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.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

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

11. Country or Parish, State

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
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ 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 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 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 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 OFICE 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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand 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: NENW / 155 FNL / 1467 FWL / TWSP: 20S / RANGE: 33E / SECTION: 16 / LAT: 32.579981 / LONG: -103.672103 (TVD: 0 feet, MD: 0 feet)

PPP: SESW / 1321 FSL / 1650 FWL / TWSP: 20S / RANGE: 33E / SECTION: 21 / LAT: 32.555008 / LONG: -103.671492 (TVD: 11203 feet, MD: 19812 feet)

PPP: SENW / 1321 FNL / 1650 FWL / TWSP: 20S / RANGE: 33E / SECTION: 21 / LAT: 32.562267 / LONG: -103.671497 (TVD: 11121 feet, MD: 17171 feet)

PPP: NENW / 0 FSL / 1650 FWL / TWSP: 20S / RANGE: 33E / SECTION: 21 / LAT: 32.565894 / LONG: -103.6715 (TVD: 11080 feet, MD: 15851 feet)

PPP: NENW / 100 FNL / 1650 FWL / TWSP: 20S / RANGE: 33E / SECTION: 16 / LAT: 32.580133 / LONG: -103.671814 (TVD: 10646 feet, MD: 10670 feet)

BHL: SESW / 50 FSL / 1650 FWL / TWSP: 20S / RANGE: 33E / SECTION: 21 / LAT: 32.551515 / LONG: -103.671489 (TVD: 11247 feet, MD: 21198 feet)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**MATADOR PRODUCTION COMPANY**
LEASE NO.:	**NMNM108976**
WELL NAME & NO.:	**PONY EXPRESS FED COM 602H SUNDRY**
SURFACE HOLE FOOTAGE:	145'/N & 1587'/W
BOTTOM HOLE FOOTAGE	100'/S & 1980'/W
LOCATION:	Section 16, T.20 S., R.33 E., NMPM
COUNTY:	LEA County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

ALL Previous COAs Still Apply.

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **20** inch surface casing shall be set at approximately **1302** feet (a minimum of 25 feet (Lea County) 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 will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
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.

Surface and Intermediate casings must be kept fluid filled to meet BLM minimum collapse requirement.

2. The **13-3/8** inch intermediate casing shall be set at **2877** feet. The minimum required fill of cement behind the **13-3/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

3. The minimum required fill of cement behind the **7** inch production casing is:

Option 1 (Single Stage):

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

RI05092022

162033 LOT C SUNDRY-2665387 PONY EXPRESS FED COM 602H LEA NMNM108976 Matador 13-22 05072022 RI

PONY EXPRESS FED COM 602H

20	surface csg in a	26	inch hole.		Design Factors				Surface		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	94.00	J 55	BTC	11.46	0.87	1.38	1,302	4	2.37	1.68	122,388
w/8.4#/g mud, 30min Sfc Csg Test psig:	909		Tail Cmt	does not	circ to sfc.	Totals:	1,302				122,388

Comparison of Proposed to Minimum Required Cement Volumes

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
26	1.5053	3070	4145	#N/A	#N/A	8.80	891	2M	2.50

Casing must be kept 1/3 fluid filled.

13 3/8	casing inside the	20			Design Factors				Int 1		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	54.50	J 55	BTC	5.44	0.74	1.15	2,877	2	2.27	1.27	156,797
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	2,877				156,797
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		1302				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
17 1/2	0.6946	2170	3661	2421	51	10.20	1205	2M	1.56

Class 'H' tail cmt yld > 1.20 Casing must be kept 2/3 fluid filled.

9 5/8	casing inside the	13 3/8			Design Factors				Int 2		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00	J 55	BTC	2.96	1.08	0.79	5,312	2	1.43	2.13	212,480
w/8.4#/g mud, 30min Sfc Csg Test psig:	447					Totals:	5,312				212,480
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		2877				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
12 1/4	0.3132	1630	2742	1806	52	8.60	2753	3M	0.81

Class 'C' tail cmt yld > 1.35 Casing must be kept 1/3 fluid filled.

Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.74,

Tail cmt

7	casing inside the	9 5/8			Design Factors				Prod 1		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	29.00	P 110	VAM DWC/C	3.51	1.91	2.54	10,273	3	4.63	3.48	297,917
"B"	**20.00**	**P 110**	**TLW**	∞	**2.60**	**2.87**	**10,875**	**3**	**5.22**	4.73	**217,500**
w/8.4#/g mud, 30min Sfc Csg Test psig:	2,257					Totals:	21,148				515,417
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		5312				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
8 3/4	0.1503	2730	4448	3222	38	9.40			1.44

Class 'H' tail cmt yld > 1.20 Capitan Reef est top XXXX.

#N/A

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-49050	96399	TEAS; BONE SPRING, WEST

[4] Property Code	[5] Property Name	[6] Well Number
332438	PONY EXPRESS FED COM	602H

[7] OGRID No.	[8] Operator Name	[9] Elevation
228937	MATADOR PRODUCTION COMPANY	3533.3'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	16	20S	33E		145	NORTH	1587	WEST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	21	20S	33E		100	SOUTH	1980	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

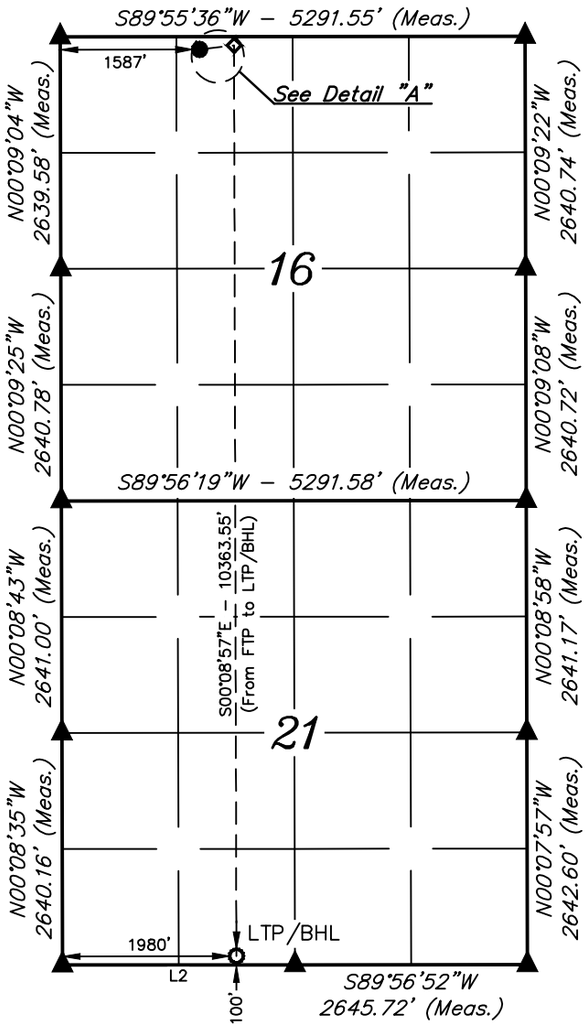
[16]

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°34'48.03" (32.580009°)
LONGITUDE = 103°40'18.17" (103.671714°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°34'47.59" (32.579886°)
LONGITUDE = 103°40'16.39" (103.671219°)
STATE PLANE NAD 83 (N.M. EAST)
N: 575371.47' E: 745132.02'
STATE PLANE NAD 27 (N.M. EAST)
N: 575309.06' E: 703951.49'

NAD 83 (FIRST TAKE POINT)
LATITUDE = 32°34'48.47" (32.580131°)
LONGITUDE = 103°40'13.58" (103.670439°)
NAD 27 (FIRST TAKE POINT)
LATITUDE = 32°34'48.03" (32.580009°)
LONGITUDE = 103°40'11.80" (103.669944°)
STATE PLANE NAD 83 (N.M. EAST)
N: 575418.53' E: 745524.53'
STATE PLANE NAD 27 (N.M. EAST)
N: 575356.11' E: 704344.01'

