

Form 3160-5  
(June 2019)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2021

**SUNDRY NOTICES AND REPORTS ON WELLS**  
***Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.***

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	
11. Country or Parish, State	

**SUBMIT IN TRIPLICATE** - Other instructions on page 2

1. Type of Well

☐ Oil Well    ☐ Gas Well    ☐ Other

2. Name of Operator

3a. Address

3b. Phone No. (include area code)

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon		
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)	Title
Signature	Date

**THE SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice 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.	Office	

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.

(Instructions on page 2)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law 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, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13*: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The privacy Act of 1974 and the 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., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

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 St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

## Additional Information

### Location of Well

0. SHL: NESW / 2602 FSL / 1786 FWL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1303906 / LONG: -103.4435221 ( TVD: 27 feet, MD: 27 feet )

PPP: NENW / 0 FNL / 1321 FWL / TWSP: 25S / RANGE: 34E / SECTION: 23 / LAT: 32.1232478 / LONG: -103.4450177 ( TVD: 12522 feet, MD: 14876 feet )

PPP: NESW / 2310 FSL / 1322 FWL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1294653 / LONG: -103.444552 ( TVD: 12522 feet, MD: 12887 feet )

BHL: SWSW / 330 FSL / 1323 FWL / TWSP: 25S / RANGE: 34E / SECTION: 23 / LAT: 32.1096407 / LONG: -103.4450157 ( TVD: 12522 feet, MD: 19826 feet )

CONFIDENTIAL

<b>Well Name:</b> DOGIE DRAW E25 WC FED COM	<b>Well Location:</b> T25S / R34E / SEC 14 / NESW / 32.1303906 / -103.4435221	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 7H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM136221	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 300254701500X1	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> MARATHON OIL PERMIAN LLC

Notice of Intent

**Sundry ID:** 2763981

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 12/01/2023

**Time Sundry Submitted:** 06:35

**Date proposed operation will begin:** 12/01/2023

**Procedure Description:** Marathon Oil Permian respectfully requests permission to have two options regarding the production casing. Please see attached specs for the option 2 casing. Proposed Option 1: 5-1/2", 23#, P110HC, TLW casing, set @ 20594' Proposed Option 2: 5-1/2", 23#, P110EC, DWCC Plus casing, set @ 20594' No other casing cement design changes are requested.

NOI Attachments

Procedure Description

- Dogie\_Draw\_7H\_Drill\_Plan\_Option\_2\_20231201141338.pdf
- 5.500\_23.00\_P110\_CY\_TLW\_20231201052908.pdf
- 5.5in\_23lb\_P110EC\_DWCC\_PLUS\_20231201052721.pdf

<b>Well Name:</b> DOGIE DRAW E25 WC FED COM	<b>Well Location:</b> T25S / R34E / SEC 14 / NESW / 32.1303906 / -103.4435221	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 7H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM136221	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 300254701500X1	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> MARATHON OIL PERMIAN LLC

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

<b>Operator Electronic Signature:</b> TERRI STATHEM	<b>Signed on:</b> DEC 01, 2023 02:13 PM
<b>Name:</b> MARATHON OIL PERMIAN LLC	
<b>Title:</b> Regulatory Compliance Manager	
<b>Street Address:</b> 990 TOWN & COUNTRY BLVD	
<b>City:</b> HOUSTON	<b>State:</b> TX
<b>Phone:</b> (713) 296-2113	
<b>Email address:</b> TSTATHEM@MARATHONOIL.COM	

Field

<b>Representative Name:</b>		
<b>Street Address:</b>		
<b>City:</b>	<b>State:</b>	<b>Zip:</b>
<b>Phone:</b>		
<b>Email address:</b>		

BLM Point of Contact

<b>BLM POC Name:</b> ZOTA M STEVENS	<b>BLM POC Title:</b> Petroleum Engineer
<b>BLM POC Phone:</b> 5752345998	<b>BLM POC Email Address:</b> ZSTEVEN@BLM.GOV
<b>Disposition:</b> Approved	<b>Disposition Date:</b> 12/01/2023
<b>Signature:</b> zota stevens	

