Exhibit 1

EOG Resources

5M BOPE

Rig Floor

1. 13 5/8" Rotating Head
2. NOV 13 5/8" 5,000 PSI WP GK Annular Preventor
3. 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
4. 2 1/16" - 10,000 PSI WP Check Valve
5. 10,000 PSI WP - 1502 Union to kill line
6. 2 1/16" - 10,000 PSI WP Manual Valves
7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
8. 4 1/16" 10,000 PSI WP HCR Valve
9. 4 1/16" 10,000 PSI WP Manual Valve
10. 6" OD x 3" ID 10,000 PSI WP Steel Armoured Flex Choke Line
11. DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
12. Mud Cross - 13 5/8" 10,000 PSI WP
13. Blind Rams
14. Pipe Rams
15. 13 5/8" Cameron Type "U" 10,000 PSI WP Pipe Rams
16. Flow Line
17. 2" Fill Line

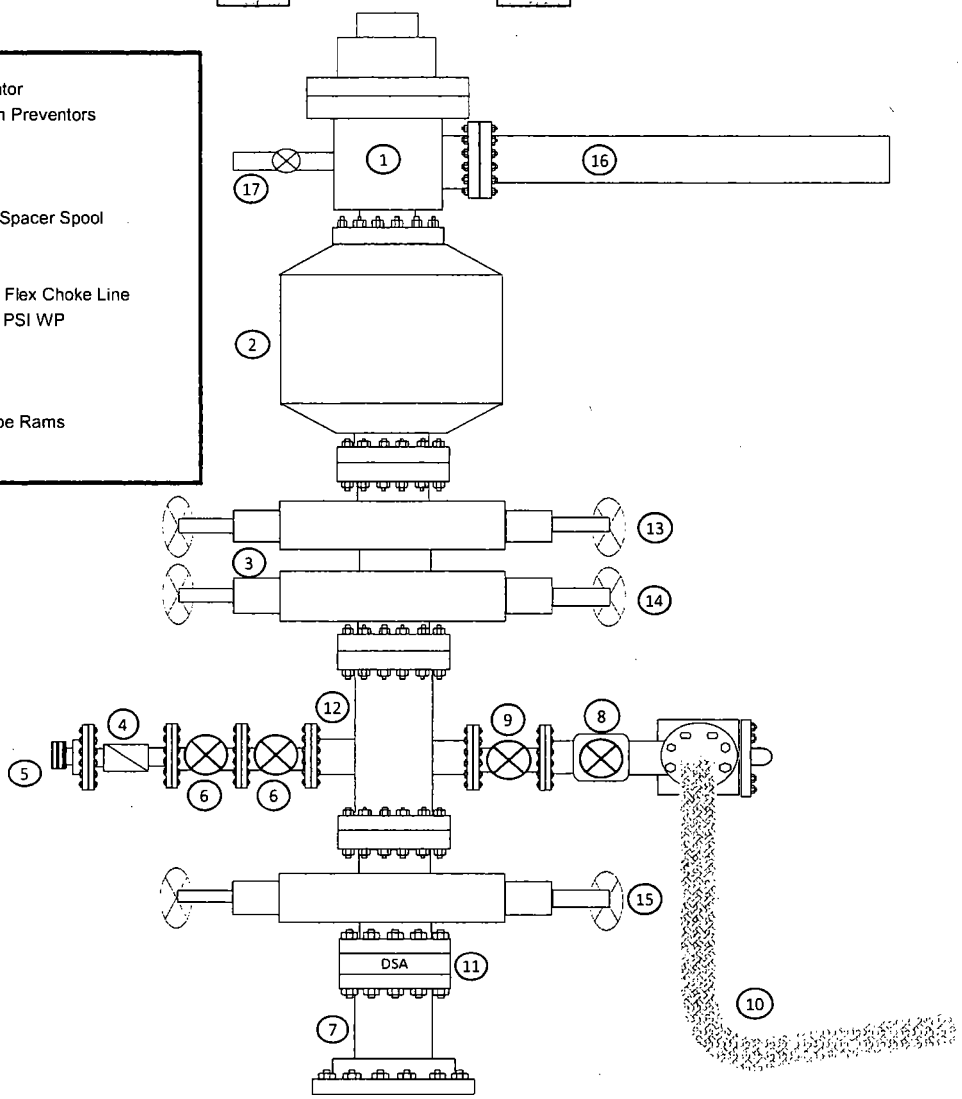


Exhibit 1
EOG Resources
10M BOPE

1. 13 5/8" Rotating Head
2. Hydril 13 5/8" 10,000 PSI WP GK Annular Preventor
3. 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
4. 2 1/16" - 10,000 PSI WP Check Valve
5. 10,000 PSI WP - 1502 Union to kill line
6. 2 1/16" - 10,000 PSI WP Manual Valves
7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
8. 4 1/16" 10,000 PSI WP HCR Valve
9. 4 1/16" 10,000 PSI WP Manual Valve
10. 6" OD x 3" ID 10,000 PSI WP Steel Armoured Flex Choke Line
11. DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
12. Mud Cross - 13 5/8" 10,000 PSI WP
13. Blind Rams
14. Pipe Rams
15. 13 5/8" Cameron Type "U" 10,000 PSI WP Pipe Rams
16. Flow Line
17. 2" Fill Line