NAD 83 (LTP / BHL)
LATITUDE = 32°33'05.94" (32.551651°)
LONGITUDE = 103°40'13.51" (103.670418°)
NAD 27 (LTP / BHL)
LATITUDE = 32°33'05.50" (32.551529°)
LONGITUDE = 103°40'11.73" (103.669925°)
STATE PLANE NAD 83 (N.M. EAST)
N: 565057.08' E: 745595.31'
STATE PLANE NAD 27 (N.M. EAST)
N: 564994.95' E: 704414.49'

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N83°24'22"E	395.40'
L2	S89°59'09"W	2645.55'



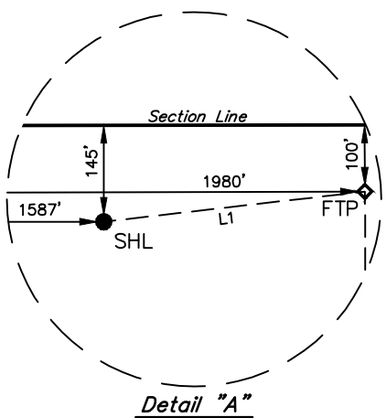
NOTE:
- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearing is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)

● = SURFACE HOLE LOCATION
◇ = FIRST TAKE POINT
○ = LAST TAKE POINT/ BOTTOM HOLE LOCATION
▲ = SECTION CORNER LOCATED

2000' 1000' 0' 2000'

SCALE

DRAWN BY: K.A. 02-20-20
REV: 2 03-31-22 D.J.S.
(COMPANY NAME CHANGE)



Detail "A"
No Scale

[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

6/5/22
Signature Date

Nicky Fitzgerald
Printed Name

E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

January 21, 2020
Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
03-31-22
PROFESSIONAL SURVEYOR

Certificate Number:

Drill Plan

Pony Express Fed Com #602H

- Matador respectfully requests the option to amend the well design of the Pony Express Fed Com #602H to make the following changes to the current APD.

Casing & Cement

All casing will be API and new. See attached casing assumption worksheet.

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	26	0 - 1302	0 - 1302	20	94	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	17.5	0 - 2877	0 - 2877	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 2	12.25	0 - 5312	0 - 5312	9.625	40	J-55	BUTT	1.125	1.125	1.8
Production Top	8.75	0 - 10273	0 - 10261	7	29	P-110	VAM DWC/C	1.125	1.125	1.8
Production Bottom	8.75	10273 - 21148	10261 - 11247	5.5	20	P-110	Hunting TLW	1.125	1.125	1.8

- All casing strings will be tested in accordance with Onshore Order #2 - III.B.1.h
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed
- All non-API joint connections will be of like or greater quality and as run specification sheets will be on location for review
- Request option to run a full 5.5" production string, cement volumes will be adjusted accordingly.
- Request option to drill 8.5" hole throughout 5.5" production casing section. 7" casing will not be ran in 8.5" hole.

String	Type	Sacks	Yield	Cu. Ft.	Weight	Percent Excess	Top of Cement	Class	Blend
Surface	Tail	3070	1.35	4140	14.8	100%	0	C	5% NaCl + LCM
Intermediate 1	Lead	1700	1.78	3032	13.5	50%	0	C	5% NaCl + LCM
	Tail	470	1.35	634	14.8	50%	2302	C	5% NaCl + LCM
Intermediate 2	Lead	1260	1.78	2240	13.5	50%	0	C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
	Tail	370	1.35	504	14.8	50%	4312	C	5% NaCl + LCM
Production	Lead	330	3.66	1190	10.3	25%	3215	A/C	Fluid Loss + Dispersant + Retarder + LCM
	Tail	2400	1.35	3238	13.2	15%	9873	A/C	Fluid Loss + Dispersant + Retarder + LCM

Matador requests the option to run a DV tool with annular packer as contingency in the intermediate 1 or 2 section on 13-3/8" or 9-5/8" casing if lost circulation is encountered. If losses occur, the DV tool with packer will be placed at least 100' above the loss zone to give the option to pump cement as either a single stage or two stage.

Drill Plan

Mud Program

An electronic Pason mud monitoring system complying with Onshore Order #2 will be used. All necessary mud products (barite, bentonite, LCM) for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions.