MARATHON OIL PERMIAN, LLC.  
**DRILLING AND OPERATIONS PLAN**



WELL NAME &amp; NUMBER:

DOGIE DRAW E25 WC 7H

LOCATION:

SECTION **14**  
LEATOWNSHIP **25S**  
COUNTY,RANGE **34E**  
NEW MEXICO**Section 1:****GEOLOGICAL FORMATIONS**

Name of Surface Formation:

Permian

Elevation:

3333 feet

**Estimated Tops of Important Geological Markers:**

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	857	857	2476	Anhydrite	Brine	No
Salado	1363	1363	1970	Salt/Anhydrite	Brine	No
Castile	3562	3562	-229	Salt/Anhydrite	Brine	No
Base of Salt (BX)	5370	5370	-2037	Salt/Anhydrite	Brine	No
Lamar	5370	5370	-2037	Sandstone/Shale	None	No
Bell Canyon	5402	5402	-2069	Sandstone	Oil	No
Cherry Canyon	6710	6710	-3377	Sandstone	Oil	No
Brushy Canyon	8013	8013	-4680	Sandstone	Oil	No
Bone Spring Lime	9296	9296	-5963	Limestone	None	No
Upper Avalon Shale	9296	9296	-5963	Shale	Oil	Yes
1st Bone Spring Sand	10346	10346	-7013	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	10346	10346	-7013	Limestone/Shale	None	No
2nd Bone Spring Sand	10925	10925	-7592	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	11966	11966	-8633	Limestone	Oil	No
3rd Bone Spring Sand	11966	11966	-8633	Sandstone	Oil	Yes
Wolfcamp	12422	12422	-9089	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp A	12565	12565	-9232	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp B	12918	12918	-9585	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp C	13020	13020	-9687	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp D	13352	13352	-10019	Sandstone/Shale/Carbonates	Natural Gas / Oil	No

**Section 2:****BLOWOUT PREVENTER TESTING PROCEDURE**

Pressure Rating (PSI):

10M

Rating Depth:

10000

Equipment:

13 5/8 BOP Annular (5,000 psi WP) and BOP Stack (10,000 psi WP) will be installed and tested before drilling all holes.

Requesting Variance?

Yes

Variance Request:

A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.

Testing Procedure:

BOP/BOPE will be tested to 250 psi low and a high of 100% WP for the Annular and 5,000psi for the BOP Stack before drilling the intermediate hole, 10,000psi for the BOP Stacking before drilling the production hole. Testing will be conducted by an independent service company per 43 CFR 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the Equipment Description above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams and Blind rams will be operationally checked on each trip out of the hole, but not to exceed more than once per day. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.

Formation integrity test will be performed per 43 CFR 3172. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR 3172. A multibowl wellhead is being used. The BOP will be tested per 43 CFR 3172 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

Marathon Oil Permian LLC.

Drilling &amp; Operations Plan - Page 2 of 4

**Section 3:****CASING PROGRAM**

String Type	Hole Size	Casing Size	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Weight (lbs/ft)	Grade	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	882	0	882	3333	2451	54.5	J55	BTC	5.22	1.81	BUOY	4.52	BUOY	4.52
Intermediate	9.875	8.625	0	12022	0	11922	3333	-8589	32	P110HC	TLW	1.20	1.42	BUOY	2.44	BUOY	2.44
Production	7.875	5.5	0	20579	0	12500	3333	-9167	23	P110CY/EC	TLW/DCC	2.45	1.26	BUOY	2.21	BUOY	2.21
All casing strings will be tested in accordance with 43 CFR 3172.												Safety Factors will Meet or Exceed					

**Casing Condition:** New  
**Casing Standard:** API  
**Tapered String?** No

Yes or No

Is casing new? If used, attach certification as required in 43 CFR 3171.	Yes
Does casing meet API specifications? If no, attach casing specification sheet.	Yes
Is premium or uncommon casing planned? If yes attach casing specification sheet.	No
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Yes
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Yes
Is well located within Capitan Reef?	No
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is proposed well within the designated four string boundary?	
Is well located in R-111-P and SOPA?	No
If yes, are the first three strings cemented to surface?	
Is the second string set 100' to 600' below the base of salt?	
Is well located in SOPA but not in R-111-P?	No
If yes, are the first 2 strings cemented to surface and third string cement tied back 500' into previous casing?	
Is well located in high Cave/Karst?	No
If yes, are there two strings cemented to surface?	
If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	No
If yes, are there three strings cemented to surface?	

