

HOBBS OCD UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SEP 30 2016

SUBMIT IN TRIPLICATE - Other instructions on reverse side.
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

Carlsbad Field Office
OCD Hobbs

5. Lease Serial No.
NMNM122622
6. If Indian, Alutian, or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. ENDURANCE 36 STATE COM 705H ✓
2. Name of Operator EOG RESOURCES INCORPORATED Contact: STAN WAGNER E-Mail: stan_wagner@eogresources.com		9. API Well No. 30-025-43227-00-X1 ✓
3a. Address MIDLAND, TX 79702	3b. Phone No. (include area code) Ph: 432-686-3689	10. Field and Pool, or Exploratory WC025G09S263327G-UP WOLFCAMP
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 36 T26S R33E SESW 404FSL 2320FWL		11. County or Parish, and State LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" 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"/> Fracture Treat	<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 checked="" type="checkbox"/> Other Drilling Operations
	<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 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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall 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 encountered tight hole conditions in the 6-3/4" production hole that will necessitate a change in the production casing design.

EOG proposes the following design:

- 5-1/2", 23#, P-110EC VAM TOP HT (0' - 11,400')
- 5-1/2", 23#, P-110EC VAM SG (11,400' - 12,200')
- 5", 23.2#, T-95 NSCC (12,200' - 12,989' TD)

Attachments.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

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

**Electronic Submission #349558 verified by the BLM Well Information System
For EOG RESOURCES INCORPORATED, sent to the Hobbs
Committed to AFMSS for processing by MUSTAFA HAQUE on 08/31/2016 (16MH0018SE)**

Name (Printed/Typed) STAN WAGNER	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 08/30/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By (BLM Approver Not Specified) <u>Mustafa Haque</u>	Title PETROLEUM ENGINEER	Date 08/31/2016
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 Hobbs		

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.

**PECOS DISTRICT
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	EOG Resources, Inc
LEASE NO.:	NMNM122622
WELL NAME & NO.:	Endurance 36 State Com_705H
SURFACE HOLE FOOTAGE:	404'/S & 2320'/W
BOTTOM HOLE FOOTAGE	230'/N & 1652'/W SEC. 25
LOCATION:	Section 36, T 26 S., R 33 E., NMPM
COUNTY:	Lea County, New Mexico

All previous COAs still apply. No additional COA is required.

MHH 08312016

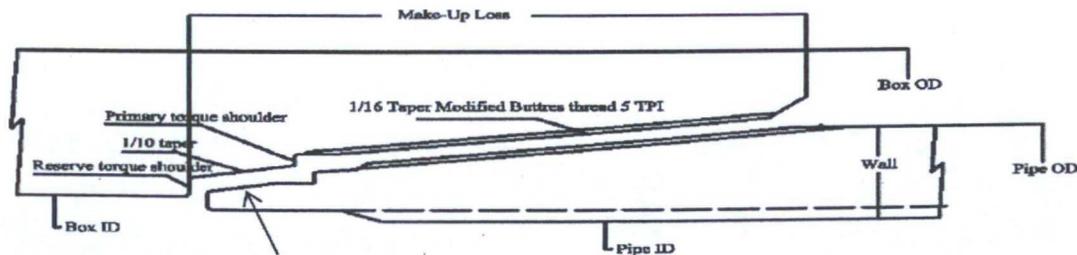
Pipe Description				
Size	Weight	Wall	Grade	Connection
5.000"	23.20#	0.478"	T-95	NS-CC

Performance Properties	
Yield (x 1000 lbs.)	645
Internal Pressure (psi)	15890
Collapse (psi)	16430
Tension (x 1000 lbs.)	659
Compression (x 1000 lbs.)	659

Connection Dimensions	
Pipe ID	4.044"
Pin ID	4.160"
Coupling ID	4.145"
Coupling OD	5.720"
Special Clearance	5.407"
Coupling Length	9.976"
Pin Lc Length	2.008"
Drift Diameter	3.919"

Make-Up				
Torque Min. (ft. lbs.)	Torque Opt. (ft. lbs.)	Torque Max (ft. lbs.)	MakeUp Loss	MakeUp Speed
4800	5400	6100	4.690"	10 rpm Max

