Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

Carlsbad Field Office
OCD Hobbs

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.

SUBMIT IN TRIPLICATE - Other instructions on page 2

HOBBS OCD
APR 26 2017
RECEIVED

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No. NMNM114993
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA/Agreement, Name and/or No.
	8. Well Name and No. TRIGG 5 FED 1H
2. Name of Operator EOG RESOURCES, INC. Contact: STAN WAGNER E-Mail: stan_wagner@eogresources.com	9. API Well No. 30-025-42749
3a. Address P.O. BOX 2267 MIDLAND, TX 79702 3b. Phone No. (include area code) Ph: 432-686-3689	10. Field and Pool or Exploratory Area WILDCAT
4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)* Sec 5 T23S R35E 175FNL 1750FWL	11. County or Parish, State LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 recomplete 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 performed 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 recompletion 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 determined that the site is ready for final inspection.

EOG Resources requests an amendment to our approved APD for this well to reflect changes in the intermediate and production casing design and drilling procedures as listed below:

Change Intermediate casing from 7",26# HCP-110 LTC to 7-5/8" 29.7# HCP-110 FLUSHMAX III (3000-10,700'), 7-5/8" 29.7# ECP110 BTC SC (0-3000")

Change production hole size from 6-1/8" to 6-3/4"
Change Production casing 4.5" 13.5# P-110 LTC to 5.5" 20# P-110 VAM SG (10,200' to TD), 5.5" 17# P-110 LTC (0-10,200')

New wellhead schematic attached.
Remove BOPE test before drilling out of the intermediate casing. (Full BOPE test will be conducted

SEE ATTACHED FOR CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #372677 verified by the BLM Well Information System
For EOG RESOURCES, INC., sent to the Hobbs
Committed to AFMSS for processing by DEBORAH MCKINNEY on 04/12/2017 ()

Name *(Printed/Typed)* STAN WAGNER — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 04/11/2017

APPROVED
APR 19 2017
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By Mustafa Hague — Title PETROLEUM ENGINEER — Date 4/19/2017

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 CFO

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)