**Section 4:****CEMENT PROGRAM**

String Type	Lead/Tail	Top MD	Bottom MD	Quantity (sks)	Yield (ft³/sks)	Density (ppg)	Slurry Volume (ft³)	Excess (%)	Cement Type	Additives
Surface	Lead	0	732	323	2.12	12.5	684	25	Class C	Extender, Accelerator, LCM
Surface	Tail	732	882	99	1.32	14.8	130	25	Class C	Accelerator
Intermediate	Lead	0	11522	1003	2.18	12.4	2187	25	Class C	Extender, Accelerator, LCM
Intermediate	Tail	11522	12022	59	1.33	14.8	79	25	Class C	Retarder
Production	Tail	11722	20579	1169	1.68	13	1964	25	Class H	Retarder, Extender, Fluid Loss, Suspension Agent

Stage tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Stage tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

**Pilot Hole?** No  
**Pilot Hole Depth:** N/A  
**KOP Depth:** N/A  
**Plugging Procedure for Pilot Hole:** N/A

Plug Top	Plug Bottom	Excess (%)	Quantity (sx)	Density (ppg)	Yield (ft³/sks)	Water gal/sk	Slurry Description and Cement Type

Marathon Oil Permian LLC.

Drilling &amp; Operations Plan - Page 3 of 4

**Section 5:****CIRCULATING MEDIUM**

**Mud System Type:** Closed  
**Will an air or gas system be used?** No

**Describe what will be on location to control well or mitigate other conditions:**

The necessary mud products for additional weight and fluid loss control will be on location at all times.

**Describe the mud monitoring system utilized:**

Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT.

**Circulating Medium Table:**

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max Weight (ppg)
0	882	Water Based Mud	8.4	8.8
882	12022	Brine or Oil Based Mud	9.2	10.2
12022	20579	Oil Based Mud	10.5	12.5

**Section 6:****TESTING, LOGGING, CORING****List of production tests including testing procedures, equipment and safety measures:**

GR from TD to surface (horizontal well - vertical portion of hole)

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

GR while drilling from Intermediate casing shoe to TD.

**Coring operation description for the well:**

Run gamma-ray (GR) and corrected neutron log (CNL) or analogous to surface for future development of the area, one per shared well pad not to exceed 200' radial distance.

**Section 7:****ANTICIPATED PRESSURE**

**Anticipated Bottom Hole Pressure:** 8125 PSI  
**Anticipated Bottom Hole Temperature:** 195 °F  
**Anticipated Abnormal Pressure?** No  
**Anticipated Abnormal Temperature?** No

**Potential Hazards:**

H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with 43 CFR 3176. 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 to drill this well. See attached H2S Contingency Plan.

**Section 8:****OTHER INFORMATION****Auxiliary Well Control and Monitoring Equipment:**

A Kelly cock will be in the drill string at all times. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.

Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. If Hydrogen Sulfide is encountered, measured amounts and formations will be reported to the BLM.

**Anticipated Starting Date and Duration of Operations:**

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.





