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Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM119422

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. DR IRELAND FED COM 112H (322263)

2. Name of Operator MATADOR PRODUCTION COMPANY (228937)

9. API Well No. 30-025-45119

3a. Address 5400 LBJ Freeway, Suite 1500 Dallas TX 752

3b. Phone No. (include area code) (972)371-5200

10. Field and Pool, or Exploratory (2200) BONESPRING

4. Location of Well (Report location clearly and in accordance with any State requirements.*)

At surface SESW / 507 FSL / 1990 FWL / LAT 32.2842355 / LONG -103.4087632

At proposed prod. zone NENW / 240 FNL / 1650 FWL / LAT 32.2967036 / LONG -103.4098653

11. Sec., T. R. M. or Blk. and Survey or Area SEC 19 / T23S / R35E / NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish LEA

13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 507 feet

16. No. of acres in lease 557.44

17. Spacing Unit dedicated to this well 159.95

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet

19. Proposed Depth 9860 feet / 14638 feet

20. BLM/BIA Bond No. on file FED: NMB001079

21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3389 feet

22. Approximate date work will start* 12/01/2018

23. Estimated duration 25 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature (Electronic Submission)

Name (Printed Typed) Lara Thompson / Ph: (505)254-1115

Date 03/09/2018

Title Assistant Project Manager

Approved by (Signature) (Electronic Submission)

Name (Printed Typed) Cody Layton / Ph: (575)234-5959

Date 07/06/2018

Title Assistant Field Manager Lands & Minerals

Office CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

GCP Rec 08/16/18

APPROVED WITH CONDITIONS

Approval Date: 07/06/2018

KZ 08/17/18

Double sided

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SESW / 507 FSL / 1990 FWL / TWSP: 23S / RANGE: 35E / SECTION: 19 / LAT: 32.2842355 / LONG: -103.4087632 (TVD: 0 feet, MD: 0 feet)
   PPP: SESW / 330 FSL / 1650 FWL / TWSP: 23S / RANGE: 35E / SECTION: 19 / LAT: 32.2837481 / LONG: -103.4098635 (TVD: 9860 feet, MD: 10209 feet)
   BHL: NENW / 240 FNL / 1650 FWL / TWSP: 23S / RANGE: 35E / SECTION: 19 / LAT: 32.2967036 / LONG: -103.4098653 (TVD: 9860 feet, MD: 14638 feet)

BLM Point of Contact

Name: Judith Yeager

Title: Legal Instruments Examiner

Phone: 5752345936

Email: jyeager@blm.gov

Approval Date: 07/06/2018

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Lara Thompson **Signed on:** 04/20/2018

Title: Assistant Project Manager

Street Address: 5647 Jefferson Street NE

City: Albuquerque **State:** NM **Zip:** 87109

Phone: (505)254-1115

Email address: Lara.Thompson@swca.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

AFMSS

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

Application Data Report

07/18/2018

APD ID: 10400027928 **Submission Date:** 03/09/2018

Operator Name: MATADOR PRODUCTION COMPANY

[redacted] **Well Number:** 112H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400027928 **Tie to previous NOS?** **Submission Date:** 03/09/2018

BLM Office: CARLSBAD **User:** Lara Thompson **Title:** Assistant Project Manager

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM113422 **Lease Acres:** 557.44

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? YES **APD Operator:** MATADOR PRODUCTION COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: MATADOR PRODUCTION COMPANY

Operator Address: 5400 LBJ Freeway, Suite 1500 **Zip:** 75240

Operator PO Box:

Operator City: Dallas **State:** TX

Operator Phone: (972)371-5200

Operator Internet Address: amonroe@matadorresources.com

Section 2 - Well Information

Well in Master Development Plan? NO **Mater Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

[redacted] **Well Number:** 112H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** BONESPRING **Pool Name:**

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Operator Name: MATADOR PROD .ON COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** DR IRELAND FEDERAL **Number:** 4

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: APPRAISAL

Describe sub-type:

Distance to town: **Distance to nearest well:** 30 FT **Distance to lease line:** 507 FT

Reservoir well spacing assigned acres Measurement: 159.95 Acres

Well plat: 1Mile_Radius_Map_20180214142439.docx

BO_DR_IRELAND_FED_COM_SLOT_2_SURFACE_PAD_SITE_S_20180306103449.pdf

CD_DR_IRELAND_FED_COM_SLOT_2_SURFACE_PAD_PRO_S_20180306103449.pdf

112H_well_plats_complete_signed_20180420111928.pdf

Well work start Date: 12/01/2018 **Duration:** 25 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	507	FSL	1990	FWL	23S	35E	19	Aliquot SESW	32.2842355	-103.4087632	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 113422	3389	0	0
KOP Leg #1	507	FSL	1990	FWL	23S	35E	19	Aliquot SESW	32.2842355	-103.4087632	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 113422	2389	1000	1000

Operator Name: MATADOR PRC TION COMPANY

[redacted] **Well Number:** 112H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP Leg #1	330	FSL	1650	FWL	23S	35E	19	Aliquot SESW	32.2837481	-103.4098635	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 113422	-6471	10209	9860
EXIT Leg #1	330	FNL	1650	FWL	23S	35E	19	Aliquot NENW	32.2964562	-103.4098653	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 113422	-6471	14548	9860
BHL Leg #1	240	FNL	1650	FWL	23S	35E	19	Aliquot NENW	32.2967036	-103.4098653	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 113422	-6471	14638	9860

APD ID: 10400027928 **Submission Date:** 03/09/2018

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	3384	1263	1263		USEABLE WATER	No
2	SALADO	1767	1617	1617		NONE	No
3	CAPITAN REEF	-578	3962	3962		NONE	No
4	BELL CANYON	-2090	5474	5474		NATURAL GAS,OIL	No
5	BRUSHY CANYON	-4078	7462	7462		NATURAL GAS,OIL	No
6	BONE SPRING LIME	-5361	8745	8745		NATURAL GAS,OIL	No
7	BONE SPRING 1ST	-6109	9493	9493		NATURAL GAS,OIL	No
8	BONE SPRING 2ND	-6631	10015	10015		NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M **Rating Depth:** 15000

Equipment: See Exhibit E-1. A BOP consisting of 3 rams with 2 pipe rams, 1 blind ram and one annular preventer. The BOP will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams. Also present will be an accumulator that meets the requirements of Onshore Order #2 for the pressure rating of the BOP stack. A rotating head will also be installed as needed. BOP will be inspected and operated as recommended in Onshore Order #2. A Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. A third party company will test the BOPs.
Requesting Variance? YES

Variance request: The operator requests a variance to have the option of running a speed head for setting the intermediate strings. In the case of running a speed head with landing mandrel for 9-5/8" casing, a minimum of a 3M BOPE system will be installed after surface casing is set. Matador Resources requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached (see Exhibit E-2). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.
Testing Procedure: After setting surface casing and before drilling below the surface casing shoe, a minimum of a 2M BOPE system will be installed and tested to 250 psi low and 2000 psi high with the annular being tested to 250 psi low and 1000 psi high. After setting intermediate casing, a minimum of a 3M system will be installed and tested to 250 psi low and 3000 psi high with the annular being tested to 250 psi low and 2500 psi high.