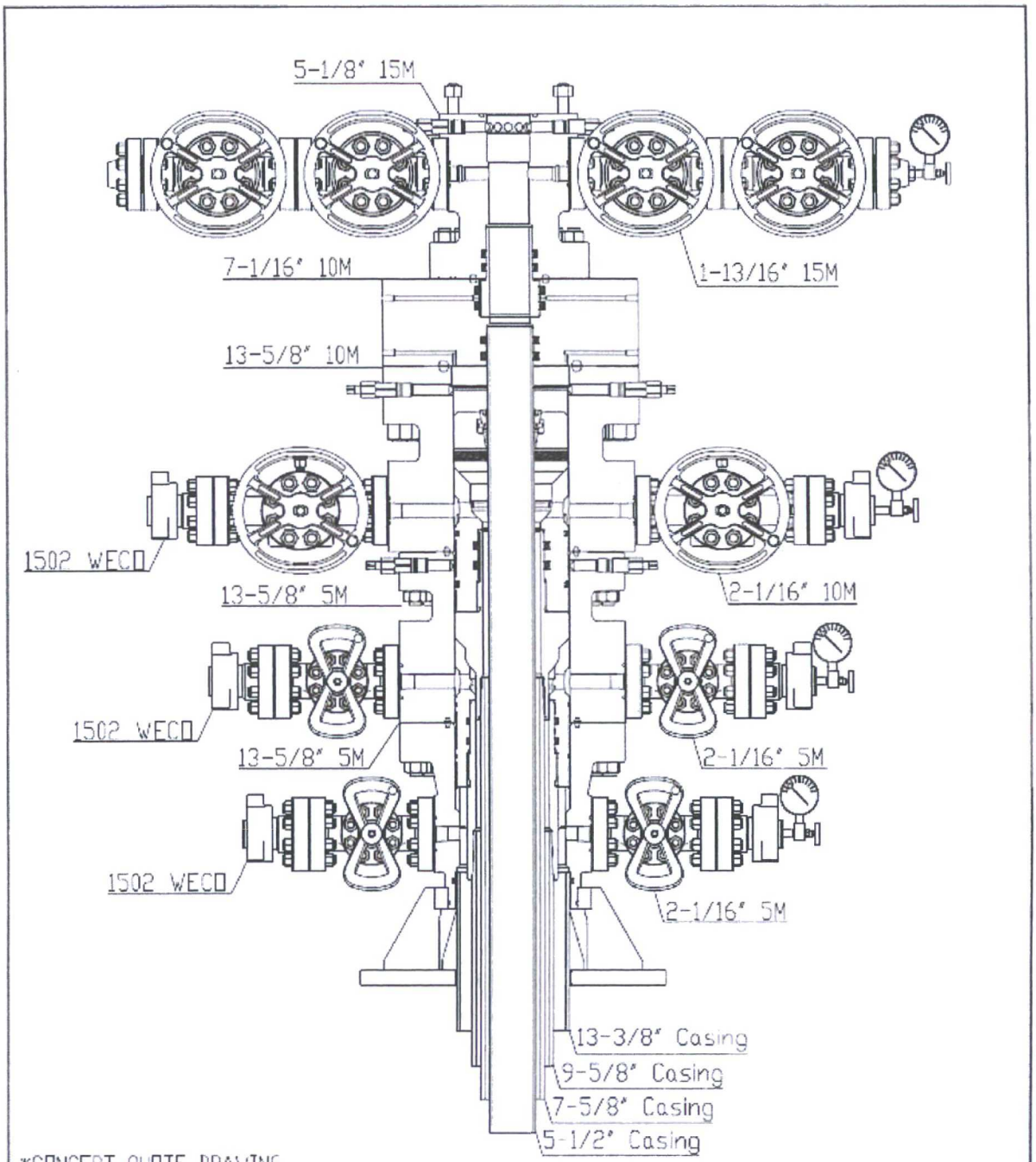
**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

KZ

Additional data for EC transaction #372677 that would not fit on the form

32. Additional remarks, continued

after installing surface casing.)
Change annular preventer test pressure to 250/3500 psi.
Multistage tool on 9-5/8" casing above Capitan (4600') (Top of Capitan 4707' KB)
Mud system F/5850' T/10,700': Cut Brine 9.0-9.2ppg. F/10,700'-13,000. 10.0-11.5ppg Brine.



*CONCEPT QUOTE DRAWING

EOG RESOURCES 13-3/8" X 9-5/8" X 7-5/8" X 5-1/2" FBD-100 WELLHEAD SYSTEM QUOTE: HOU - 103002	DWN	BAY	12/16/16	Stream Flo Worldwide Expertise Global Strength	DRAWING NO WH-16681
	CHK				
	APP				
		BY	DATE		

EOG RESOURCES, INC.
TRIGG 5 FED NO. 1H

11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo FBD100 Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

Haque, Mustafa <mhaque@blm.gov>

NOI casing change etc

Bruce Coit <Bruce_Coit@eogresources.com> Wed, Apr 19, 2017 at 11:24 AM
To: "Haque, Mustafa" <mhaque@blm.gov>
Cc: Stan Wagner <Stan_Wagner@eogresources.com>, Steve Munsell <Steve_Munsell@eogresources.com>

Please see the following cement details for the 9-5/8" Intermediate casing.