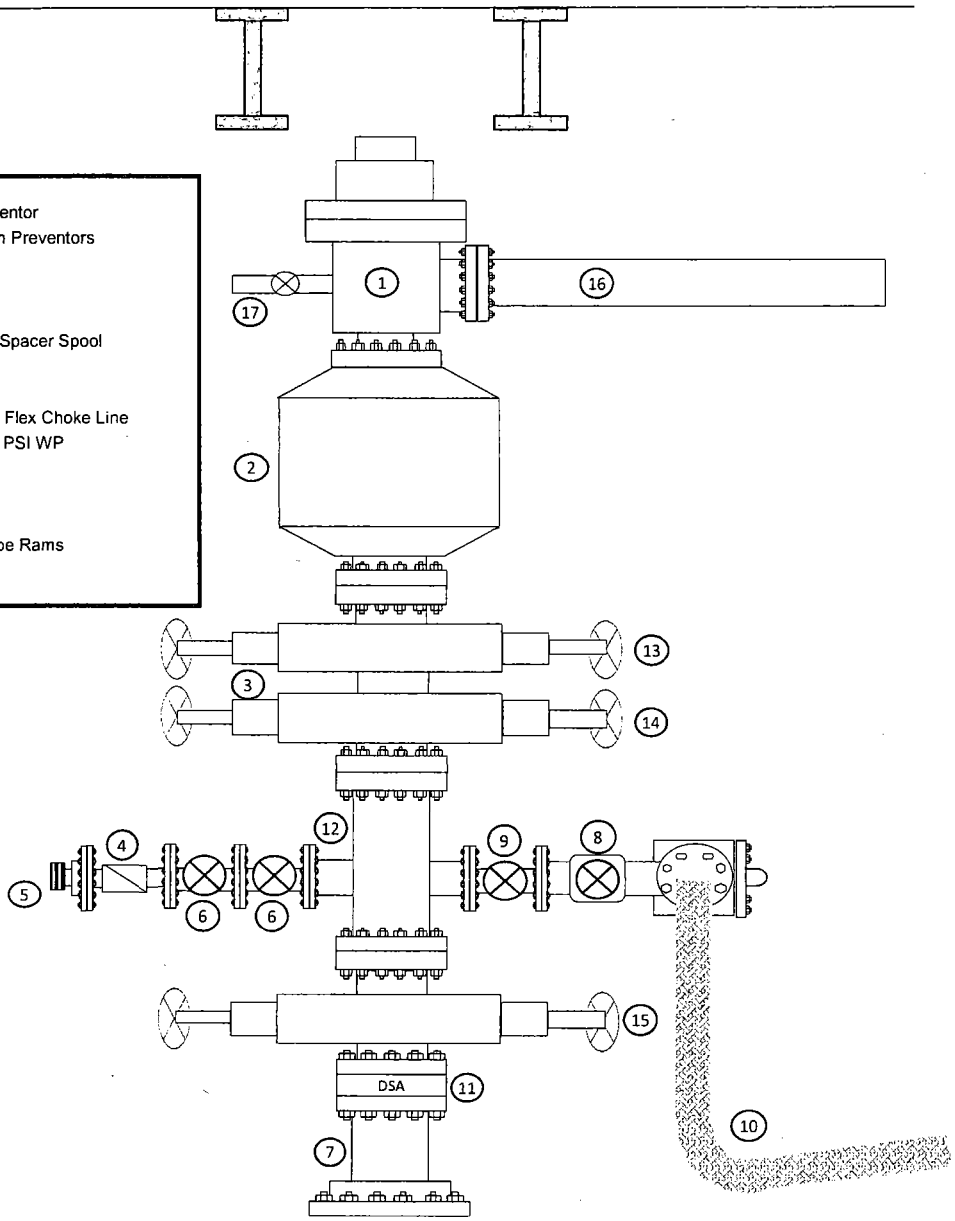
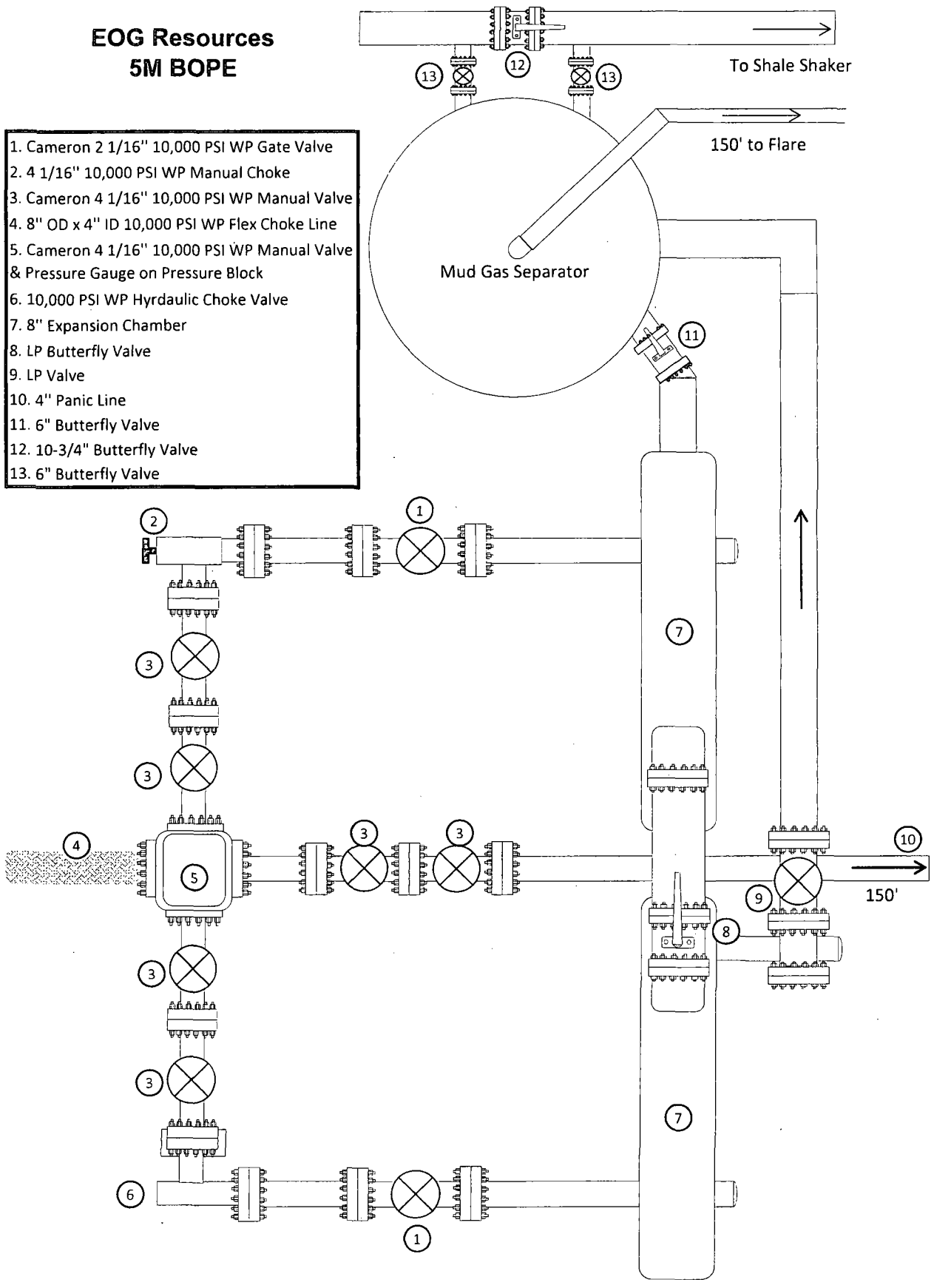


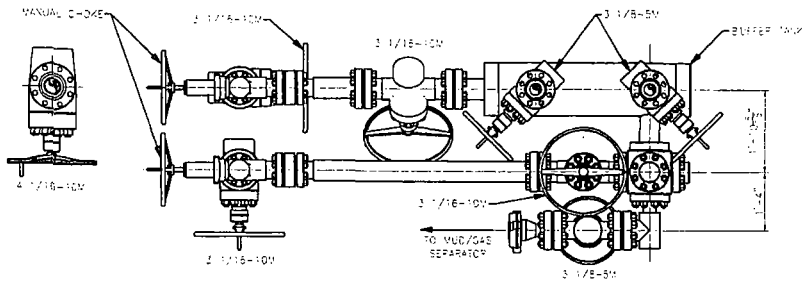
Exhibit 1a

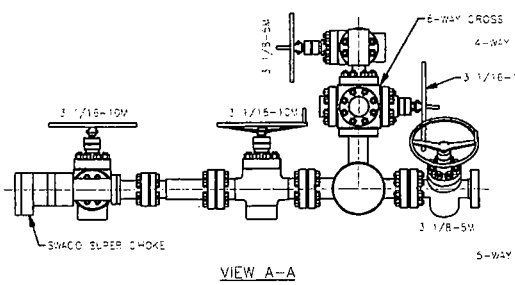
EOG Resources
5M BOPE

1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
2. 4 1/16" 10,000 PSI WP Manual Choke
3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
6. 10,000 PSI WP Hyrdaulic Choke Valve
7. 8" Expansion Chamber
8. LP Butterfly Valve
9. LP Valve
10. 4" Panic Line
11. 6" Butterfly Valve
12. 10-3/4" Butterfly Valve
13. 6" Butterfly Valve

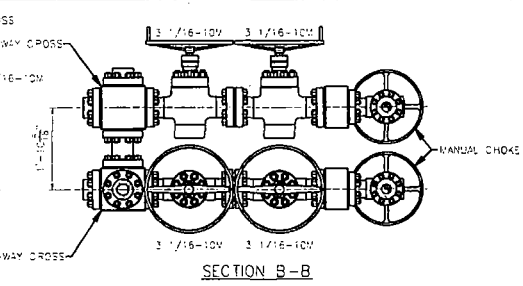


EOG 5M Choke Manifold Diagram (rev. 3/21/14)