Operator Name: MATADOR PRODUC COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

Choke Diagram Attachment:

Choke_Manifold_20180305135416.pdf

BOP Diagram Attachment:

BOP_297_001_20180305135428.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	850	0	850			850	J-55	54.5	OTHER - BTC	1.125	1.125	BUOY	1.8	BUOY	1.8
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5400	0	5385			5400	J-55	40	OTHER - BTC	1.125	1.125	BUOY	1.8	BUOY	1.8
3	PRODUCTION	8.75	5.5	NEW	NON API	N	4400	14638	4388	9860			10238	P-110	20	OTHER - BTC/TXP	1.125	1.125	BUOY	1.8	BUOY	1.8

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

TenarisHydril_TenarisXP_BTC_5.500_20_20180213122618.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLM_Casing_Design_Assumptions_3_string_20180213123000.pdf

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLM_Casing_Design_Assumptions_3_string_20180213122944.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

TenarisHydril_TenarisXP_BTC_5.500_20_20180305143305.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLM_Casing_Design_Assumptions_3_string_20180213122951.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	850	210	1.82	12.8	382	100	Class C	Bentonite + 2% CaCL2 + 3% NaCl + LCM
SURFACE	Tail		0	850	720	1.38	14.8	994	100	Class C	5% NaCl + LCM
INTERMEDIATE	Lead		0	5400	1170	2.13	12.6	2492.1	100	Class C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
INTERMEDIATE	Tail		0	5400	620	1.38	14.8	856	100	Class C	5% NaCl + LCM
PRODUCTION	Lead		4400	14638	580	2.35	11.5	1363	35	TXI	Fluid Loss + Dispersant + Retarder + LCM

Operator Name: MATADOR PRODUC .N COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		4400	14638	1500	2.35	13.2	3525	35	TXI	Fluid Loss + Dispersant + Retarder + LCM

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: See Exhibit E-1. A BOP consisting of 3 rams with 2 pipe rams, 1 blind ram and one annular preventer. The BOP will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams. Also present will be an accumulator that meets the requirements of Onshore Order #2 for the pressure rating of the BOP stack. A rotating head will also be installed as needed. BOP will be inspected and operated as recommended in Onshore Order #2. A Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. A third party company will test the BOPs.

Describe the mud monitoring system utilized: The Mud Monitoring System is an electronic Pason system satisfying requirements of Onshore Order 1. Mud Logging Program: 2 man unit from 5400 – TD.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	850	SPUD MUD	8.3	8.3							
0	5385	SALT SATURATED	10	10							
4388	9860	OTHER : FW/ Cut Brine	9	9							

Section 6 - Test, Logging, Coring

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

See page 3 of Drilling Plan attached in Other Facets, Section 8.

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

CBL,GR,MUDLOG

Coring operation description for the well:

No DSTs or cores are planned at this time.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4500 **Anticipated Surface Pressure:** 2330.8

Anticipated Bottom Hole Temperature(F): 150

Anticipated abnormal pressures, 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:

Matador_Hydrogen_Sulfide_Drilling_Leslie__024_20180305142812.docx
H2S_Emergency_Contacts_20180529151923.docx

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Dr._Ireland_Fed_Com__112H___Well_Plan_v1_20180305142827.pdf

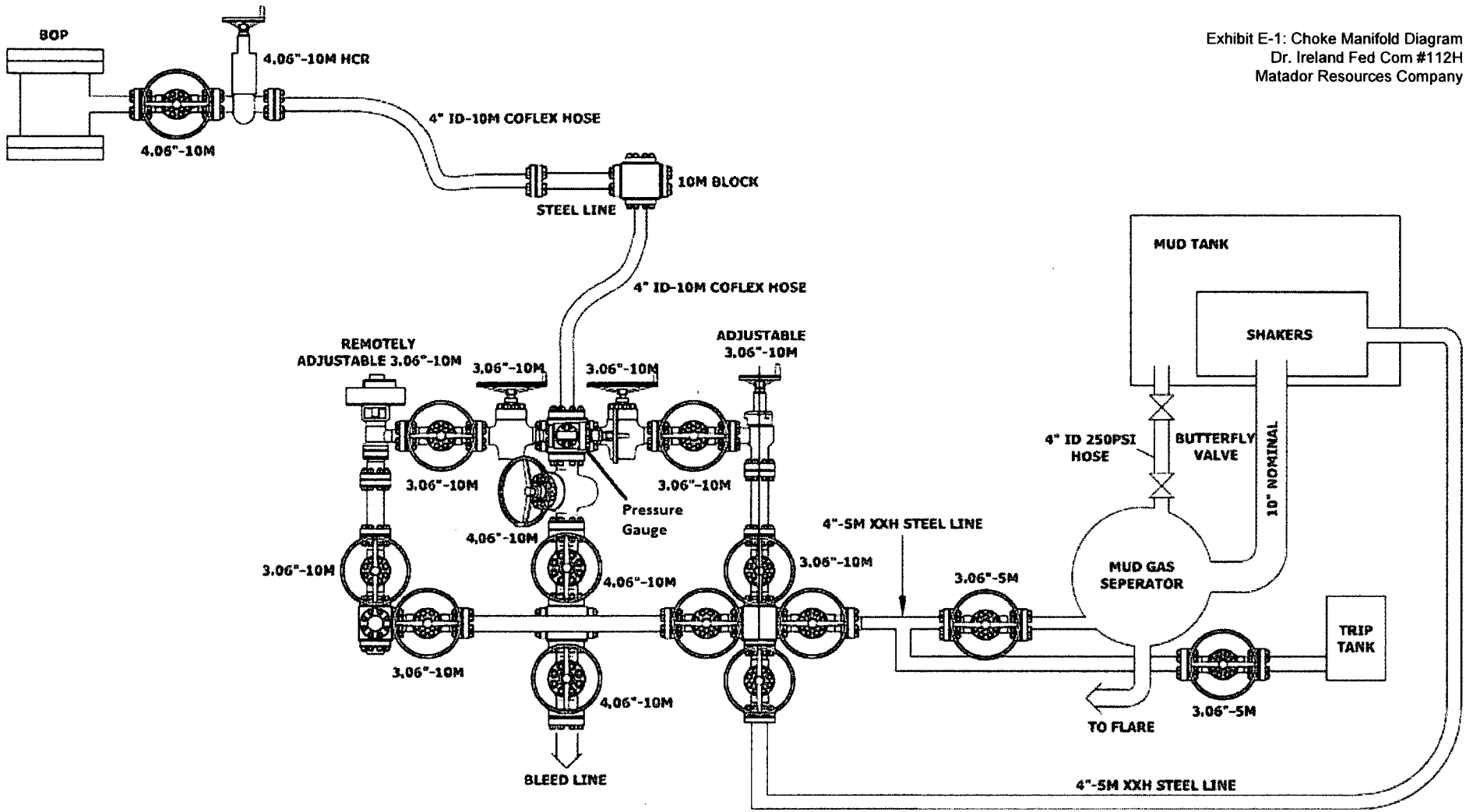
Other proposed operations facets description:

Other proposed operations facets attachment:

297Co_Flex_Certs__Dr._Ireland_Fed_Com__112H_20180305142847.pdf
3_string_Speed_Head_20180305143038.pdf
Close_Loop_System_20180305143039.docx
Dr._Ireland_Fed_Com__112H_MTDR_Drill_Plan_20180305143040.docx
Gas_Capture_Plan___Dr._Ireland_111H__112H__113H__114H_20180529151947.docx

Other Variance attachment:

Exhibit E-1: Choke Manifold Diagram
Dr. Ireland Fed Com #112H
Matador Resources Company



WELDING NOTES & TOLERANCES UNLESS OTHERWISE SPECIFIED,

GENERAL WELDING NOTES
ALL ACCESSIBLE CONTACT SURFACES SHALL BE JOINED WITH CONTINUOUS 45 DEGREE FILLET WELDS, WELD SIZE TO BE 1/16 INCH LARGER THAN THINNER MEMBER JOINED UP TO 3/16 INCH THICKNESS AND 1/8 INCH SMALLER THAN THINNER MEMBER JOINED UP TO 3/4 INCH THICKNESS

MACHINING TOLERANCES
1 PLACE DECIMAL ±0.1
2 PLACE DECIMAL ±0.03
3 PLACE DECIMAL ±0.015
FRACTIONAL TOLERANCE ±1/64
INSIDE MACHINED CORNER RADII ±0.031
CHAMFER OUTSIDE CORNERS 0.03 X 45 DEG
ANGULAR TOLERANCES ±1/2 DEG
MACHINED SURFACE FINISH 125 RMS
ALL UNSPECIFIED DIMENSIONS ARE IN INCHES

REV	DATE	DESCRIPTION	DRAWN BY	CHK BY	APPROVED ENGR.
02	4-3-15	ISSUED FOR INFORMATION	CP	CDA	
01	7-9-10	ISSUED FOR INFORMATION	CDA		

