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

HOBBS OCD
FEB 01 2017
RECEIVED

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

5. Lease Serial No.
NMNM110838

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
AUDACIOUS BTL FEDERAL COM 2H ✓

2. Name of Operator
EOG Y RESOURCES, INC. ✓
Contact: STAN WAGNER
E-Mail: stan_wagner@eogresources.com

9. API Well No.
30-025-43430

3a. Address
ATTN: STAN WAGNER 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 WOLFCAMP

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 19 T25S R33E Mer NMP NWSE 2590FSL 2200FEL ✓

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 APD
	☐ 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 Y Resources, Inc. requests an amendment to our approved APD for this well to reflect a change in casing design as attached.

Intermediate casing change adding a DV tool and 2-stage cement job.

Job to be pumped approximately 1/26/17.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Electronic Submission #364567 verified by the BLM Well Information System
For EOG Y RESOURCES, INC., sent to the Hobbs
Committed to AFMSS for processing by MUSTAFA HAQUE on 01/23/2017 ()

Name *(Printed/Typed)* STAN WAGNER — Title AGENT

Signature (Electronic Submission) — Date 01/23/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By mustafa Haque — Title Engineer — Date 1/24/2017

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 ****

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG Resources
LEASE NO.:	NMNM110838
WELL NAME & NO.:	Audacious BTL Federal Com 2H
SURFACE HOLE FOOTAGE:	2590'/S & 2200'/E
BOTTOM HOLE FOOTAGE	330'/S & 2200'/E, Sec. 30
LOCATION:	Section 19, T.25 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

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.).
1
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:
Possibility of water flows in the Castile and in the Salado.
Possibility of lost circulation in the Rustler, in the Red Beds and in the Delaware.
Abnormal pressures may be encountered upon penetrating the 3rd Bone Spring Sandstone and all subsequent formations.

1. The **10 3/4** inch surface casing shall be set at approximately **975** feet **(in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet 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 10 3/4 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.

The 7 5/8 inch intermediate casing must be kept liquid filled while running into hole to meet minimum BLM requirements for collapse.

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

Operator has proposed DV tool at depth of 4800', 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.

MHH 01242017

AUDACIOUS BTL FED COM NO. 2H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS (Updated):

Expected Formation Tops		
Formation	TVD (KB)	Remarks
Rustler	934	Tamerisk Anhydrite @ 1050'
Top Salt	1264	
Base Salt	4694	
Lamar	4934	
Bell Canyon	4969	
Cherry Canyon	6044	
Brushy Canyon	7594	Est. Lost Circulation 7,300'
Bone Spring Lime	9104	
Leonard	9134	
1st Bone Spring Sand	10049	
2nd Bone Spring Sand	10544	
3rd Bone Spring Carb	11059	
3rd Bone Spring Sand	11731	Int Csg set 70-100' above TBSG Sand
Wolfcamp	12173	
Wolfcamp Clastics Y TOW	12307	
Wolfcamp Clastics Y BOW	12324	

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	6,044'	Oil
Brushy Canyon	7,594'	Oil
1st Bone Spring Sand	10,049'	Oil
2nd Bone Spring Sand	10,544'	Oil
3rd Bone Spring Carb	11,059'	Oil
3rd Bone Spring Sand	11,731'	Oil
Wolfcamp	12,173'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 10.75" casing at 1090' and circulating cement back to surface.

4. CASING PROGRAM – NEW (1/22/17)

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF_{min} Collapse	DF_{min} Burst	DF_{min} Tension
14.75"	0 – ~~1,090'~~ 975'	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-5,500'	7.625"	29.7#	HCP-110	LTC	1.125	1.25	1.60
8.75"	5,500' – 11,660'	7.625"	29.7#	HCP-110	FlushMax III	1.125	1.25	1.60
6.75"	0' – 11,160'	5.5"	23#	HCP-110	VAM Top HT	1.125	1.25	1.60
6.75"	11,160'-19,720'	5.5"	23#	HCP-110	VAM SG	1.125	1.25	1.60

SEE COA

Variance is requested to wave the centralizer requirements for the 7-5/8" FJ casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4" hole interval to maximize cement bond and zonal isolation.