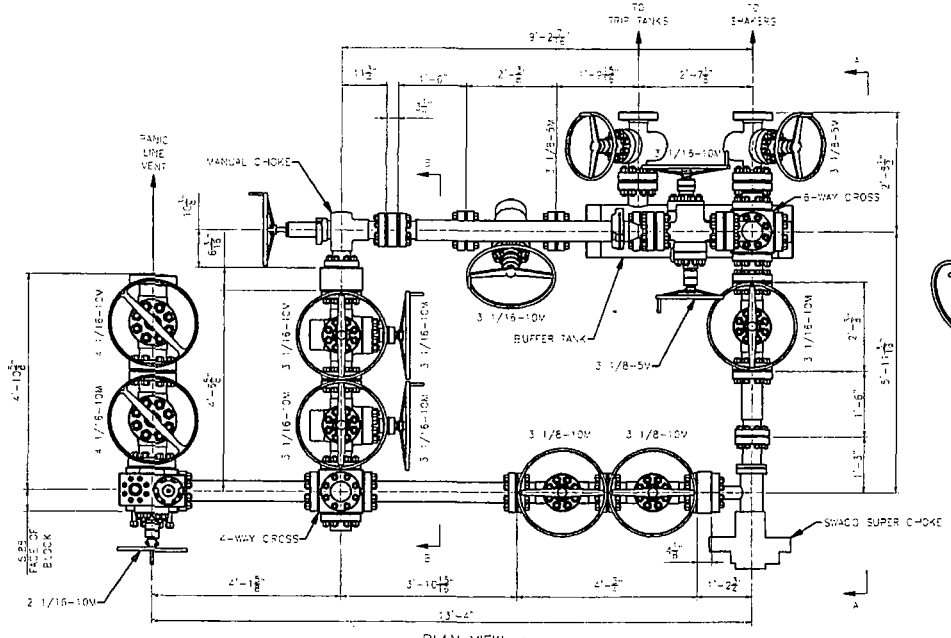




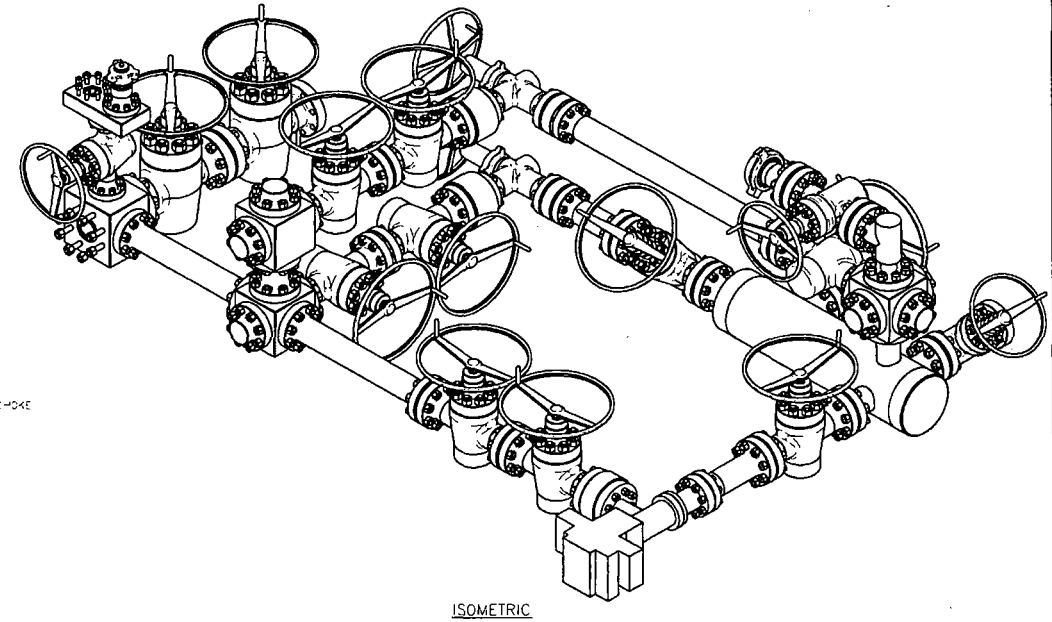
VIEW A–A



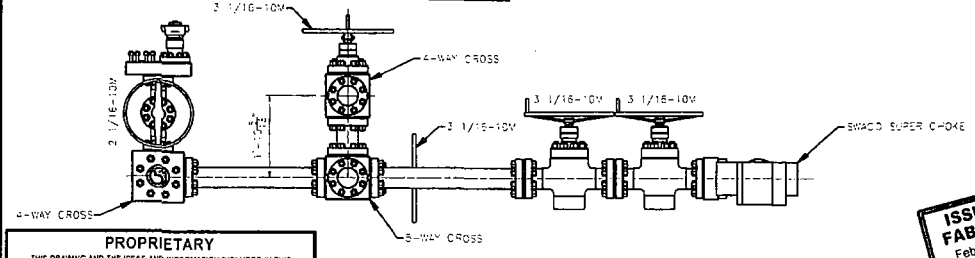
SECTION B–B



PLAN VIEW



ISOMETRIC



ISSUED FOR FABRICATION
February-10-2014
DRAFTSMAN
ENGINEER

STANDARD TOLERANCES
(UNLESS NOTED)

1. FABRICATION DIMENSIONS:	A-0° TO 24"	± 1/16"
	B-24" TO 120"	± 1/8"
	C-OVER 120"	± 1/4"
	D-ANGULAR	± 30'
2. MACHINED DIMENSIONS:	E-LINEAR (EXPRESSED AS FRACTION)	± 1/64
	LINEAR (EXPRESSED TO ONE DECIMAL)	± .1
	LINEAR (EXPRESSED TO TWO DECIMALS)	± .015
	LINEAR (EXPRESSED TO THREE DECIMALS)	± .005

REV	DATE	DESCRIPTION	BY
–			

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: 3 CHOKE, 3 LEVEL, 10M CHOKE MANIFOLD G.A.

CUSTOMER: H&P

PROJECT:

DRAWN: MWL | DATE: 2/10/2014 | DWG NO: HP-D1254 | REV: –

SCALE: 3/4"=1'-0" | SHEET: 1 OF 1

MIDWEST

HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT		
Customer: CACTUS		**P.O. Number:** RIG #123
		Asset # M10761
HOSE SPECIFICATIONS		
Type: CHOKE LINE		**Length:** 35'
I.D. 4" *INCHES*		**O.D.** 8" *INCHES*
WORKING PRESSURE 10,000 *PSI*	**TEST PRESSURE** 15,000 *PSI*	**BURST PRESSURE** *PSI*
COUPLINGS		
Type of End Fitting 4 1/16 10K FLANGE		
Type of Coupling: SWEDGED	**MANUFACTURED BY** MIDWEST HOSE & SPECIALTY	
PROCEDURE		
Hose assembly pressure tested with water at ambient temperature.		
TIME HELD AT TEST PRESSURE 1 *MIN.*	**ACTUAL BURST PRESSURE:** 0 *PSI*	
COMMENTS: SN#90087 M10761 Hose is covered with stainless steel armour cover and wraped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes		
Date: 6/6/2011	**Tested By:** BOBBY FINK	**Approved:** MENDI JACKSON