PATTERSON-UTI DRILLING COMPANY LLC

CHOKE MANIFOLD

10M CHOKE ARRANGEMENT
RIG 297

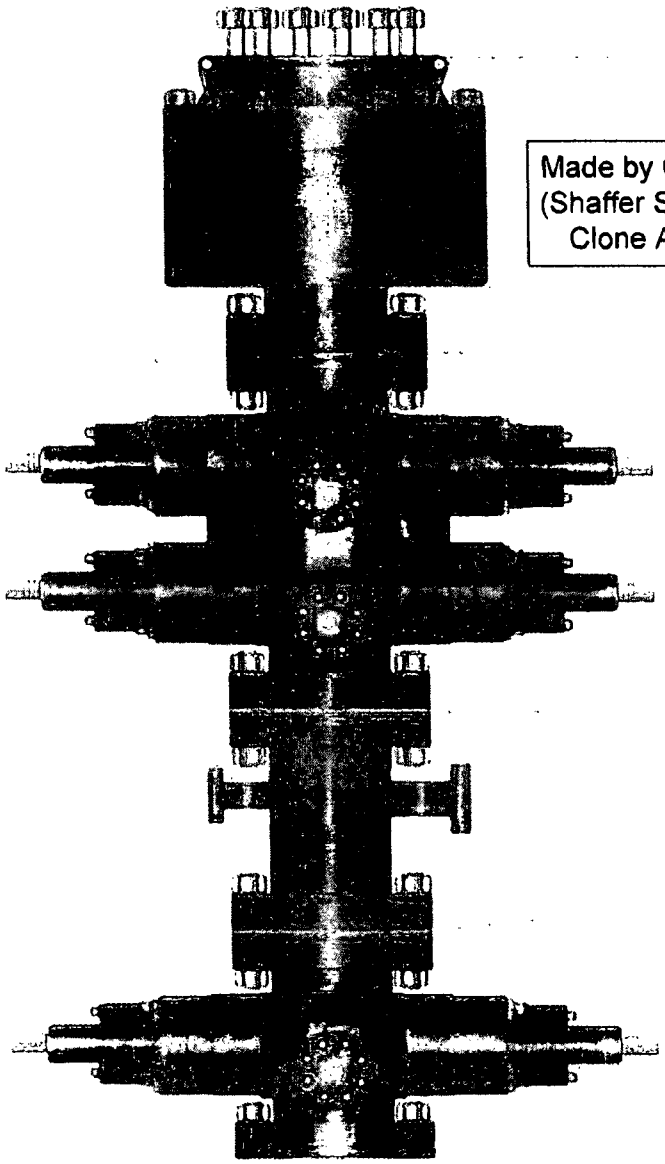
DWG No. R0297-D.001.LAY.09

SHEET 1 OF 1 REV. 02

Exhibit E-1: BOP
Dr. Ireland Fed Com #112H
Matador Resources Company

PATTERSON-UTI
Well Control

RIG: 297



Made by Cameron
(Shaffer Spherical)
Clone Annular

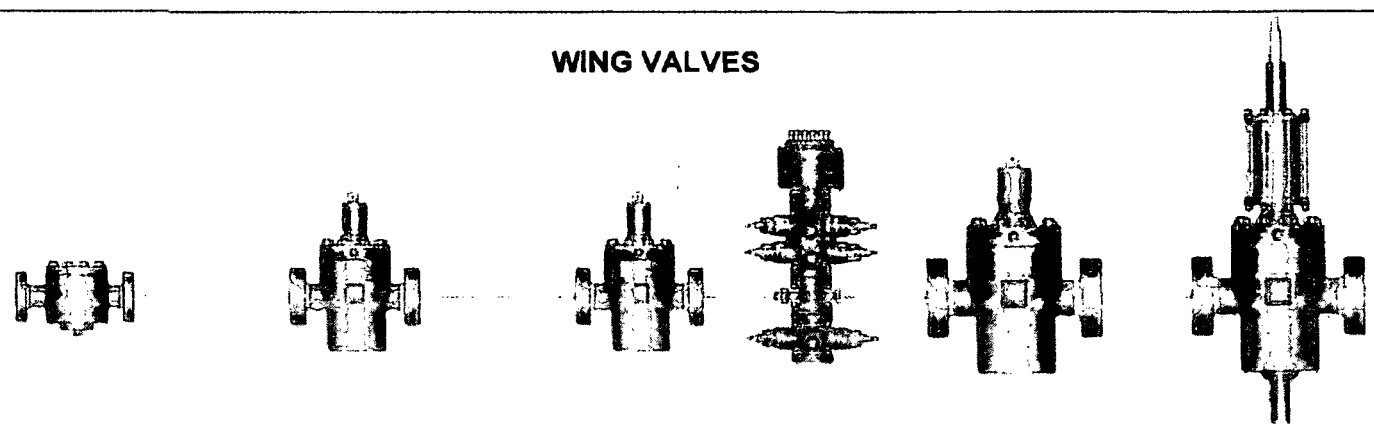
PATTERSON-UTI # PS2-628
STYLE: New Shaffer Spherical
BORE 13 5/8" **PRESSURE** 5,000
HEIGHT: 48 ½" **WEIGHT:** 13,800 lbs

PATTERSON-UTI # PC2-128
STYLE: New Cameron Type U
BORE 13 5/8" **PRESSURE** 10,000
RAMS: TOP 5" Pipe **BTM** Blinds
HEIGHT: 66 5/8" **WEIGHT:** 24,000 lbs

Length 40" **Outlets** 4" 10M
DSA 4" 10M x 2" 10M

PATTERSON-UTI # PC2-228
STYLE: New Cameron Type U
BORE 13 5/8" **PRESSURE** 10,000
RAMS: 5" Pipe
HEIGHT: 41 5/8" **WEIGHT:** 13,000 lbs

WING VALVES



2" Check Valve | 2" Manual Valve | 2" Manual Valve | 4" Manual Valve | 4" Hydraulic Valve

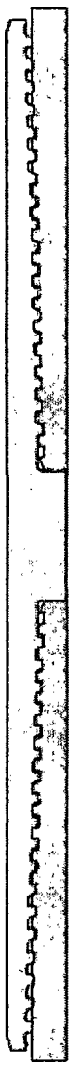
For the latest performance data, always visit our website: www.tenaris.com

February 02 2017

Tenaris

Size: 5.500 in.
Wall: 0.361 in.
Weight: 20.00 lbs/ft
Grade: P110-IC
Min. Wall Thickness: 87.5 %

Connection: TenarisXP® BTC
Casing/Tubing: CAS
Coupling Option: REGULAR



PIPE BODY DATA

GEOMETRY

Nominal OD	**5.500** in.	Nominal Weight	**20.00** lbs/ft	Standard Drift Diameter	**4.653** in.
Nominal ID	**4.778** in.	Wall Thickness	**0.361** in.	Special Drift Diameter	**N/A**
Plain End Weight	**19.83** lbs/ft				

PERFORMANCE

Body Yield Strength	**641** x 1000 lbs	Internal Yield	**12630** psi	SMYS	**110000** psi
Collapse	**12100** psi				

TENARISXP® BTC CONNECTION DATA

GEOMETRY

Connection OD	**6.100** in.	Coupling Length	**9.450** in.	Connection ID	**4.766** in.
Critical Section Area	**5.828** sq. in.	Threads per in.	**5.00**	Make-Up Loss	**4.204** in.

PERFORMANCE

Tension Efficiency	**100** %	Joint Yield Strength	**641** x 1000 lbs	Internal Pressure Capacity(1)	**12630** psi
Structural Compression Efficiency	**100** %	Structural Compression Strength	**641** x 1000 lbs	Structural Bending(2)	**92** °/100 ft
External Pressure Capacity	**12100** psi				

ESTIMATED MAKE-UP TORQUES(3)

Minimum	**11270** ft-lbs	Optimum	**12520** ft-lbs	Maximum	**13770** ft-lbs

OPERATIONAL LIMIT TORQUES

Operating Torque	**21500** ft-lbs	Yield Torque	**23900** ft-lbs		

BLANKING DIMENSIONS

Blanking Dimensions

(1) Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per

section 10.3 API 5C3 / ISO 10400 - 2007.

(2) Structural rating, pure bending to yield (i.e no other loads applied)

(3) Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed.