# TEC-LOCK WEDGE

5.500" 23 LB/FT (.415"Wall)

BENTELER P110 CY

## Pipe Body Data

Nominal OD:	5.500	in
Nominal Wall:	.415	in
Nominal Weight:	23.00	lb/ft
Plain End Weight:	22.56	lb/ft
Material Grade:	P110 CY	
Mill/Specification:	BENTELER	
Yield Strength:	125,000	psi
Tensile Strength:	130,000	psi
Nominal ID:	4.670	in
API Drift Diameter:	4.545	in
Special Drift Diameter:	None	in
RBW:	87.5 %	
Body Yield:	829,000	lbf
Burst:	16,510	psi
Collapse:	16,910	psi

## Connection Data

Standard OD:	5.950	in
Pin Bored ID:	4.670	in
Critical Section Area:	6.457	in <sup>2</sup>
Tensile Efficiency:	97.4 %	
Compressive Efficiency:	100 %	
Longitudinal Yield Strength:	807,000	lbf
Compressive Limit:	829,000	lbf
Internal Pressure Rating:	16,510	psi
External Pressure Rating:	16,910	psi
Maximum Bend:	101.5	°/100ft

## Operational Data

Minimum Makeup Torque:	16,400	ft*lbf
Optimum Makeup Torque:	20,500	ft*lbf
Maximum Makeup Torque:	44,300	ft*lbf
Minimum Yield:	49,200	ft*lbf
Makeup Loss:	5.97	in

**Notes** Operational Torque is equivalent to the Maximum Make-Up Torque

Generated on Mar 12, 2019



## Connection Data Sheet

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 23.00 Plain End: 22.56	0.415	VST P110 EC	4.545	87.5	DWC/C PLUS

### PIPE PROPERTIES

Nominal OD	5.500	in.
Nominal ID	4.670	in.
Nominal Area	6.630	sq.in.
Grade Type	API 5CT	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Tensile Strength	135	ksi
Yield Strength	829	klb
Ultimate Strength	895	klb
Min. Internal Yield	16,510	psi
*High Collapse*	16,220	psi

### CONNECTION PROPERTIES

Connection Type	Semi-Premium T&C	
Connection OD (nom)	6.300	in.
Connection ID (nom)	4.670	in.
Make-Up Loss	4.125	in.
Coupling Length	8.250	in.
Critical Cross Section	6.630	sq.in.
Tension Efficiency	100.0%	of pipe
Compression Efficiency	100.0%	of pipe
Internal Pressure Efficiency	100.0%	of pipe
External Pressure Efficiency	100.0%	of pipe

### CONNECTION PERFORMANCES

Yield Strength	829	klb
Parting Load	895	klb
Compression Rating	829	klb
Min. Internal Yield	16,510	psi
*High Collapse*	16,220	psi
Maximum Uniaxial Bend Rating	104.2	°/100 ft
Ref String Length w 1.4 Design Factor	25,750	ft

### FIELD TORQUE VALUES

Min. Make-up Torque	20,600	ft.lbs
Opti. Make-up Torque	22,250	ft.lbs
Max. Make-up Torque	23,900	ft.lbs
Min. Shoulder Torque	2,060	ft.lbs
Max. Shoulder Torque	16,480	ft.lbs
Max. Delta Turn	0.200	Turns
Connection Yield Torque	27,200	ft.lbs

For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

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 were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

All information is provided by VAM USA or its affiliates at user's sole risk, without liability for loss, damage or injury resulting from the use thereof; and on an "AS IS" basis without warranty or representation of any kind, whether express or implied, including without limitation any warranty of merchantability, fitness for purpose or completeness. This document and its contents are subject to change without notice. In no event shall VAM USA or its affiliates be responsible for any indirect, special, incidental, punitive, exemplary or consequential loss or damage (including without limitation, loss of use, loss of bargain, loss of revenue, profit or anticipated profit) however caused or arising, and whether such losses or damages were foreseeable or VAM USA or its affiliates was advised of the possibility of such damages.

09/21/2023 4:06 PM



VAM USA  
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Tech Support E-mail: [tech.support@vam-usa.com](mailto:tech.support@vam-usa.com)

**DWC Connection Data Notes:**

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact [tech.support@vam-usa.com](mailto:tech.support@vam-usa.com) for details on connection ratings and make-up.

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 were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
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CONDITIONS  
  
Action 290407

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 290407
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	12/4/2023