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: CACTUS

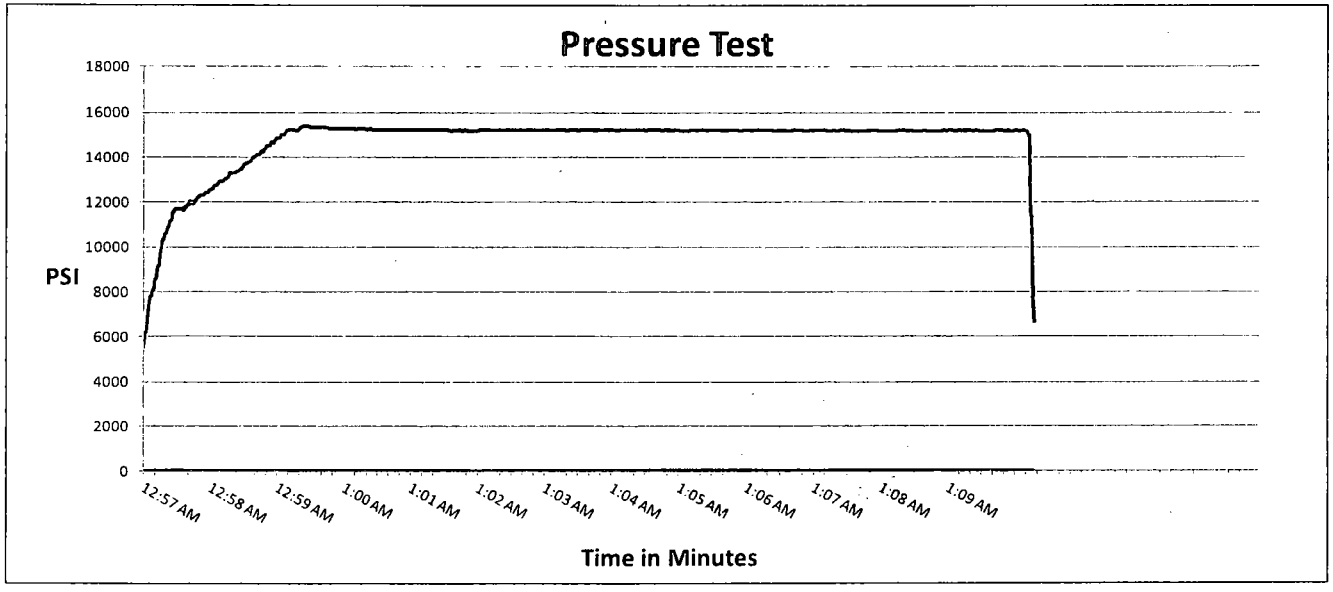
SALES ORDER# 90067

Hose Specifications

Hose Type	Length
C & K	35'
I.D.	**O.D.**
4"	8"
Working Pressure	**Burst Pressure**
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4 1/16 10K	Swage
Die Size	**Final O.D.**
6.62"	6.68"
Hose Serial #	**Hose Assembly Serial #**
	90067



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	11 1/4 Minutes		15439 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Bobby Fink*

Approved By: *Mendi Jackson*

X Mendi Jackson

Exhibit 4

EOG Resources
Audacious BTL 19 Fed Com #4H

Well Site Diagram

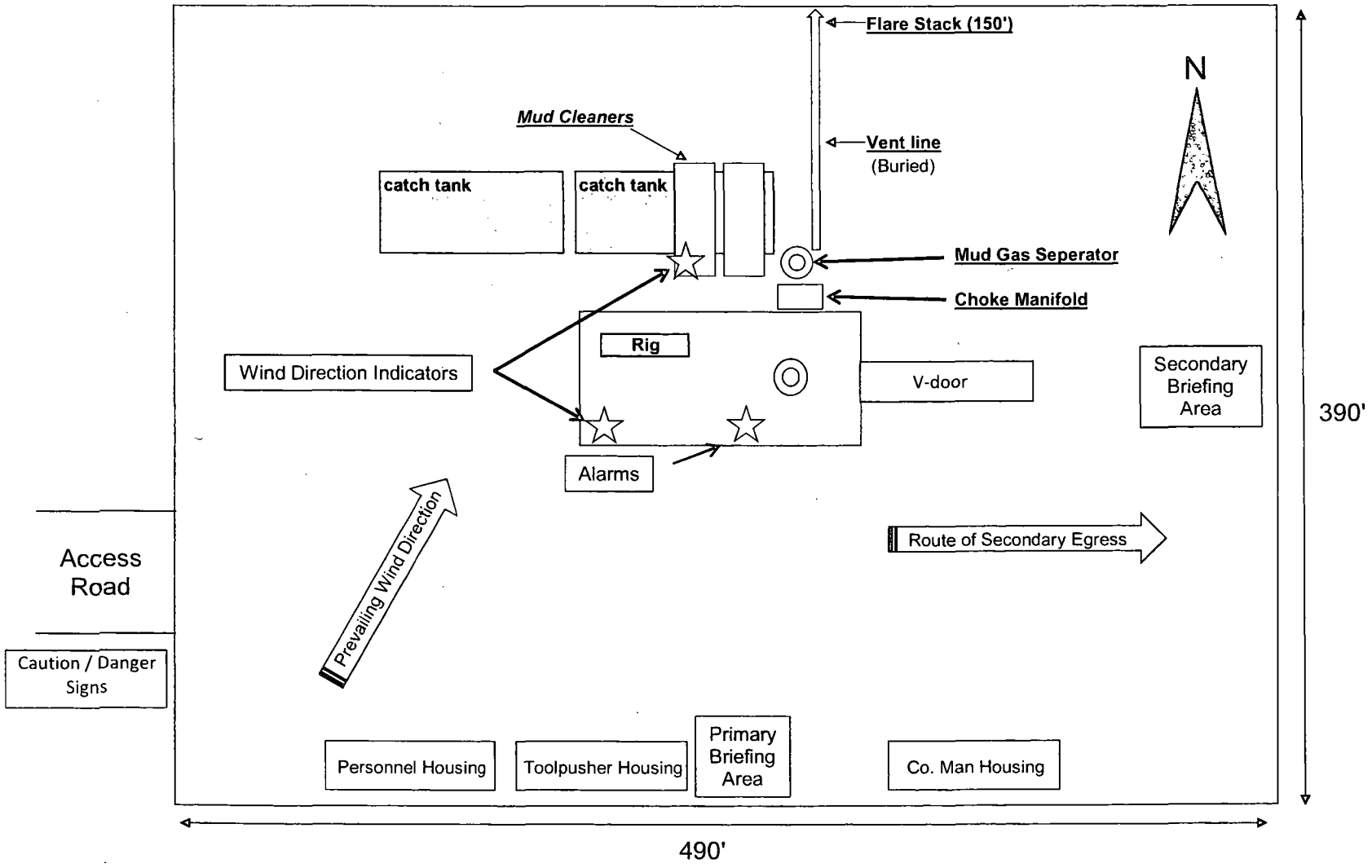
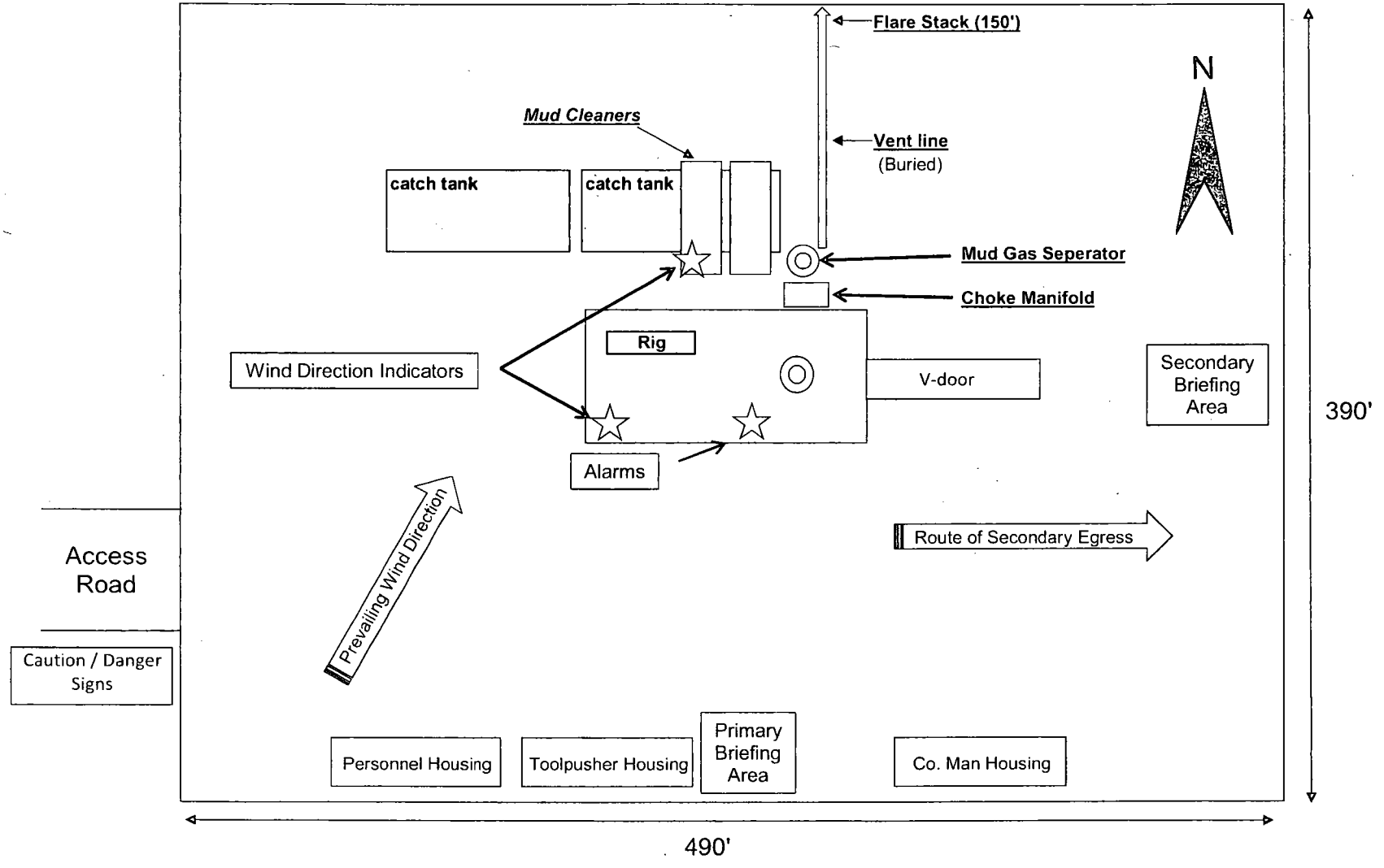
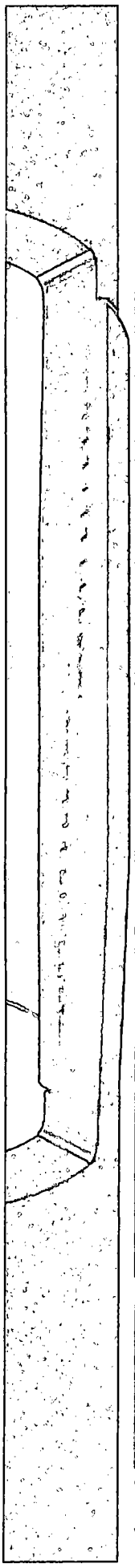