For additional information, please contact us at contact-tenarishydril@tenaris.com

For the latest performance data, always visit our website: www.tenaris.com

February 02 2017

Tenaris

Size: 5.500 in.
Wall: 0.361 in.
Weight: 20.00 lbs/ft
Grade: P110-IC
Min. Wall Thickness: 87.5 %

Connection: TenarisXP® BTC
Casing/Tubing: CAS
Coupling Option: REGULAR

PIPE BODY DATA					
GEOMETRY					
Nominal OD	**5.500** in.	Nominal Weight	**20.00** lbs/ft	Standard Drift Diameter	**4.653** in.
Nominal ID	**4.778** in.	Wall Thickness	**0.361** in.	Special Drift Diameter	**N/A**
Plain End Weight	**19.83** lbs/ft				
PERFORMANCE					
Body Yield Strength	**641** x 1000 lbs	Internal Yield	**12630** psi	SMYS	**110000** psi
Collapse	**12100** psi				

TENARISXP® BTC CONNECTION DATA					
GEOMETRY					
Connection OD	**6.100** in.	Coupling Length	**9.450** in.	Connection ID	**4.766** in.
Critical Section Area	**5.828** sq. in.	Threads per in.	**5.00**	Make-Up Loss	**4.204** in.
PERFORMANCE					
Tension Efficiency	**100** %	Joint Yield Strength	**641** x 1000 lbs	Internal Pressure Capacity(1)	**12630** psi
Structural Compression Efficiency	**100** %	Structural Compression Strength	**641** x 1000 lbs	Structural Bending(2)	**92** °/100 ft
External Pressure Capacity	**12100** psi				
ESTIMATED MAKE-UP TORQUES(3)					
Minimum	**11270** ft-lbs	Optimum	**12520** ft-lbs	Maximum	**13770** ft-lbs
OPERATIONAL LIMIT TORQUES					
Operating Torque	**21500** ft-lbs	Yield Torque	**23900** ft-lbs		
BLANKING DIMENSIONS					
Blanking Dimensions					

(1) Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per

section 10.3 API 5C3 / ISO 10400 - 2007.

(2) Structural rating, pure bending to yield (i.e no other loads applied)

(3) Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed.

For additional information, please contact us at contact-tenarishydril@tenaris.com

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.3 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (10.0 ppg).

Production Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.47 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be run above that (0.47 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.
- Injection Down Casing: 9500 psi surface injection pressure plus an internal pressure gradient of 0.65 psi/ft with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (9.0 ppg).

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.3 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (10.0 ppg).

Production Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.47 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be run above that (0.47 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-2	Hose O.D. (Inches)	5.30"
Hose Assembly Length	10'	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	91996	Stem (Heat #)	91996
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	5.37	Dies Used	5.37

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	***Hose assembly was tested with ambient water temperature.***
Test Pressure Hold Time (minutes)	15 1/2	

Date Tested	Tested By	Approved By
12/8/2014		

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer:	**PATTERSON B&E**	*Customer P.O.#*	**260471**
Sales Order #	**236404**	*Date Assembled:*	**12/8/2014**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**287918-2**	*Hose Lot # and Date Code*	**10490-01/13**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	***Date***
Ryan Adams	**12/9/2014**

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

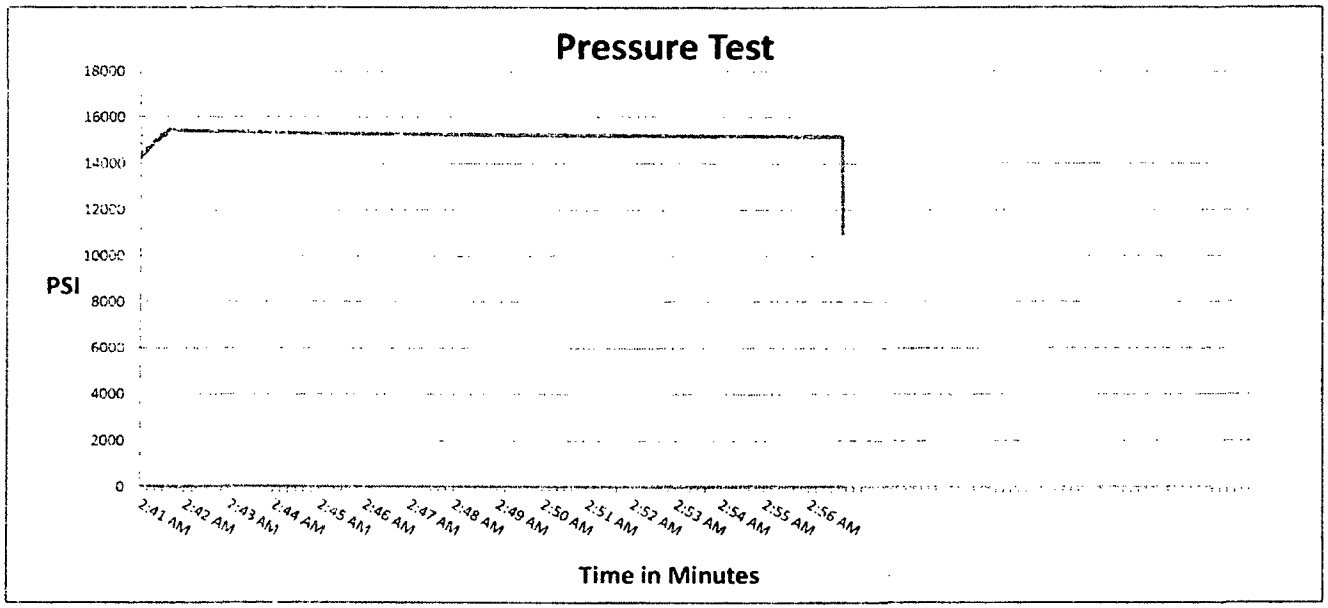
December 9, 2014

Customer: Patterson

Pick Ticket #: 284918

R297

Hose Specifications		Verification	
Hose Type	**Length**	**Type of Fitting**	**Coupling Method**
Ck	20'	4-1/16 10K	Swage
I.D.	**O.D.**	**Die Size**	**Final O.D.**
3"	4.77"	5.37"	5.40"
Working Pressure	**Burst Pressure**	**Hose Serial #**	**Hose Assembly Serial #**
10000 PSI	Standard Safety Multiplier Applies	10490	284918-1



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	15 2/4 Minutes		15893 PSI

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

Tested By: *Tyler Hill*

x

Approved By: *Ryan Adams*

x

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-1	Hose O.D. (Inches)	5.30"
Hose Assembly Length	20'	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	A141420	Stem (Heat #)	A141420
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)	V3579	Connection (Heat #)	V3579
Dies Used	5.37	Dies Used	5.37

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	***Hose assembly was tested with ambient water temperature.***
Test Pressure Hold Time (minutes)	15 1/2	

Date Tested	Tested By	Approved By
12/9/2014		

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **PATTERSON B&E**	*Customer P.O.#* **260471**
Sales Order # **236404**	*Date Assembled:* **12/8/2014**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**287918-1**	*Hose Lot # and Date Code*	**10490-01/13**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	***Date***
Ryan Adams	**12/9/2014**

Midwest Hose & Specialty, Inc.