Double bow centralizers will be utilized on the 7-5/8" LTC casing in the 9-5/8" hole size.

7-5/8" Intermediate Casing Cement Design:

Size Depth	Stage #	No. Sacks	Wt. ppg	Yld Ft^3/ft	Mix Water Gal/sk	Slurry Description
7-5/8" 11,660'	1st Lead	165	11.0	4.27	26.45	Class C + 5% Gypsum + 30 lb/sk SFA (Silica Fume)
	1st Tail	675	15.6	1.24	5.46	Class H + 3% Sodium Chloride + 3% Magnesium Oxide
	2nd Lead	510	12.7	2.37	13.28	Class C + 10% Sodium Chloride + 6% Bentonite Gel
	2nd Tail	455	14.8	1.37	6.54	Class C + 3% Magnesium Oxide + 1% Calcium Chloride

Note: Cement volumes based on bit size plus 100% excess in the open hole plus 10% excess in the cased-hole overlap section.

SEE COA

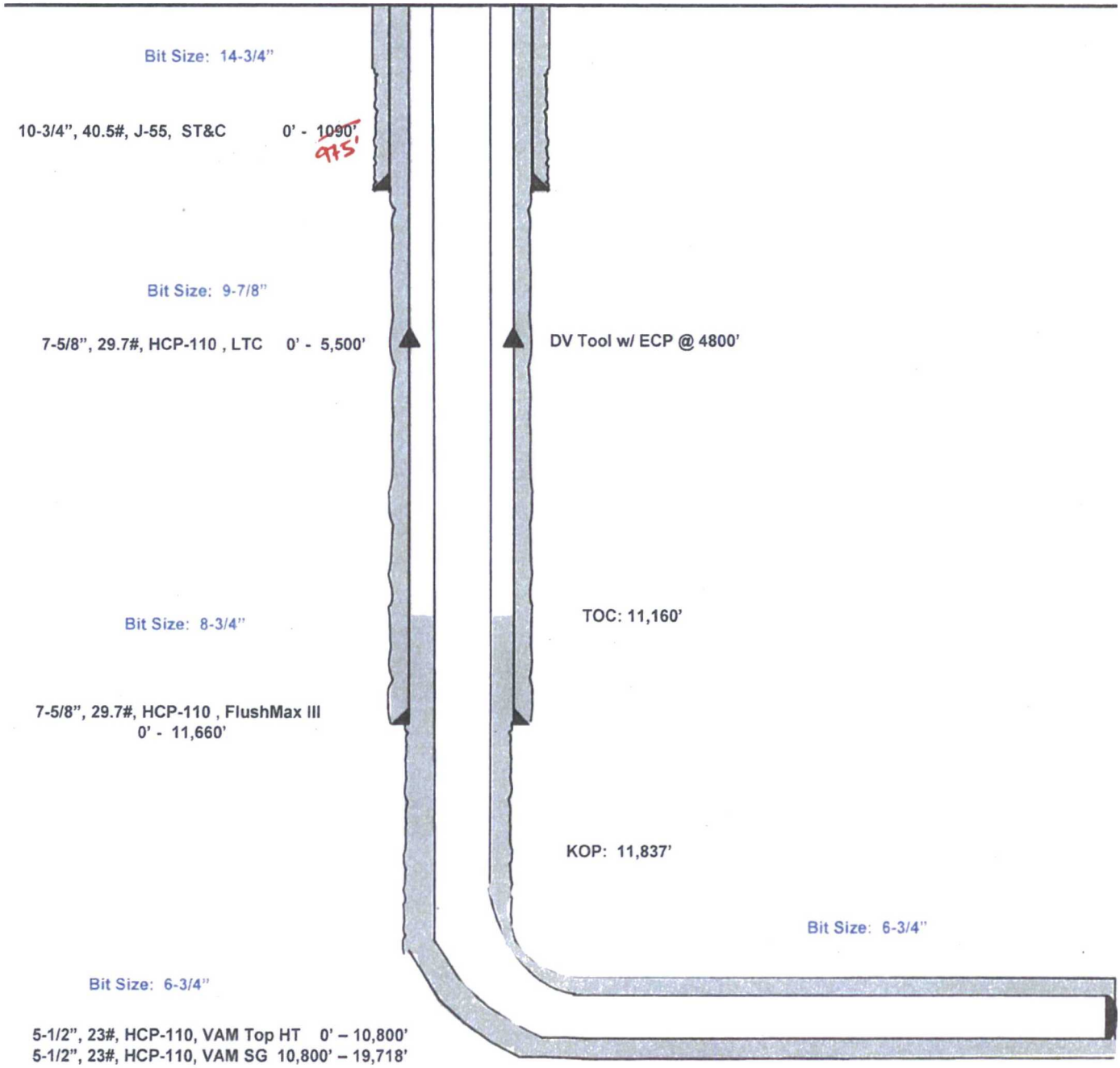
Variance is requested to utilize a packer stage tool (DV tool) for cementing the 7-5/8" intermediate casing. The first stage will be pumped conventionally up to the lost circulation zone. The DV tool will be placed at 4,800', est. 130' above the Lamar formation. The DV tool will be engaged and a casing packer will isolate the lost circulation zone. Cement will be circulated to surface during the second stage.