Exhibit 4

EOG Resources
Audacious BTL 19 Fed Com #4H

Well Site Diagram





Issued on: 24 Jan. 2017

VAM SLIJ-II

Connection Data Sheet

OD	Weight	Wall Th.	Grade	API Drift	Connection
7 5/8 in.	29.70 lb/ft	0.375 in.	VM 110 HC	6.750 in.	VAM® SLIJ-II

PIPE PROPERTIES

Nominal OD	7.625 in.
Nominal ID	6.875 in.
Nominal Cross Section Area	8.541 sqin.
Grade Type	High Collapse
Min. Yield Strength	110 ksi
Max. Yield Strength	140 ksi
Min. Ultimate Tensile Strength	125 ksi

CONNECTION PROPERTIES

Connection Type	Premium integral semi-flush
Connection OD (nom)	7.711 in.
Connection ID (nom)	6.820 in.
Make-up Loss	4.822 in.
Critical Cross Section	5.912 sqin.
Tension Efficiency	69.2 % of pipe
Compression Efficiency	48.5 % of pipe
Internal Pressure Efficiency	100 % of pipe
External Pressure Efficiency	100 % of pipe

CONNECTION PERFORMANCES

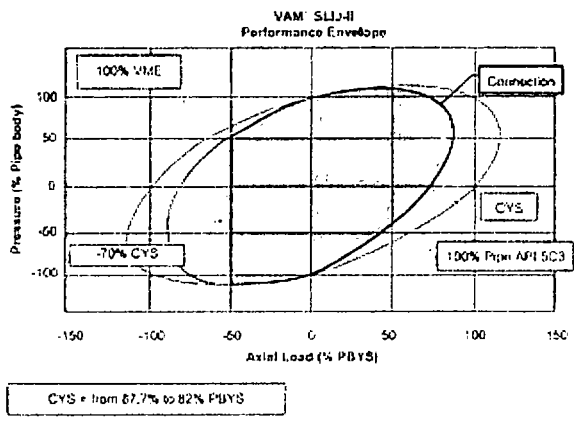
Tensile Yield Strength	651 klb
Compression Resistance	455 klb
Internal Yield Pressure	9470 psi
Uniaxial Collapse Pressure	7890 psi
Max. Bending Capacity	TDB
Max Bending with Sealability	20 °/100 ft

FIELD TORQUE VALUES

Min. Make-up torque	11300 ft.lb
Opti. Make-up torque	12600 ft.lb
Max. Make-up torque	13900 ft.lb

VAM® SLIJ-II is a semi-flush integral premium connection for all casing applications. It combines a near flush design with high performances in tension, compression and gas sealability.

VAM® SLIJ-II has been validated according to the most stringent tests protocols, and has an excellent performance history in the world's most prolific HPHT wells.