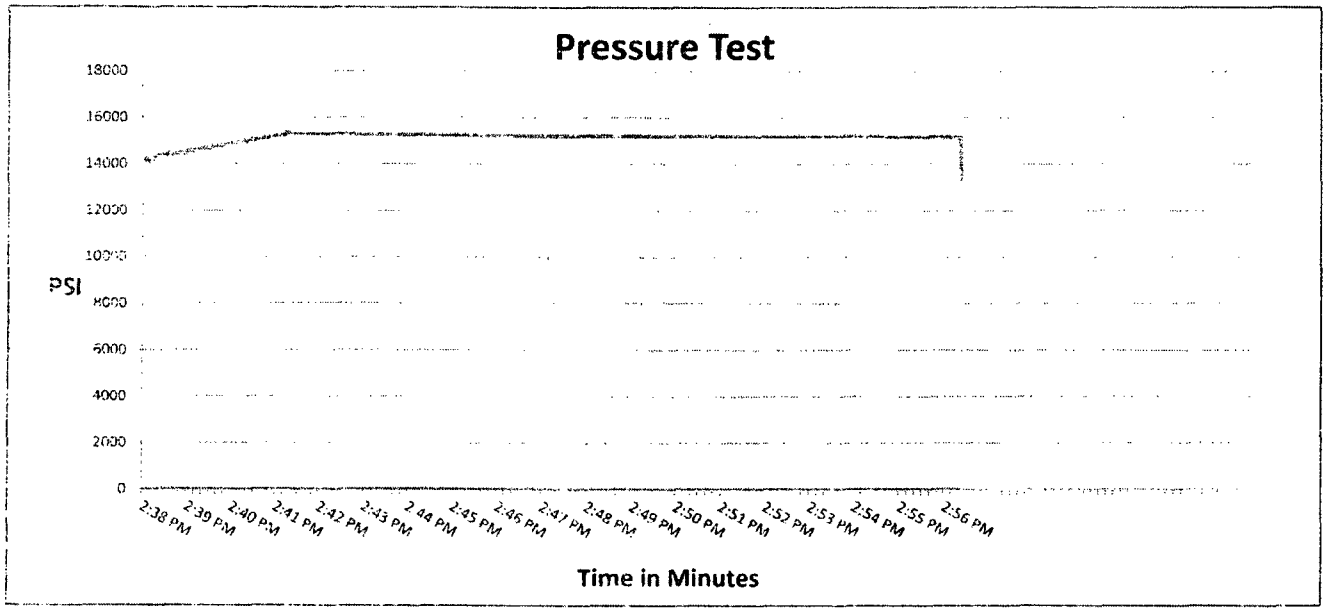
Internal Hydrostatic Test Graph

December 9, 2014

Customer: Patterson

Pick Ticket #: 284918

Hose Specifications		Verification	
Hose Type	**Length**	**Type of Fitting**	**Coupling Method**
Mud	70'	4 1/16 10K	Swage
I.D.	**O.D.**	**Die Size**	**Final O.D.**
3"	4.79"	5.37"	5.37"
Working Pressure	**Burst Pressure**	**Hose Serial #**	**Hose Assembly Serial #**
10000 PSI	Standard Safety Multiplier Applies	10490	284918-3



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	16 3/4 Minutes		15410 PSI

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

Tested By: *Tyler Hill*

x

Approved By: *Ryan Adams*

x

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-3	Hose O.D. (Inches)	5.23"
Hose Assembly Length	70'	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	A141420	Stem (Heat #)	A141420
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	5.37	Dies Used	5.37

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	***Hose assembly was tested with ambient water temperature.***
Test Pressure Hold Time (minutes)	16 3/4	

Date Tested	Tested By	Approved By
12/9/2014		

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **PATTERSON B&E**	*Customer P.O.#* **260471**
Sales Order # **236404**	*Date Assembled:* **12/8/2014**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**287918-3**	*Hose Lot # and Date Code*	**10490-01/13**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

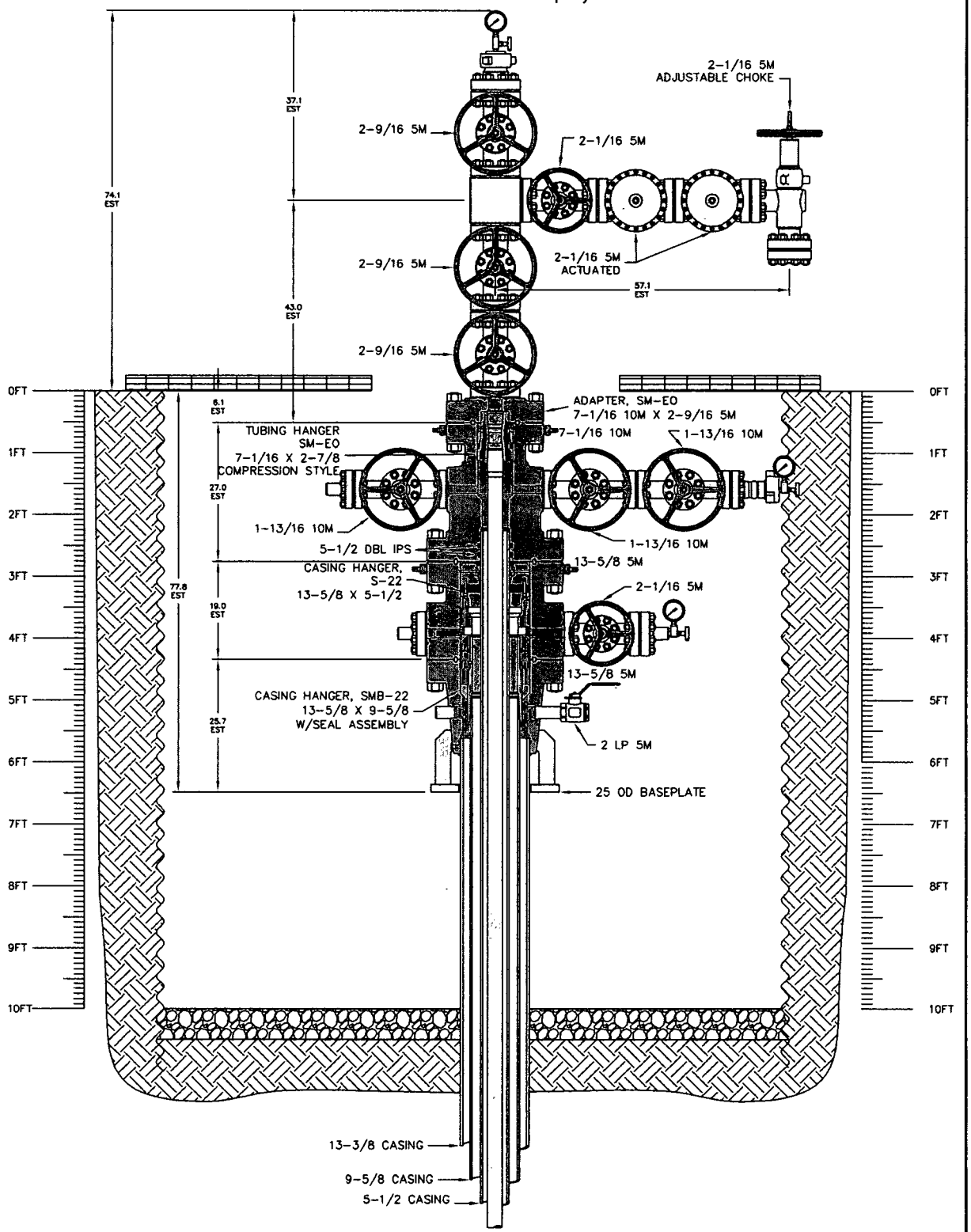
Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	***Date***
Ryan Adams	**12/9/2014**