Recommended Thread Compound: API Modified Running Compound.
such as Best-of-Life 72733





VAM® TOP HT

Connection Data Sheet

OD 5 1/2 in.	Weight 23.00 lb/ft	Wall Th. 0.415 in.	Grade P110	API Drift 4.545 in.	Connection VAM® TOP HT
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PIPE PROPERTIES	
Nominal OD	5.500 in.
Nominal ID	4.670 in.
Nominal Cross Section Area	6.630 sqin.
Grade Type	API 5CT
Min. Yield Strength	110 ksi
Max. Yield Strength	140 ksi
Min. Ultimate Tensile Strength	125 ksi

CONNECTION PROPERTIES	
Connection Type	Premium T&C
Connection OD (nom)	6.156 in.
Connection ID (nom)	4.607 in.
Make-up Loss	4.382 in.
Coupling Length	10.748 in.
Critical Cross Section	6.630 sqin.
Tension Efficiency	100 % of pipe
Compression Efficiency	80 % of pipe
Internal Pressure Efficiency	100 % of pipe
External Pressure Efficiency	100 % of pipe

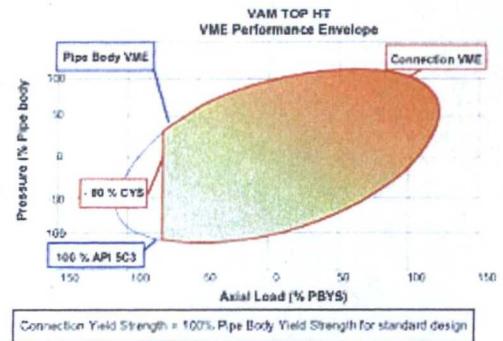
CONNECTION PERFORMANCES	
Tensile Yield Strength	729 klb
Compression Resistance	583 klb
Internal Yield Pressure	14530 psi
External Pressure Resistance	14540 psi
Max. Bending with Sealability (CAL IV)	20 °/100 ft
Max. Load on Coupling Face	413 klb

FIELD TORQUE VALUES	
Min. Make-up torque	12450 ft.lb
Opti. Make-up torque	13750 ft.lb
Max. Make-up torque	15050 ft.lb
Field Liner Max	17900 ft.lb

VAM® TOP HT (High Torque) is a T&C connection based on the main features of the VAM® TOP connection.

This connection provides reinforced torque capability for liners and where High Torque is anticipated due to string rotation during running operations (torque rotating liner while running, rotating casing when cementing). It has been tested as per ISO13679 CAL IV requirements.

VAM® TOP HT is interchangeable with VAM® TOP product line with the exception of 4 1/2" size.



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

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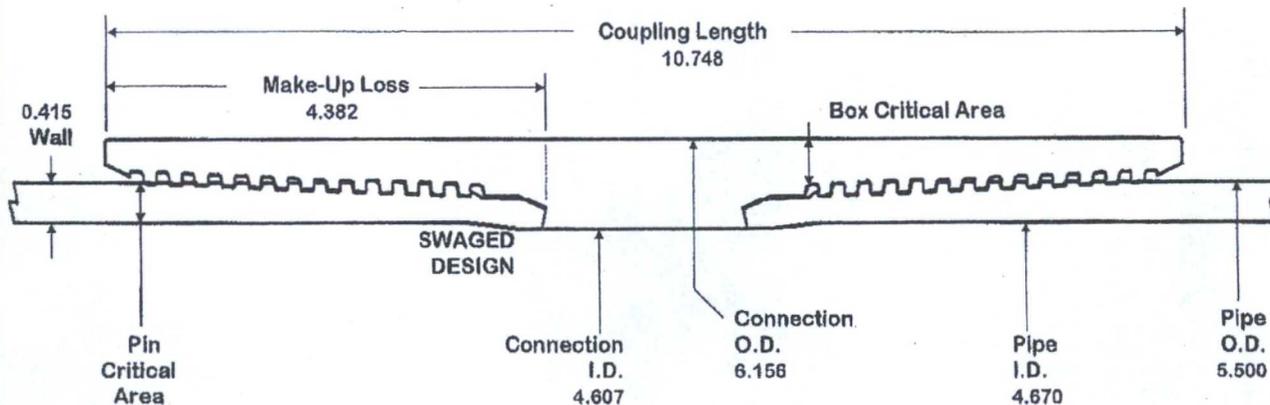
china@vamfieldservice.com
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singapore@vamfieldservice.com
australia@vamfieldservice.com