Do you need help on this product? - Remember no one knows VAM® like VAM

canada@vamfieldservice.com
usa@vamfieldservice.com
mexico@vamfieldservice.com
brazil@vamfieldservice.com
uk@vamfieldservice.com
dubai@vamfieldservice.com
nigeria@vamfieldservice.com
angola@vamfieldservice.com
china@vamfieldservice.com
baku@vamfieldservice.com
singapore@vamfieldservice.com
australia@vamfieldservice.com

Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance

Other Connection Data Sheets are available at www.vamservices.com

Vallourec Group

vallourec

Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 6" ID = 4"

Ends: Flanges Size: 4-1/16"

WP Rating: 10,000 psi Anchors required by manfacturer: No

APD ID: 10400009721 **Submission Date:** 01/25/2017

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - Geologic Formations

ID: Surface formation **Name:** RUSTLER

Lithology(ies):

ANHYDRITE

Elevation: 2502 **True Vertical Depth:** 934 **Measured Depth:** 934

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 1 **Name:** TOP SALT

Lithology(ies):

SALT

Elevation: 1238 **True Vertical Depth:** 1264 **Measured Depth:** 1264

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 2 **Name:** BASE OF SALT

Lithology(ies):

SALT

Elevation: -2192 **True Vertical Depth:** 4694 **Measured Depth:** 4694

Mineral Resource(s):

NONE

Is this a producing formation? N

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

ID: Formation 3 **Name:** LAMAR

Lithology(ies):

LIMESTONE

Elevation: -2432 **True Vertical Depth:** 4934 **Measured Depth:** 4934

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 4 **Name:** BELL CANYON

Lithology(ies):

SANDSTONE

Elevation: -2467 **True Vertical Depth:** 4969 **Measured Depth:** 4969

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 5 **Name:** CHERRY CANYON

Lithology(ies):

SANDSTONE

Elevation: -3542 **True Vertical Depth:** 6044 **Measured Depth:** 6044

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 6 **Name:** BRUSHY CANYON

Lithology(ies):

SANDSTONE

Elevation: -5092 **True Vertical Depth:** 7594 **Measured Depth:** 7594

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 7 **Name:** BONE SPRING LIME

Lithology(ies):

LIMESTONE

Elevation: -6602 **True Vertical Depth:** 9104 **Measured Depth:** 9104

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 8 **Name:** BONE SPRING 1ST

Lithology(ies):

SANDSTONE

Elevation: -7547 **True Vertical Depth:** 10049 **Measured Depth:** 10049

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 9 **Name:** BONE SPRING 2ND

Lithology(ies):

SANDSTONE

Elevation: -8042 **True Vertical Depth:** 10544 **Measured Depth:** 10544

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

ID: Formation 10 **Name:** BONE SPRING 3RD

Lithology(ies):

SANDSTONE

Elevation: -9229 **True Vertical Depth:** 11731 **Measured Depth:** 11731

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 11 **Name:** WOLFCAMP

Lithology(ies):

SHALE

Elevation: -9671 **True Vertical Depth:** 12173 **Measured Depth:** 12173

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 12400

Equipment: The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil and Gas order No. 2.
Requesting Variance? YES

Variance request: Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line). Variance is requested to wave the centralizer requirements for the 7-5/8" FJ casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4" hole interval to maximize cement bond and zonal isolation. Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.
Testing Procedure: Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 3500/ 250 psig. The surface casing will be tested to 1500 psi for 30 minutes. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 3500/ 250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

Choke Diagram Attachment:

Audacious19fedcom4H 5 M Choke Manifold Diagram (3-21-14)_01-25-2017.pdf

BOP Diagram Attachment:

audacious19fedcom4H 5 M BOP Diagram (8-14-14)_01-25-2017.pdf

Section 3 - Casing

String Type: SURFACE **Other String Type:**

Hole Size: 14.75

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: -8920

Bottom setting depth MD: 960 **Bottom setting depth TVD:** 960

Bottom setting depth MSL: -9880

Calculated casing length MD: 960

Casing Size: 10.75 **Other Size**

Grade: J-55 **Other Grade:**

Weight: 40.5

Joint Type: STC **Other Joint Type:**

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Audacious BTL 19 Fed Com 4H BLM Plan_01-25-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

String Type: INTERMEDIATE **Other String Type:**

Hole Size: 9.875

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: -8920

Bottom setting depth MD: 1000 **Bottom setting depth TVD:** 1000

Bottom setting depth MSL: -9920

Calculated casing length MD: 1000

Casing Size: 7.625 **Other Size**

Grade: HCP-110 **Other Grade:**

Weight: 29.7

Joint Type: LTC **Other Joint Type:** Flushmax III

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Audacious BTL 19 Fed Com 4H BLM Plan_01-25-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

String Type: PRODUCTION **Other String Type:**

Hole Size: 6.75

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: -8920

Bottom setting depth MD: 10600 **Bottom setting depth TVD:** 10600

Bottom setting depth MSL: -19520

Calculated casing length MD: 10600

Casing Size: 5.5 **Other Size**

Grade: OTHER **Other Grade:** P-110EC

Weight: 20

Joint Type: OTHER **Other Joint Type:** DWC/C-IS MS

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Audacious BTL 19 Fed Com 4H BLM Plan_01-25-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

String Type: PRODUCTION **Other String Type:**

Hole Size: 6.75

Top setting depth MD: 10600 **Top setting depth TVD:** 10600

Top setting depth MSL: -19520

Bottom setting depth MD: 19833 **Bottom setting depth TVD:** 12400

Bottom setting depth MSL: -21320

Calculated casing length MD: 9233

Casing Size: 5.5 **Other Size**

Grade: OTHER **Other Grade:** P-110EC

Weight: 20

Joint Type: OTHER **Other Joint Type:** VAM SFC

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Audacious BTL 19 Fed Com 4H BLM Plan_01-25-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

String Type: INTERMEDIATE **Other String Type:**

Hole Size: 9.875

Top setting depth MD: 1000 **Top setting depth TVD:** 1000

Top setting depth MSL: -9920

Bottom setting depth MD: 3000 **Bottom setting depth TVD:** 3000

Bottom setting depth MSL: -11920

Calculated casing length MD: 2000

Casing Size: 7.625 **Other Size**

Grade: OTHER **Other Grade:** P-110EC

Weight: 29.7

Joint Type: OTHER **Other Joint Type:** SJIJ II

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Audacious BTL 19 Fed Com 4H BLM Plan_01-25-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

String Type: INTERMEDIATE **Other String Type:**

Hole Size: 8.75

Top setting depth MD: 3000 **Top setting depth TVD:** 3000

Top setting depth MSL: -11920

Bottom setting depth MD: 11100 **Bottom setting depth TVD:** 11100

Bottom setting depth MSL: -20020

Calculated casing length MD: 8100

Casing Size: 7.625 **Other Size**

Grade: HCP-110 **Other Grade:**

Weight: 29.7

Joint Type: OTHER **Other Joint Type:** Flushmax III

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Audacious BTL 19 Fed Com 4H BLM Plan_01-25-2017.pdf

Section 4 - Cement

Casing String Type: INTERMEDIATE

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 0 **Cement Type:** 0

Additives: 0 **Quantity (sks):** 0 **Yield (cu.ff./sk):** 0

Density: 0 **Volume (cu.ft.):** 0 **Percent Excess:**

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 0 **Cement Type:** 0

Additives: 0 **Quantity (sks):** 0 **Yield (cu.ff./sk):** 0

Density: 0 **Volume (cu.ft.):** 0 **Percent Excess:**

Casing String Type: SURFACE

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 960 **Cement Type:** Class C

Additives: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface) **Quantity (sks):** 325 **Yield (cu.ff./sk):** 1.73

Density: 13.5 **Volume (cu.ft.):** 562 **Percent Excess:** 25

Tail

Top MD of Segment: 960 **Bottom MD Segment:** 960 **Cement Type:** Class C

Additives: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate **Quantity (sks):** 200 **Yield (cu.ff./sk):** 1.34

Density: 14.8 **Volume (cu.ft.):** 268 **Percent Excess:** 25

Casing String Type: INTERMEDIATE

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 11100 **Cement Type:** Class C

Additives: Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC@Surface) **Quantity (sks):** 2250 **Yield (cu.ff./sk):** 1.38

Density: 14.8 **Volume (cu.ft.):** 3105 **Percent Excess:** 25

Tail

Top MD of Segment: 11100 **Bottom MD Segment:** 11100 **Cement Type:** Class H

Additives: 50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% **Quantity (sks):** 550 **Yield (cu.ff./sk):** 1.2