Exhibit E-7: Wellhead
Dr. Ireland Fed Com #112H
Matador Resources Company

MATADOR
MQ-436



NOTE:
DIMENSIONS SHOWN ON THIS DRAWING ARE ESTIMATES ONLY AND CAN VARY SIGNIFICANTLY DEPENDING ON RAW MATERIAL LENGTHS.
NO GUARANTEE OF STACKUP HEIGHT IS IMPLIED.
DIMENSIONS SHOWN SHOULD BE CONSIDERED FOR REFERENCE PURPOSES ONLY.

WEIR

5,000 PSI WELLHEAD & TREE ASSEMBLY
13-3/8 X 9-5/8 X 5-1/2 X 2-7/8

DRAWN BY: RPL	SCALE 1:10	DATE 23SEP16	REV
CHECKED BY:	DRAWING NO. P-21629		
APPROVED BY:			

Closed-Loop System

Operating and Maintenance Plan:

During drilling operations, third party service companies will utilize solids control equipment to remove cuttings from the drilling fluids and collect it in haul-off bins. Equipment will be closely monitored at all times while drilling by the derrick man and the service company employees.

Closure Plan:

During drilling operations, third party service companies will haul off drill solids and fluids to an approved disposal facility. At the end of the well, all closed loop equipment will be removed from the location.

Drilling Operations Plan
Dr. Ireland Fed Com #112H
Matador Resources Company
Sec. 19, 23S, 35E
Lea County, NM

Surface Location: 507' FSL & 1990' FWL, Sec. 19
Bottom Hole Location: 240' FNL & 1650' FWL, Sec. 19
Elevation Above Sea Level: 3384'

Geologic Name of Surface Formation: First Bone Spring

Type of Well: Horizontal well, No Pilot Hole, Drilled with conventional rotary tools

Proposed Drilling Depth: 14,638' MD / 9,860' TVD

Estimated Tops of Geological Markers w/ Mineral Bearing Formation:

Formation Name	Est Top	Bearing
Rustler	1263	Water
Salado	1617	Barren
Base of Salt	3962	Barren
Bell Canyon	5474	Hydrocarbon
Brushy Canyon	7462	Hydrocarbon
Bone Spring Lime	8776	Hydrocarbon
First Bone Spring Carb	9493	Hydrocarbon
First Bone Spring Sand	9849	Hydrocarbon
Second Bone Spring Carb	10015	Hydrocarbon

OSE Ground Water Estimated Depth: 280'

Casing Program

Name	Hole Size	Casing Size	Wt/Grade	Thread Collar	Setting Depth	Top Cement
Surface	17-1/2"	13-3/8" (new)	54.5# J-55	BTC	850	Surface
Intermediate	12-1/4"	9-5/8" (new)	40# J-55	BTC	5400	Surface
Production	8-3/4"	5-1/2" (new)	20# P-110	BTC/TXP	14638	4400

Minimum Safety Factors: Burst: 1.125 Collapse: 1.125 Tension 1.8

Cementing Program

Name	Type	Sacks	Yield	Weight	Blend
Surface	Lead	210	1.82	12.8	Class C + Bentonite + 2% CaCL2 + 3% NaCl + LCM
	Tail	720	1.38	14.8	Class C + 5% NaCl + LCM
TOC = 0'		100% Excess			Centralizers per Onshore Order 2.III.B.1f
Intermediate	Lead	1170	2.13	12.6	Class C + Bentonite + 1% CaCL2 + 8% NaCl + LCM
	Tail	620	1.38	14.8	Class C + 5% NaCl + LCM
TOC = 0'		100% Excess			2 on btm jt, 1 on 2nd jt, 1 every 4th jt to surface
Production	Lead	580	2.35	11.5	TXI + Fluid Loss + Dispersant + Retarder + LCM
	Tail	1500	1.39	13.2	TXI + Fluid Loss + Dispersant + Retarder + LCM
TOC = 4400'		35% Excess			2 on btm jt, 1 on 2nd jt, 1 every other jt to top of tail cement (500' above TOC)

Pressure Control Equipment:

See Exhibit E-1. A BOP consisting of 3 rams with 2 pipe rams, 1 blind ram and one annular preventer. The BOP will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams. Also present will be an accumulator that meets the requirements of Onshore Order #2 for the pressure rating of the BOP stack. A rotating head will also be installed as needed. BOP will be inspected and operated as recommended in Onshore Order #2. A Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. A third party company will test the BOPs.