5,850' DV Tool w/ ECP @ 4,600'	400	10.8	3.68	Stage 1 Lead: Class C + 5% Gypsum + 30 pps SFA + 0.4% CPT-503P + 3.5% CPT-45 + 0.25% CPT-35 + 0.85% CPT-20 + 0.85% Citric Acid (TOC @ Surface)
	1250	15.6	1.20	Stage 1 Tail: Class H + 0.2% CPT-51 + 0.3% CPT-20
	100	12.7	1.90	Stage 2 Lead: Class C + 3% Salt + 0.6% Gel + 0.5% CPT-45 + 0.1% CPT-20 + 0.1% Citric Acid (TOC @ Surface)
	180	14.8	1.33	Stage 2 Tail: Class C + 0.2% CPT-19

Thanx,

>>>Bruce Coit
Sr. Engineering Associate
EOG Resources
Office: (432) 686-3702
Mobile: (432) 553-4379
Bruce_Coit@EOGResources.com

From: Haque, Mustafa [mailto:mhaque@blm.gov]
Sent: Wednesday, April 19, 2017 10:51 AM
To: Bruce Coit
Cc: Stan Wagner; Steve Munsell

[Quoted text hidden]

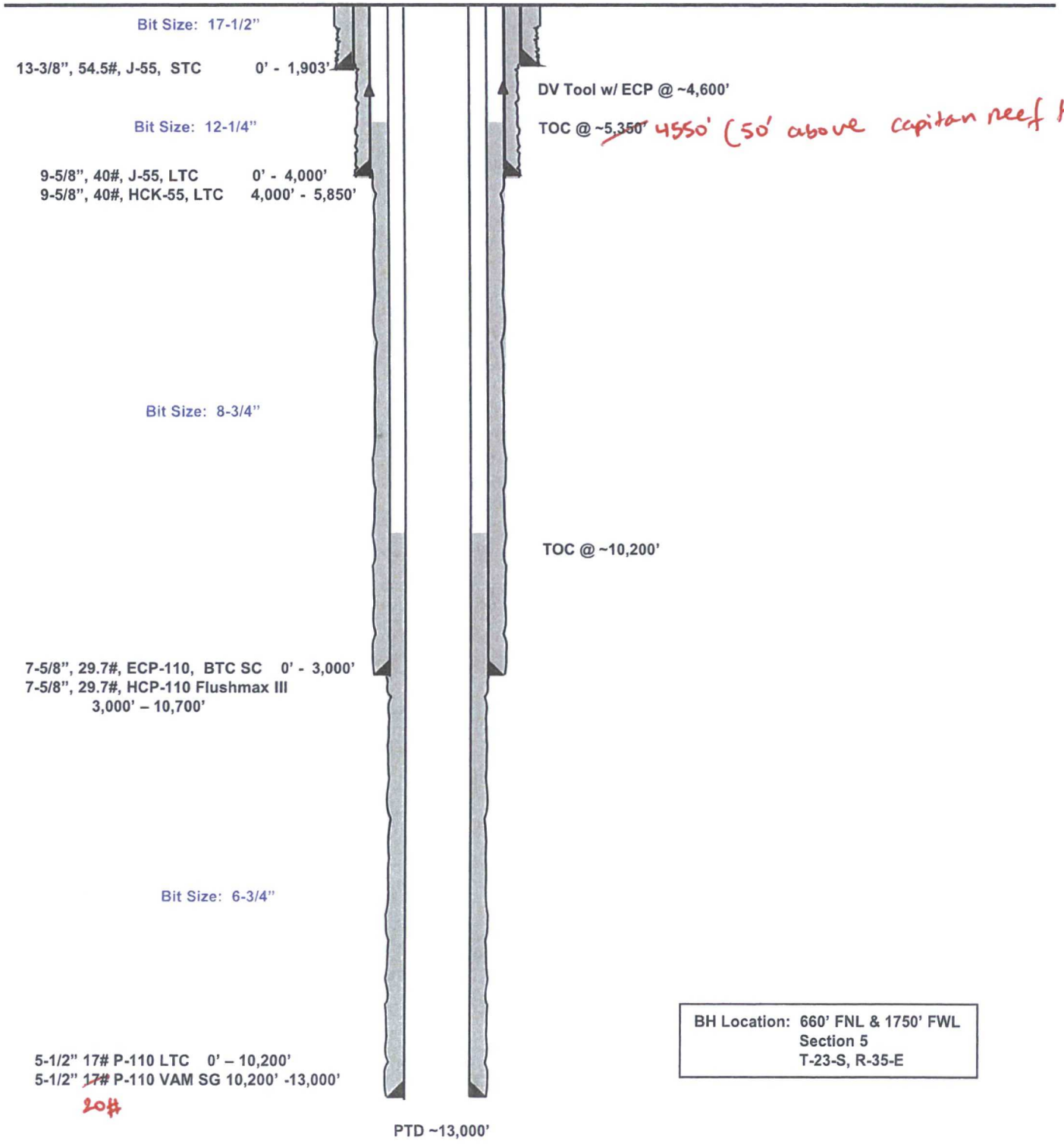
[Quoted text hidden]