Volume (cu.ft.): 660 **Percent Excess:** 25

CPT35 + 0.80% CPT16A + 0.25% CPT503P
Density: 14.4

Percent Excess: 25

Casing String Type: PRODUCTION

Stage Tool Depth:

Lead

Top MD of Segment: 10600 **Bottom MD Segment:** 19833 **Cement Type:** Class H

Additives: Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,600')
Density: 14.1

Quantity (sks): 1000

Volume (cu.ft.): 1260

Yield (cu.ff./sk): 1.26

Percent Excess: 25

Stage Tool Depth:

Lead

Top MD of Segment: 10600 **Bottom MD Segment:** 20185 **Cement Type:** Class H

Additives: Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,600')
Density: 14.1

Quantity (sks): 725

Volume (cu.ft.): 913

Yield (cu.ff./sk): 1.26

Percent Excess: 25

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: (A) A Kelly cock will be kept in the drill string at all times. (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times. (C) H2S monitoring and detection equipment will be utilized from surface casing point to TD.
Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be utilized on the circulating system to monitor pit volume, flow rate, pump pressure and stroke rate.

Circulating Medium Table

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

Top Depth: 960 **Bottom Depth:** 11100

Mud Type: SALT SATURATED

Min Weight (lbs./gal.): 8.8 **Max Weight (lbs./gal.):** 10

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Top Depth: 11100 **Bottom Depth:** 19833

Mud Type: OIL-BASED MUD

Min Weight (lbs./gal.): 10 **Max Weight (lbs./gal.):** 11.5

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Top Depth: 0 **Bottom Depth:** 960

Mud Type: WATER-BASED MUD

Min Weight (lbs./gal.): 8.6 **Max Weight (lbs./gal.):** 8.8

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Open-hole logs are not planned for this well.

List of open and cased hole logs run in the well:

DS

Coring operation description for the well:

None

Operator Name: EOG RESOURCES INC

Well Name: AUDACIOUS BTL 19 FED COM **Well Number:** 4H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7415 **Anticipated Surface Pressure:** 4687

Anticipated Bottom Hole Temperature(F): 181

Anticipated abnormal proessures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Audacious BTL 19 Fed Com 4H H2S Plan Summary_01-25-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Audacious BTL Federal Com 4H Planning Report_01-25-2017.pdf

Audacious BTL Federal Com 4H Wall Plot_01-25-2017.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

audacious19fedcom4H 5.500in 20.00 VST P110EC DWC_C-IS MS Spec Sheet_01-25-2017.pdf

Audacious BTL 19 Fed Com 4H rig layout_01-25-2017.pdf

audacious19fedcom4H 5.500in 20.00 VST P110EC VAM SFC Spec Sheet_01-25-2017.pdf

audacious19fedcom4H 7.625in 29.70 P-110 FlushMax III Spec Sheet_01-25-2017.pdf

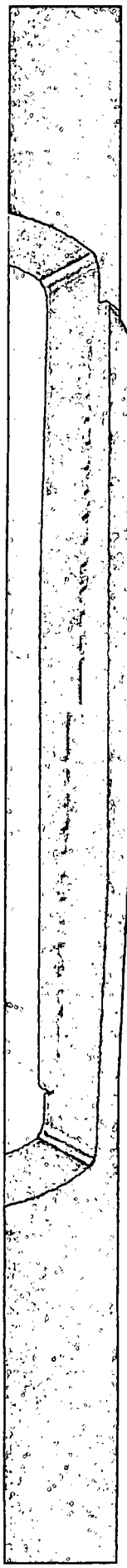
Audacious19fedcom4H 7.625in 29.7 P110EC VAM SLIJ-II_01-25-2017.pdf

audacious19fedcom4H Co-Flex Hose Certification_01-25-2017.PDF

audacious19fedcom4H Co-Flex Hose Test Chart_01-25-2017.pdf

Other Variance attachment:

Audacious BTL 19 Fed Com 4H BLM Plan_01-25-2017.pdf



Issued on: 24 Jan. 2017

VAM® SLIJ-II

Connection Data Sheet

OD	Weight	Wall Th.	Grade	API Drift	Connection
7 5/8 in.	29.70 lb/ft	0.375 in.	VM 110 HC	6.750 in.	VAM® SLIJ-II

PIPE PROPERTIES

Nominal OD	7.625 in.
Nominal ID	6.875 in.
Nominal Cross Section Area	8.541 sqin.
Grade Type	High Collapse
Min. Yield Strength	110 ksi
Max. Yield Strength	140 ksi
Min. Ultimate Tensile Strength	125 ksi

CONNECTION PROPERTIES

Connection Type	Premium integral semi-flush
Connection OD (nom)	7.711 in.
Connection ID (nom)	6.820 in.
Make-up Loss	4.822 in.
Critical Cross Section	5.912 sqin.
Tension Efficiency	69.2 % of pipe
Compression Efficiency	48.5 % of pipe
Internal Pressure Efficiency	100 % of pipe
External Pressure Efficiency	100 % of pipe

CONNECTION PERFORMANCES

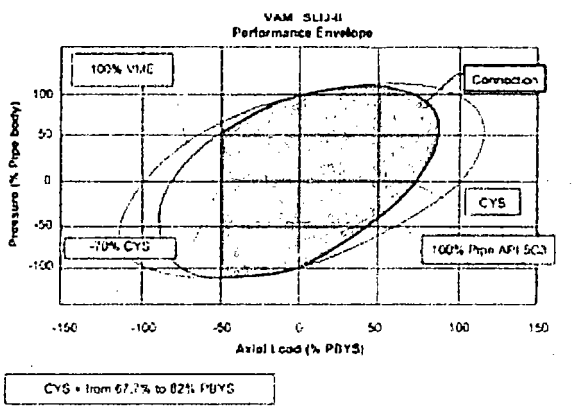
Tensile Yield Strength	651 klb
Compression Resistance	455 klb
Internal Yield Pressure	9470 psi
Uniaxial Collapse Pressure	7890 psi
Max. Bending Capacity	TDB
Max Bending with Sealability	20 °/100 ft

FIELD TORQUE VALUES

Min. Make-up torque	11300 ft.lb
Opti. Make-up torque	12600 ft.lb
Max. Make-up torque	13900 ft.lb

VAM® SLIJ-II is a semi-flush integral premium connection for all casing applications. It combines a near flush design with high performances in tension, compression and gas sealability.

VAM® SLIJ-II has been validated according to the most stringent tests protocols, and has an excellent performance history in the world's most prolific HPHT wells.



