.3	40		88			pump stabilizing with heat	
	5:00	175.7	39		88				
	5:15	174.8	39		92				
	5:30	174.3	39		93				
	5:45	173.6	39		92				
	6:00	172.8	39		90				
	6:15	172.3	39		91				
	6:30	171.8	38		92				
	6:45	171.3	38		91				
	7:00	170.8	37		92				
	7:15	170.3	37		96				
	7:30	169.8	36		98				
	7:45	169.4	36		100				
	8:00	169.0	36		102			End test	



Calibrations comply with  
ISO/IEC 17025:2005 and  
ANSI NCSL Z540-1-1994



Device Information	
Model	5KSPXP2I
Serial Number	692518
Water Column (@ 1 Atm)	4° C
Calibration Date	12 October 2016
Verification Date	12 October 2016
As Received Condition	New
As Left Condition	In Tolerance

Laboratory Conditions	
Laboratory ambient conditions throughout this calibration	
Temperature	19 to 23° C
Humidity	20 to 60% RH

### Definitions

Temperature ..... Measured temperature of Device Under Test (DUT) during data collection.

Reference Reading ..... True value according to our reference standards.

Indicated Reading ..... Displayed reading from test unit.

Condition ..... Pass or Fail.

Difference ..... Indicated reading minus reference reading.

Relative Difference ..... (Difference / reference reading) x 100.

Allowable Tolerance .....  $\pm$  according to manufacturer's specifications.

Pressure Medium ..... Nitrogen.

### Traceability Statement

Reference Standards used in this calibration are traceable to the National Institute of Standards and Technology of the United States (NIST) or other NMI.

### System Expanded Uncertainty

System expanded uncertainty evaluation includes the calibration reference used and device under test and is calculated in accordance with ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainties reported represent expanded uncertainties using a coverage factor (k) to approximate a percentage (%) confidence level. *In Tolerance* or *Pass* conditions are based on test results falling within specified limits with no reduction by the uncertainty of the measurement. The results contained herein relate only to the item calibrated. Test methods defined by COI-054.

Coverage Factor (k)	2
Confidence Level (%)	~ 95

Traceable Reference Standards			
Manufacturer	Calibration Reference Used	Serial Number	Report No.
DHI	PPCH-G 245 10KPSI Pressure Controller	245	16008
			Reference Cal. Due
			01 January 2017

*Samuel Fernandez*

Laboratory Representative

**Samuel Fernandez**

*Bruce Hitt*

Quality Representative

**Bruce Hitt**

## Test Results

As Left Results - (From 0 to 5000 psi) - Span multiplier: 1.00000

Temperature (Celsius)	Reference Reading (psi)	Indicated Reading (psi)	Deviation (psi)	Relative Deviation (% of Reading)	Allowable Tolerance (psi)	Expanded Uncertainty (psi)	Condition
-10	0.00	0.0	0.00		1.00		Pass
-10	1250.01	1250.0	-0.01	-0.001	1.25	0.40	Pass
-10	2499.98	2499.9	-0.08	-0.003	2.50	0.40	Pass
-10	3750.07	3750.1	0.03	0.001	3.75	0.50	Pass
-10	4350.02	4350.0	-0.02	0.000	4.35	0.58	Pass
-10	4999.98	5000.0	0.02	0.000	5.00	0.66	Pass
-10	2499.99	2500.1	0.11	0.004	2.50	0.40	Pass
10	-0.01	0.0	0.01		1.00		Pass
10	1249.91	1249.8	-0.11	-0.009	1.25	0.40	Pass
10	2499.95	2499.8	-0.15	-0.006	2.50	0.40	Pass
10	3749.99	3749.8	-0.19	-0.005	3.75	0.50	Pass
10	4349.98	4349.8	-0.18	-0.004	4.35	0.58	Pass
10	5000.03	4999.8	-0.23	-0.005	5.00	0.66	Pass
10	2500.06	2500.2	0.14	0.006	2.50	0.40	Pass
20	0.01	0.0	-0.01		1.00		Pass
20	1250.01	1249.9	-0.11	-0.009	1.25	0.40	Pass
20	2500.02	2499.9	-0.12	-0.005	2.50	0.40	Pass
20	3750.05	3749.9	-0.15	-0.004	3.75	0.50	Pass
20	4349.87	4349.8	-0.07	-0.002	4.35	0.58	Pass
20	4999.95	4999.9	-0.05	-0.001	5.00	0.66	Pass
20	2499.99	2500.2	0.21	0.008	2.50	0.40	Pass
30	0.01	0.0	-0.01		1.00		Pass
30	1250.02	1250.0	-0.02	-0.002	1.25	0.40	Pass
30	2500.04	2500.0	-0.04	-0.002	2.50	0.40	Pass
30	3750.02	3749.9	-0.12	-0.003	3.75	0.50	Pass
30	4349.94	4349.9	-0.04	-0.001	4.35	0.58	Pass
30	5000.07	5000.1	0.03	0.001	5.00	0.66	Pass
30	2500.00	2500.2	0.20	0.008	2.50	0.40	Pass
50	-0.01	0.0	0.01		1.00		Pass
50	1250.02	1250.0	-0.02	-0.002	1.25	0.40	Pass
50	2500.03	2500.1	0.07	0.003	2.50	0.40	Pass
50	3749.93	3749.8	-0.13	-0.003	3.75	0.50	Pass
50	4350.06	4350.0	-0.06	-0.001	4.35	0.58	Pass
50	5000.05	5000.1	0.05	0.001	5.00	0.66	Pass
50	2499.99	2500.4	0.41	0.016	2.50	0.40	Pass

Manufacturer's specifications: 20% to 100% of Full Scale:  $\pm(0.1\%$  of Reading), 0 to 20% of Full Scale:  $\pm(0.02\%$  of Full Scale).

# P-SS-SS-COMPANIES



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## CALIBRATION CERTIFICATE

CERTIFICATE NUMBER: CO

Details +/-: 1.0% ACCURACY

DATE CALIBRATED: 10/18/2016  
DUE DATE: 10/18/2017

INDICATED TEMPERATURE RANGE: # 0 – 150°F  
INDICATED PRESSURE RANGE: #0 – 3000 PSI  
SERIAL NO: 242-126440 / ID: 011216  
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

A handwritten signature in black ink, appearing to read 'Nick Bedford', written over a horizontal line.