Trigg 5 Fed #1
Lea County, New Mexico

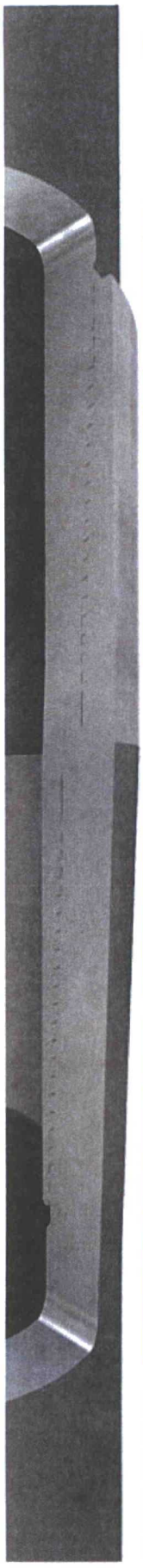
175' FNL
1750' FWL
Section 5
T-23-S, R-35-E

Proposed Wellbore
Revised 4/18/17
API: 30-025-42749

KB: 3496.0'
GL: 3466.0'



BH Location: 660' FNL & 1750' FWL
Section 5
T-23-S, R-35-E



Issued on: 18 Jul. 2016

VAM SG

Connection Data Sheet

OD	Weight	Wall Th.	Grade	API Drift	Connection
5 1/2 in.	20.00 lb/ft	0.361 in.	P110 EC	4.653 in.	VAM® SG

PIPE PROPERTIES

Nominal OD	5.500 in.
Nominal ID	4.778 in.
Nominal Cross Section Area	5.828 sqin.
Grade Type	High Yield
Min. Yield Strength	125 ksi
Max. Yield Strength	140 ksi
Min. Ultimate Tensile Strength	135 ksi

CONNECTION PROPERTIES

Connection Type	Premium integral semi-flush
Connection OD (nom)	5.697 in.
Connection ID (nom)	4.711 in.
Make-up Loss	6.336 in.
Tension Efficiency	87 % of pipe
Compression Efficiency	61 % of pipe
Internal Pressure Efficiency	100 % of pipe
External Pressure Efficiency	70 % of pipe

CONNECTION PERFORMANCES

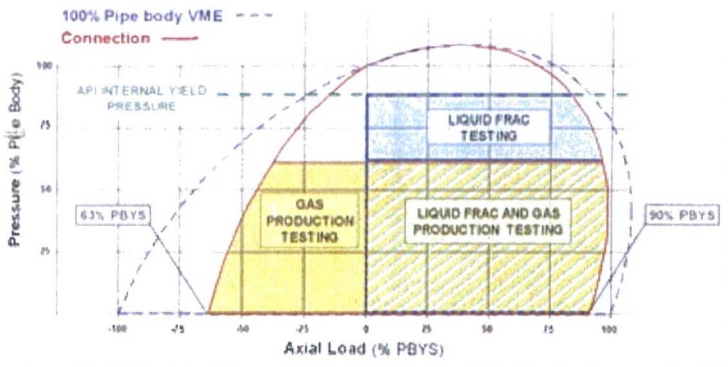
Tensile Yield Strength	634 klb
Compression Resistance	446 klb
Internal Yield Pressure	14360 psi
External Pressure Resistance	8463 psi
Max. Bending with Sealability	40 °/100 ft

FIELD TORQUE VALUES

Min. Make-up torque	8100 ft.lb
Opti. Make-up torque	9800 ft.lb
Max. Make-up torque	11500 ft.lb
Maximum Torque with Sealability	12500 ft.lb

The single solution for Shale Play needs

VAM® SG brings VAM® premium sealing performance to a semi-flush connection with extremely high Tension performance and increase Torque capacity, validated to the specific Shale drilling requirements, while remaining highly competitive in North American Shale play economics.



