

HOBBS OCD

SEP 28 2016

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UNITED STATES

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**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.
N 221

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

WHIRLING WIND 11 FED COM 703H

2. Name of Operator

EOG RESOURCES INCORPORATED

Contact: STAN WAGNER

E-Mail: stan_wagner@eogresources.com

9. API Well No.

30-025-43225-00-X1

3a. Address

MIDLAND, TX 79702

3b. Phone No. (include area code)

Ph: 432-686-3689

10. Field and Pool, or Exploratory

WC-025 G09 S253336D

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

Sec 11 T26S R33E SWSE 842FSL 2395FEL

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
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

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 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 recompleat 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 requests an amendment to our approved APD for this well to reflect a change in the casing design.

Detailed casing design attached.

Anticipated spud date is 9/29/16.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

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

Electronic Submission #351334 verified by the BLM Well Information System
For EOG RESOURCES INCORPORATED, sent to the Hobbs
Committed to AFMSS for processing by CHARLES NIMMER on 09/16/2016 (16CN0040SE)

Name (Printed/Typed) STAN WAGNER

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 09/15/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By (BLM Approver Not Specified) Mustafa Angue

Title

PETROLEUM ENGINEER

Date 09/20/2016

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

KZ

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG Resources
LEASE NO.:	NM122621
WELL NAME & NO.:	703H-Whirling Wind 11 Fed Com
SURFACE HOLE FOOTAGE:	842'/S & 2395'/E
BOTTOM HOLE FOOTAGE:	2410'/S & 1650'/E, sec. 2
LOCATION:	Section 11, T. 26 S., R. 33 E., NMPM
COUNTY:	Lea County, New Mexico

All previous COAs still apply except for the following:

The intermediate casing shall be kept fluid filled to avoid approaching the minimum collapse pressure rating of the casing.

MHH 09202016

EOG RESOURCES, INC.
WHIRLING WIND 11 FED COM NO. 703H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,100'
Top of Salt	1,440'
Base of Salt / Top Anhydrite	4,880'
Base Anhydrite	5,120'
Lamar	5,120'
Bell Canyon	5,160'
Cherry Canyon	6,190'
Brushy Canyon	7,780'
Bone Spring Lime	9,250'
1 st Bone Spring Sand	10,220'
2 nd Bone Spring Shale	10,420'
2 nd Bone Spring Sand	10,755'
3 rd Bone Spring Carb	11,255'
3 rd Bone Spring Sand	11,820'
Wolfcamp	12,325'
TD	12,555'

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

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	6,190'	Oil
Brushy Canyon	7,780'	Oil
1 st Bone Spring Sand	10,220'	Oil
2 nd Bone Spring Shale	10,420'	Oil
2 nd Bone Spring Sand	11,755'	Oil
3 rd Bone Spring Carb	11,255'	Oil
3 rd Bone Spring Sand	11,820'	Oil
Wolfcamp	12,325'	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 1,025' and circulating cement back to surface.

EOG RESOURCES, INC.
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4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
14.75"	0 - 1,025'	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-8,000'	7.625"	29.7#	HCP-110	LTC	1.125	1.25	1.60
8.75"	8,000' - 11,700'	7.625"	29.7#	HCP-110	FlushMax III	1.125	1.25	1.60
6.75"	0' - 11,200'	5.5"	23#	HCP-110	VAM Top HT	1.125	1.25	1.60
6.75"	0'-20,077'	5.5"	23#	HCP-110	VAM SG	1.125	1.25	1.60

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.

Variance is also requested to wave any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

Cementing Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Mix Water Gal/sk	Slurry Description
10-3/4" 1,025'	325	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	200	14.8	1.34	6.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
7-5/8" 11,700'	550	14.4	1.20	4.81	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P
	2000	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl ₂
	600	14.8	1.38	6.48	Class C + 5% Gypsum + 3% CaCl ₂
5-1/2" 20,077'	1030	14.4	1.20	5.80	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

EOG RESOURCES, INC.
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5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 5000/ 250 psig. The surface casing will be tested to 1500 psi for 30 minutes.

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 5000/ 250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 1,025'	Fresh - Gel	8.6-8.8	28-34	N/c
1,025' - 11,700'	Brine	8.8-10.0	28-34	N/c
11,700' - 20,077' Lateral	Oil Base	10.0-11.5	58-68	3 - 6

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

EOG RESOURCES, INC.
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7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well.