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

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



VAM® TOP HT



O.D. 5.500	WEIGHT 23.00	WALL 0.415	GRADE NSSMC P110HC	DRIFT 4.545
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PIPE BODY PROPERTIES

Material Grade	NSSMC P110HC
Min. Yield Strength	125 ksi
Min. Tensile Strength	125 ksi
Outside Diameter	5.500 in
Inside Diameter	4.670 in
Nominal Area	6.630 sq.in.
Yield Strength	829 kips
Ultimate Strength	829 kips
Min Internal Yield	16,510 psi
*High Collapse	16,220 psi

CONNECTION PROPERTIES

Connection OD	6.156 in
Connection ID	4.607 in
Make up Loss	4.382 in
Coupling Length	10.748 in
Box Critical Area	6.757 sq.in.
%PB Section Area	101.9%
Pin Critical Area	6.630 sq.in.
%PB Section Area	100.0%
Yield Strength	829 kips
Parting Load	829 kips
Min Internal Yield	16,510 psi
*High Collapse	16,220 psi
Wk Compression	663 kips
Max Pure Bending	30 °/100 ft

Contact: tech.support@vam-usa.com
 Ref. Drawing: SI-PD 100526 Rev.B
 Date: 30-Apr-15
 Time: 10:24 AM

TORQUE DATA ft-lb

min	opt	max
13,700	15,200	16,700

Max. Liner Torque : 20,000 ft-lb



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O.D (in)	WEIGHT (lb/ft)	WALL (in)	GRADE	DRIFT	CONNECTION
5.500	23.00	0.415	VST P110EC	4.545	VAM® SG

PIPE PROPERTIES	
Material Grade	VST P110EC
Min. Yield Strength	125 ksi
Min. Tensile Strength	135 ksi
Nominal OD	5.500 in
Nominal ID	4.670 in
Nominal Area	6.630 sq. in
Yield Strength	829 kips
Ultimate Strength	895 kips
Min Internal Yield	16,510 psi
*High Collapse	16,220 psi

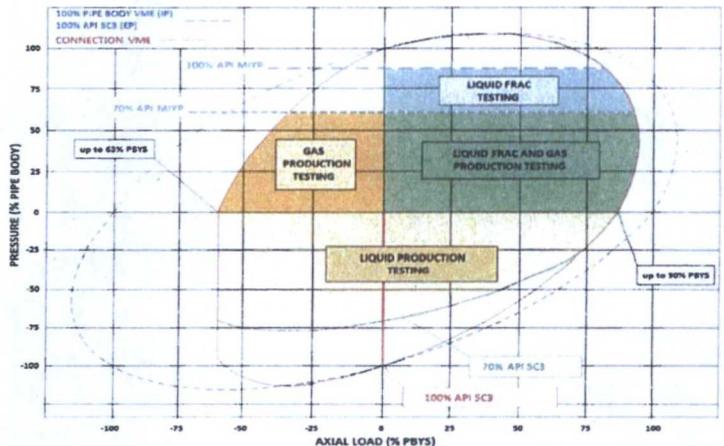
CONNECTION PROPERTIES	
Connection OD	5.720 in
Connection ID	4.603 in
Make up Loss	6.503 in
Connection Critical Area	5.967 sq. in
%PB Section Area	90.0%
Yield Strength	746 kips
Parting Load	805 kips
Min Internal Yield	16,510 psi
*High Collapse	11,350 psi
Working Compression	522 kips
Max. Bending w/ Sealability	40 °/100 ft

DOCUMENTATION	
Ref. Drawing	SI-PD 100835 Rev.A
Date	11-Aug-14
Time	1:21 PM
Email	tech.support@vam-usa.com

TORQUE VALUES	
Min Make Up Torque	9,100 ft-lb
Opt Make Up Torque	11,200 ft-lb
Max Make Up Torque	13,300 ft-lb
Max Torque w/ Sealability	14,500 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 increased Torque capacity, validated to the specific Shale drilling requirements, while remaining highly competitive in North American Shale play economics.



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