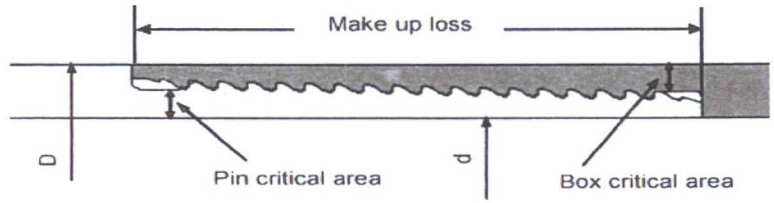
Do you need help on this product? - Remember no one knows VAM® like VAM

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

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

VAM USA

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



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

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

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

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

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

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

CASING PERFORMANCE Data Sheet

vallourec

O.D.	PE LB/FT	T&C LB/FT	GRADE
7.625	29.06	29.70	P110EC

Grade - Material Properties

Minimum Yield Strength:	125	ksi
Maximum Yield Strength:	140	ksi
Minimum Tensile Strength:	135	ksi

Pipe Body Data (PE)

Geometry

Nominal ID:	6.875	inch
Wall:	0.375	inch
Min. Wall % (API = 87.5%):	87.5	%
API Drift:	6.750	inch
Special Drift*:	-	inch

Performance

Pipe Body Yield Strength:	1,068	kips
Collapse Resistance:	7,360	psi
Internal Yield Pressure (*API Historical*):	10,760	psi

API Connection Data

SC Internal Pressure:	#N/A	psi
SC Joint Strength:	#N/A	kips
LC Internal Pressure:	7,764	psi
LC Joint Strength:	861	kips
BC-SC Coupling OD:	8.125	inches
BC-SC Internal Pressure:	8,033	psi
BC-SC Burst Pressure:	10,238	psi
BC-SC Joint Strength:	1,042	kips

SC Torque (ft-lbs)

minimum:	optimum:	maximum:
#N/A	#N/A	#N/A

LC Torque (ft-lbs)

minimum:	optimum:	maximum:
6,459	8,612	10,764

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

Trigg 5 Fed 1H
30-025-42749
EOG Resources, Inc
Surface Location: Sec. 5, T. 23S, R. 35E
Conditions of Approval

All previous COAs still apply except for the following:

A. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Risks:
Capitan Reef
Possible water flows in the Salado and in the Yates.
Possible lost circulation in the Red Beds, in the Rustler, in the Yates, and in the Delaware.

1. The **13 3/8** inch surface casing shall be set at approximately **1903** feet **(a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

    Formation below the 13 3/8 inch shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

2. The minimum required fill of cement behind the **9-5/8** inch first intermediate casing, which shall be set at approximately at 5850 feet **(to avoid the Delaware Sands, and to set in the competent base of the Capitan Reef)** is:

    Operator has proposed DV tool at depth of 4600', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

    a. First stage to DV tool:

    ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation or approved top of cement on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate see A.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

Formation below the 9-5/8 inch shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Second intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement

3. The minimum required fill of cement behind the **7-5/8** inch second intermediate casing is:

   ☒ Cement should tie-back at least **50 feet above the Capitan Reef, which is 4550 feet** (Top of Capitan Reef estimated at 4600 feet). **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

   Formation below the 7-5/8 inch shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the **5 1/2** inch production casing is:

   ☒ Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

B. PRESSURE CONTROL

1. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.**

a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
c. **Manufacturer representative shall install the test plug for the initial BOP test.**
d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

MHH 04192017