Do you need help on this product? - Remember no one knows VAM® like VAM

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brazil@vamfieldservice.com
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nigeria@vamfieldservice.com
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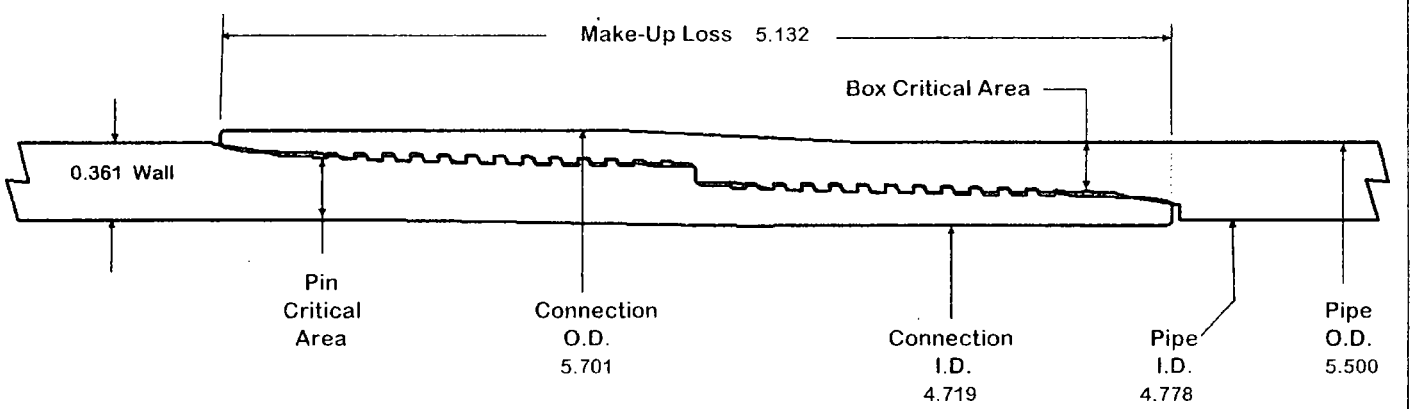
Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance

Other Connection Data Sheets are available at www.vamservices.com

Vallourec Group

vallourec

VAM® SFC



O.D.	WEIGHT	WALL	GRADE	DRIFT
5.500	20.00	0.361	VST P110EC	4.653

PIPE BODY PROPERTIES

Material Grade	VST P110EC
Min. Yield Strength	125 ksi
Min. Tensile Strength	135 ksi
Outside Diameter	5.500 in
Inside Diameter	4.778 in
Nominal Area	5.828 sq.in.
Yield Strength	729 kips
Ultimate Strength	787 kips
Min Internal Yield	14,360 psi
*High Collapse	12,090 psi

CONNECTION PROPERTIES

Connection OD	5.701 in
Connection ID	4.719 in
Make up Loss	5.132 in
Box Critical Area	4.083 sq.in.
%PB Section Area	70.1%
Pin Critical Area	4.123 sq.in.
%PB Section Area	70.7%
Yield Strength	510 kips
Parting Load	551 kips
Min Internal Yield	14,360 psi
*High Collapse	12,090 psi
Wk Compression	357 kips
Max Pure Bending	20 °/100 ft

TORQUE DATA ft-lb

min	opt	max
8,700	9,700	10,700

Contact: tech.support@vam-usa.com
Ref. Drawing: SI-PD 100414 Rev.B
Date: 14-Jun-16
Time: 2:31 PM

TECHNICAL SPECIFICATIONS

These specifications are furnished for general information only and are not intended for design purposes. This information is preliminary and may change subject to a final design by VAM-USA Engineering. This is not a controlled document.

DWC/C-IS MS — **Casing** — **5.500" O.D.** — **20.00 lb./ft.** — **VST P-110EC**

standard

		Material
VST P-110EC		Grade
125,000		Minimum Yield Strength (psi.)
135,000		Minimum Ultimate Strength (psi.)
		Pipe Dimensions
5.500		Nominal Pipe Body OD (in.)
4.778		Nominal Pipe Body ID (in.)
0.361		Nominal Wall Thickness (in.)
20.00		Nominal Weight (lbs./ft.)
19.83		Plain End Weight (lbs./ft.)
5.828		Nominal Pipe Body Area (sq. in.)
		Pipe Body Performance Properties
729,000		Minimum Pipe Body Yield Strength (lbs.)
12,090		Minimum Collapse Pressure (psi.)
14,360		Minimum Internal Yield Pressure (psi.)
13,100		Hydrostatic Test Pressure (psi.)
		Connection Dimensions
6.115		Connection OD (in.)
4.778		Connection ID (in.)
4.653		Connection Drift Diameter (in.)
4.13		Make-up Loss (in.)
5.828		Critical Area (sq. in.)
100.0		Joint Efficiency (%)
		Connection Performance Properties
729,000	(1)	Joint Strength (lbs.)
26,040	(2)	Reference String Length (ft.) 1.4 Design Factor
728,000	(3)	API Joint Strength (lbs.)
729,000		Compression Rating (lbs.)
12,090		API Collapse Pressure Rating (psi.)
14,360	(4)	API Internal Pressure Resistance (psi.)
104.2		Maximum Uniaxial Bend Rating (degrees/100 ft.)
		Approximated Field End Torque Values
16,600	(5)	Minimum Final Torque (ft.-lbs.)
19,100	(5)	Maximum Final Torque (ft.-lbs.)
21,600	(6)	Connection Yield Torque (ft.-lbs.)

VAM-USA
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E-mail: VAMUSAsales@na.vallourec.com

(1) Joint Strength is the minimum pipe body yield strength multiplied by the connection critical area.
(2) Reference String Length is the joint strength divided by both the weight in air and the design factor.
(3) API Joint Strength is for reference only. It is calculated from Formulas 42 and 43 in the API Bulletin 5C3.
(4) API Internal Pressure Resistance is calculated from Formulas 31, 32, and 35 in the API Bulletin 5C3.
(5) Torque values are approximated and may be affected by field conditions.
(6) Connection yield torque is not to be exceeded.

Connection specifications within the control of VAM-USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advi to obtain current connection specifications and verify pipe mechanical properties for each application.

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

PWD Data Report
06/09/2017

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: Injection well name:

Assigned injection well API number? Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

06/09/2017

Bond Information

Federal/Indian APD: FED

BLM Bond number: NM2308

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

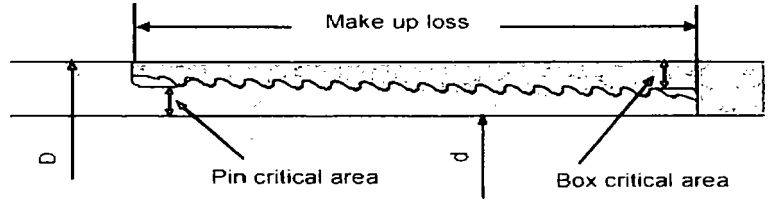
Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

Metal One Corp	FLUSHMAX-III Connection Data Sheet	Page	44-O
		Date	1-Oct-15
		Rev.	N-0



Pipe Body	Imperial		S.I.	
Grade	P110		P110	
Pipe OD (D)	7 5/8	in	193.68	mm
Weight	29.7	lb/ft	44.25	kg/m
Actual weight	29.0	lb/ft	43.26	kg/m
Wall thickness (t)	0.375	in	9.53	mm
Pipe ID (d)	6.875	in	174.63	mm
Pipe body cross section	8.537	in^2	5,508	mm^2
Drift Dia.	6.750	in	171.45	mm

Connection				
Box OD (W)	7.625	in	193.68	mm
PIN ID	6.875	in	174.63	mm
Pin critical area	4.420	in^2	2,852	mm^2
Box critical area	4.424	in^2	2,854	mm^2
Joint load efficiency	60	%	60	%
Make up loss	3.040	in	77.22	mm
Thread taper	1/16 (3/4 in per ft)			
Number of threads	5 thread per in.			

Connection Performance Properties				
Tensile Yield load	563.4	kips	2,506	kN
M.I.Y.P.	7,574	psi	52.2	MPa
Collapse strength	5,350	psi	36.9	MPa

Note
M.I.Y.P. = Minimum Internal Yield Pressure of the connection

Torque Recommended				
Min.	8,700	ft-lb	11,700	N-m
Opti.	9,700	ft-lb	13,100	N-m
Max.	10,700	ft-lb	14,500	N-m
Operational Max.	23,600	ft-lb	32,000	N-m

Note : Operational Max. torque can be applied for high torque application