GR-CCL Will be run in cased hole during completions phase of operations.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom-hole temperature (BHT) at TD is 182 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 7507 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from 7,300' to Intermediate casing point.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, the pre-welded Stream Flo 11" FBD100 wellhead will be run in the casing string and landed on the 20" Conductor. BOPE will be nipped up and tested, immediately after rigging down cement crew, with no WOC time as the weight of casing/BOPE is supported by the Conductor. No pipe will be run in the hole until cement reaches a minimum compressive strength of 500 psi at the shoe.

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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.

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. Prior to running the intermediate casing, the rams will be changed out to accommodate the 7-5/8" casing. The bonnet seals will be tested to 1500 psi. After installing the intermediate casing the casing rams will be removed and replaced with variable bore rams. The remaining BOPE will not be retested after installing the intermediate casing.

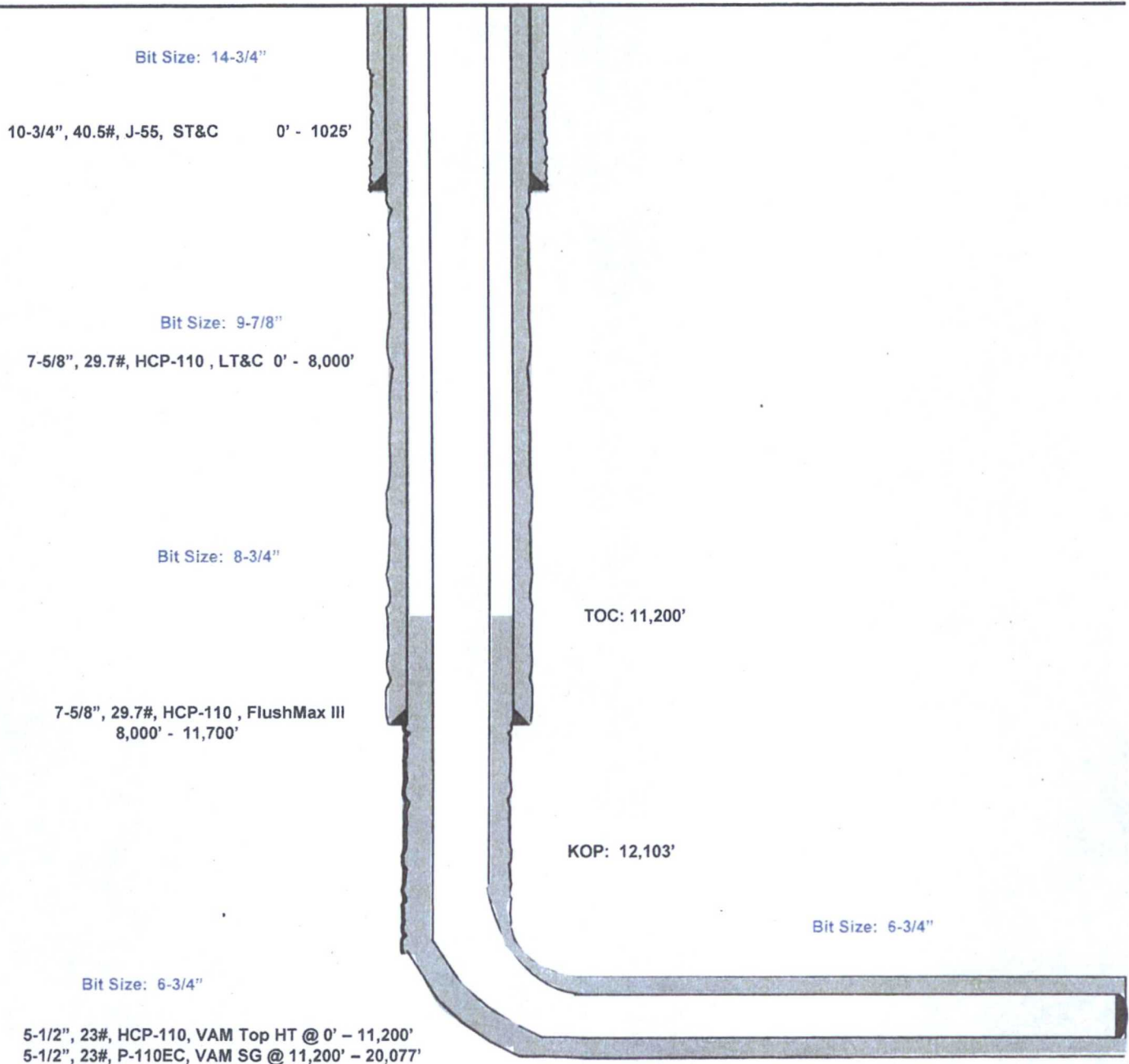
Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