Audacious BTL Fed Com #2H

2590' FSL
2200' FEL
Section 19
T-25-S, R-33-E

Lea County, New Mexico
Proposed Wellbore
Revised 1/13/17
API: 30-025-43430

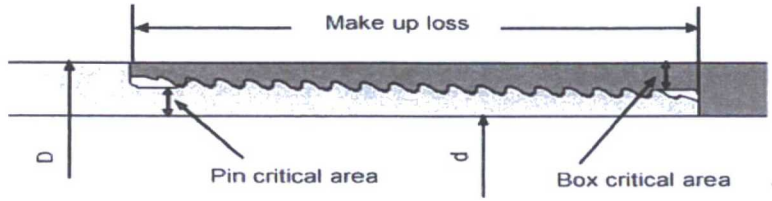
KB: 3,474'
GL: 3,449'



Lateral: 19,718' MD, 12,410' TVD

BH Location: 330' FSL & 2200' FEL
Section 30
T-25-S, R-33-E

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



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

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

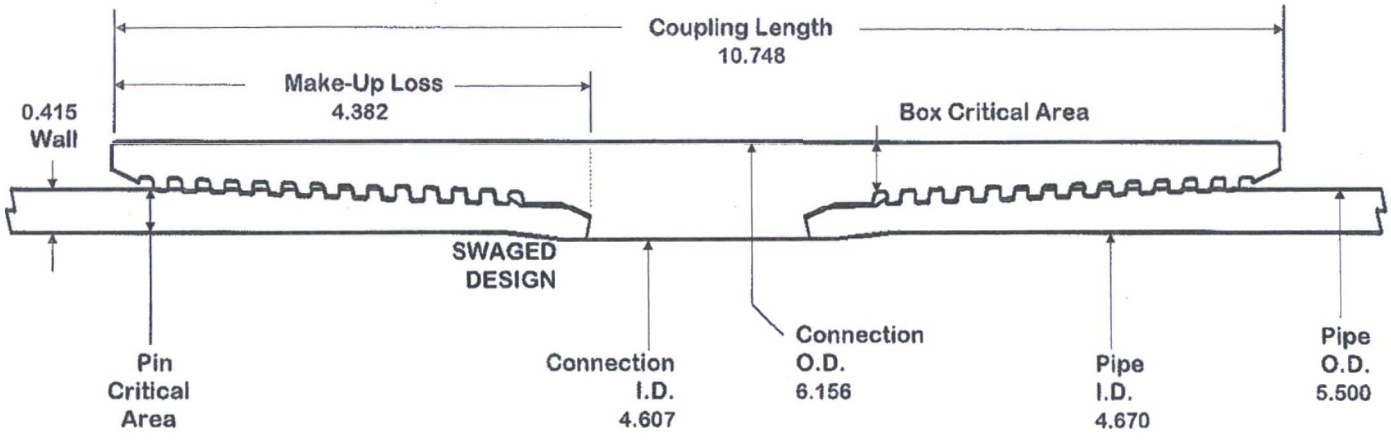
Connection Performance Properties				
Tensile Yield load	563.4	kips	2,506	kN
M.I.Y.P.	7,574	psi	52.2	MPa
Collapse strength	5,350	psi	36.9	MPa