After setting surface casing and before drilling below the surface casing shoe, a minimum of a 2M BOPE system will be installed and tested to 250 psi low and 2000 psi high with the annular being tested to 250 psi low and 1000 psi high. After setting intermediate casing, a minimum of a 3M system will be installed and tested to 250 psi low and 3000 psi high with the annular being tested to 250 psi low and 2500 psi high.

The operator requests a variance to have the option of running a speed head for setting the intermediate strings. In the case of running a speed head with landing mandrel for 9-5/8" casing, a minimum of a 3M BOPE system will be installed after surface casing is set. BOP test pressures will be 250 psi low and 3000 psi high with the annular being tested to 250 psi low and 2500 psi high before drilling below surface shoe. A diagram of the speed head is attached.

Drilling Operations Plan
Dr. Ireland Fed Com #112H
Matador Resources Company
Sec. 19, 23S, 35E
Lea County, NM

Matador Resources requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached (see Exhibit E-2). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

Proposed Mud System:

Name	Hole Size	Mud Weight	Visc	Fluid Loss	Type Mud
Surface	17-1/2"	8.30	28	NC	FW Spud Mud
Intermediate	12-1/4"	10.00	30-32	NC	Brine Water
Production	8-3/4"	9.00	30-32	NC	FW/Cut Brine

All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program subject to change due to hole conditions.

The Mud Monitoring System is an electronic Pason system satisfying requirements of Onshore Order 1.

Testing, Logging & Coring Program:

- Mud Logging Program: 2 man unit from 5400 – TD
- Electric Logging Program: No electric logs are planned at this time. GR will be collected through the MWD tools from Inter. Csg to TD
- No DSTs or cores are planned at this time
- CBL w/ CCL from as far as gravity will let it fall to TOC

Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Matador does not anticipate that there will be enough H_2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H_2S safety package on all wells, attached is an "H_2S Drilling Operations Plan". Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used

Estimated BHP: 4500
Estimated BHT: 150°

Construction and Drilling:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 25 days. If production casing is run an additional 30 days will be required to complete and construct surface facilities

APD ID: 10400027928 **Submission Date:** 03/09/2018

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

EP_DR_IRELAND_FED_COM_ROAD_EASEMENT_34_S_20180214143930.PDF
EP_DR_IRELAND_FED_COM_ROAD_EASEMENT_33_S_20180214143929.PDF
EP_DR_IRELAND_FED_COM_ROAD_EASEMENT_36_S_20180214143932.PDF
EP_DR_IRELAND_FED_COM_ROAD_EASEMENT_24_S_20180214143927.PDF
EP_DR_IRELAND_FED_COM_ROAD_EASEMENT_25_S_20180214143928.PDF
EP_DR_IRELAND_FED_COM_ROAD_EASEMENT_19_S_20180214155448.PDF
EP_DR_IRELAND_FED_COM_ROAD_EASEMENT_35_S_20180214143930.PDF

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Caliche cap

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Project_Area_APD_Layout_20180226_20180226113622.jpg

New road type: LOCAL

Length: 523 Feet **Width (ft.):** 30

Max slope (%): 0 **Max grade (%):** 1

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Crowned and ditched

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Grader

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: No drainages present

Road Drainage Control Structures (DCS) description: Ditches on either side of road

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

map_of_existing_wells_section_19_for_slot_2_20180306151035.JPG

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description:

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

Production Facilities map:

Location_Layout_Rig_Diagram_20180305152720.pdf

44924p01_Facility_Layout_S2_20180308_20180309091902.jpg

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: DUST CONTROL, INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING

Water source type: RECYCLED

Describe type:

Source longitude:

Source latitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Source land ownership: PRIVATE

Water source transport method: TRUCKING

Source transportation land ownership: PRIVATE

Water source volume (barrels): 180000

Source volume (acre-feet): 23.200758

Source volume (gal): 7560000

Water source and transportation map:

Dr._Ireland_Water_Information_20180213161731.jpg

Water source comments:

New water well? NO

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

Aquifer comments:

Aquifer documentation:

Well depth (ft):

Well casing type:

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Operator Name: MATADOR PR(:TION COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Caliche from BLM approved source.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drill cuttings, mud, salts, and other chemicals

Amount of waste: 2000 barrels

Waste disposal frequency : Daily

Safe containment description: Steel tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: Halfway, NM

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Location_Layout_Rig_Diagram_20180305153127.pdf
44924p01_Facility_Layout_S2_20180308_20180309091931.jpg
Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** DR IRELAND FEDERAL

Multiple Well Pad Number: 4

Recontouring attachment:

Drainage/Erosion control construction: Crowned and ditched

Drainage/Erosion control reclamation: Harrowed on the contour

Well pad proposed disturbance (acres): 5.72
Road proposed disturbance (acres): 0.36
Powerline proposed disturbance (acres): 0
Pipeline proposed disturbance (acres): 0
Other proposed disturbance (acres): 0
Total proposed disturbance: 6.08

Well pad interim reclamation (acres): 1.58
Road interim reclamation (acres): 0.19
Powerline interim reclamation (acres): 0
Pipeline interim reclamation (acres): 0
Other interim reclamation (acres): 0
Total interim reclamation: 1.77

Well pad long term disturbance (acres): 4.14
Road long term disturbance (acres): 0.17
Powerline long term disturbance (acres): 0
Pipeline long term disturbance (acres): 0
Other long term disturbance (acres): 0
Total long term disturbance: 4.31

Disturbance Comments:

Reconstruction method: Interim reclamation will be completed within 6 months of completing the last well on the pad. Disturbed areas will be contoured to match pre-construction grades. Once the last well is plugged, then the rest of the pad will be similarly reclaimed within 6 months of plugging.
Topsoil redistribution: Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with the surface owner's requirements.
Soil treatment: None planned.

Existing Vegetation at the well pad:

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type: **Seed source:**

Seed name:

Source name: **Source address:**

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre: **Proposed seeding season:**

Seed Summary	
Seed Type	**Pounds/Acre**

Total pounds/Acre:

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Phone: **Email:**

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: To BLM standards

Weed treatment plan attachment:

Monitoring plan description: To BLM standards

Monitoring plan attachment:

Success standards: To BLM satisfaction

Pit closure description: No pit

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP,STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: CARLSBAD, NM

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: DR IRELAND FED COM **Well Number:** 112H

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: Onsite conducted for four slots and water tank with Vance Wolf on 10/5/2017.

Other SUPO Attachment

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
07/18/2018

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001079

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:

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