Whirling Wind 11 Fed Com #703H

842' FSL
2395' FEL
Section 11
T-26-S, R-33-E

Lea County, New Mexico
Proposed Wellbore
Revised 9/14/16
API: 30-025-43225

KB: 3,375'
GL: 3,345'



Lateral: 20,077' MD, 12,555' TVD
Upper Most Perf:
330' FSL & 1650' FEL Sec. 11
Lower Most Perf:
2310' FSL & 1650' FWL Sec. 2
BH Location: 2410' FSL & 1650' FEL
Section 2
T-26-S, R-33-E

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

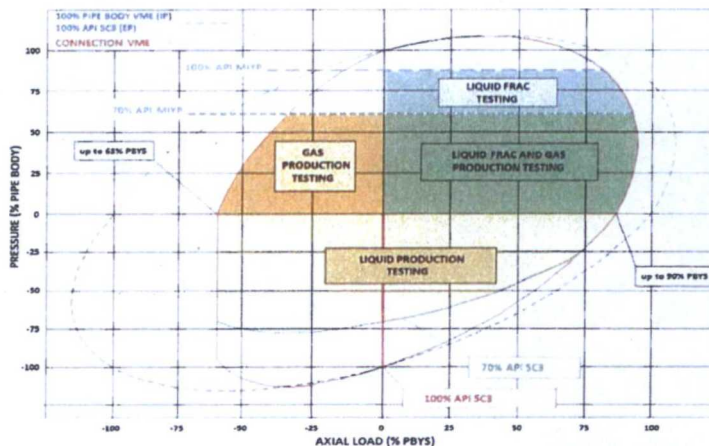
Ref. Drawing	SI-PD 100835 Rev.A
Date	11-Aug-14
Time	1:21 PM
Email	tech.support@vam-usa.com

TORQUE VALUES

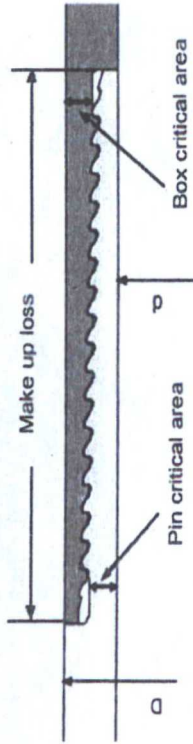
Min Make Up Torque	9,100 ft-lb
Opt Make Up Torque	11,200 ft-lb
Max Make Up Torque	13,300 ft-lb
Max Torque w/ Sealability	14,500 ft-lb

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.



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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
P'in 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.	

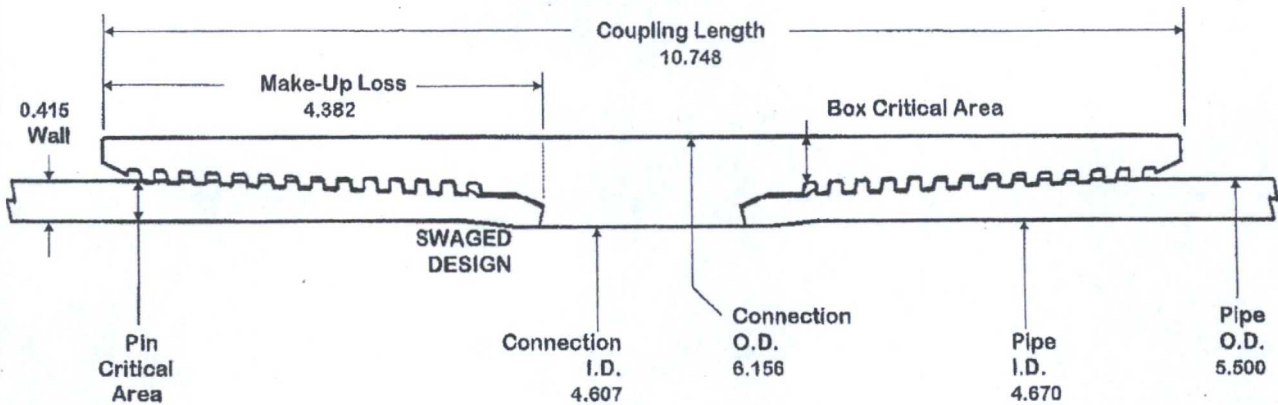
Connection Performance Properties		
Tensile Yield load	563.4	kips
M.I.Y.P.	7,574	psi
Collapse strength	5,350	psi
		kN
		MPa
		MPa

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

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

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

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

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

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



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