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

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

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

VAM® TOP HT



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

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

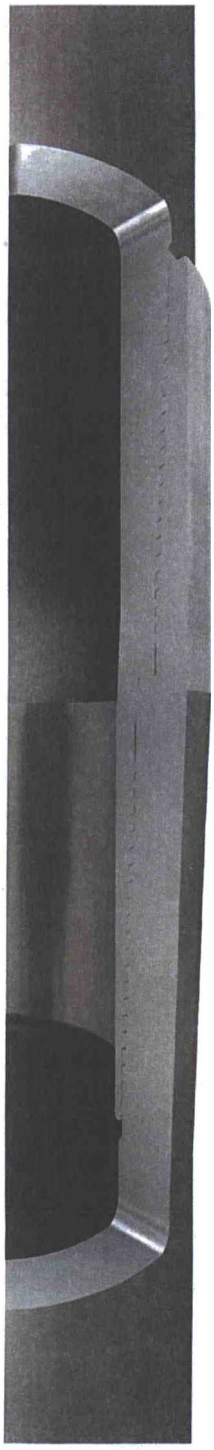
TORQUE DATA ft-lb

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

Max. Liner Torque : 20,000 ft-lb

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

VAM SG Connection Data Sheet



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

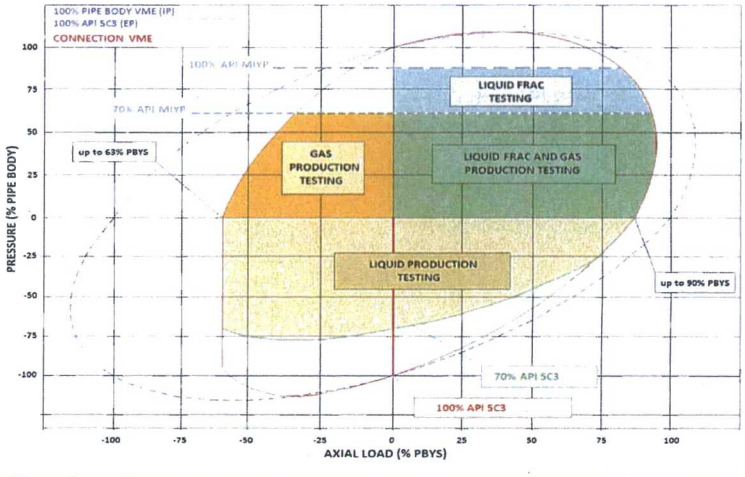
CONNECTION PROPERTIES		
Connection OD	5.720	in
Connection ID	4.603	in
Make up Loss	6.503	in
Connection Critical Area	5.967	sq. in
%PB Section Area	90.0%	
Yield Strength	746	kips
Parting Load	805	kips
Min Internal Yield	16,510	psi
*High Collapse	11,350	psi
Working Compression	522	kips
Max. Bending w/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



VAM USA