Hole Section	Hole Size (in)	Mud Type	Interval MD (ft)	Density (lb/gal)	Viscosity	Fluid Loss
Surface	26	Spud Mud	0 - 1302	8.4 - 8.8	28-30	NC
Intermediate 1	17.5	Brine Water	1302 - 2877	9.5 - 10.2	28-32	NC
Intermediate 2	12.25	Fresh Water	2877 - 5312	8.4 - 8.6	28-30	NC
Production	8.75	OBM/Cut Brine	5312 - 21148	8.6 - 9.4	28-30	NC

TEC-LOCK WEDGE

5.500" 20 LB/FT (.361"Wall) with 5.875" SPECIAL CLEARANCE OD
BEN P110 CY

Pipe Body Data

Nominal OD:	5.500	in
Nominal Wall:	.361	in
Nominal Weight:	20.00	lb/ft
Plain End Weight:	19.83	lb/ft
Material Grade:	P110 CY	
Mill/Specification:	BEN	
Yield Strength:	125,000	psi
Tensile Strength:	135,000	psi
Nominal ID:	4.778	in
API Drift Diameter:	4.653	in
Special Drift Diameter:	None	in
RBW:	87.5 %	
Body Yield:	729,000	lbf
Burst:	14,360	psi
Collapse:	13,010	psi

Connection Data

Standard OD:	5.875	in
Pin Bored ID:	4.778	in
Critical Section Area:	5.656	in^2
Tensile Efficiency:	97 %	
Compressive Efficiency:	100 %	
Longitudinal Yield Strength:	707,000	lbf
Compressive Limit:	729,000	lbf
Internal Pressure Rating:	14,360	psi
External Pressure Rating:	13,010	psi
Maximum Bend:	101.2	°/100ft

Operational Data

Minimum Makeup Torque:	15,000	ft*lbf
Optimum Makeup Torque:	18,700	ft*lbf
Maximum Makeup Torque:	41,200	ft*lbf
Minimum Yield:	45,800	ft*lbf
Makeup Loss:	5.97	in

Notes

Operational Torque is equivalent to the Maximum Make-Up Torque

Generated on Sep 03, 2019

HUNTING

Technical Specifications

Connection Type:	Size(O.D.):	Weight (Wall):	Grade:
DWC/C Casing	7 in	29.00 lb/ft (0.408 in)	VMS P110 EC

2012 API Spec 5CT Coupling O.D.

	Material
VMS P110 EC	Grade
125,000	Minimum Yield Strength (psi)
135,000	Minimum Ultimate Strength (psi)
	Pipe Dimensions
7.000	Nominal Pipe Body O.D. (in)
6.184	Nominal Pipe Body I.D.(in)
0.408	Nominal Wall Thickness (in)
29.00	Nominal Weight (lbs/ft)
28.75	Plain End Weight (lbs/ft)
8.449	Nominal Pipe Body Area (sq in)
	Pipe Body Performance Properties
1,056,000	Minimum Pipe Body Yield Strength (lbs)
9,580	Minimum Collapse Pressure (psi)
12,750	Minimum Internal Yield Pressure (psi)
11,700	Hydrostatic Test Pressure (psi)
	Connection Dimensions
7.875	Connection O.D. (in)
6.184	Connection I.D. (in)
6.125	Connection Drift Diameter (in)
4.50	Make-up Loss (in)
8.449	Critical Area (sq in)
100.0	Joint Efficiency (%)
	Connection Performance Properties
1,056,000	Joint Strength (lbs)
26,010	Reference String Length (ft) 1.4 Design Factor
1,045,000	API Joint Strength (lbs)
528,000	Compression Rating (lbs)
9,580	API Collapse Pressure Rating (psi)
12,750	API Internal Pressure Resistance (psi)
40.9	Maximum Uniaxial Bend Rating [degrees/100 ft]
	Appoximated Field End Torque Values
26,800	Minimum Final Torque (ft-lbs)
31,300	Maximum Final Torque (ft-lbs)
35,800	Connection Yield Torque (ft-lbs)

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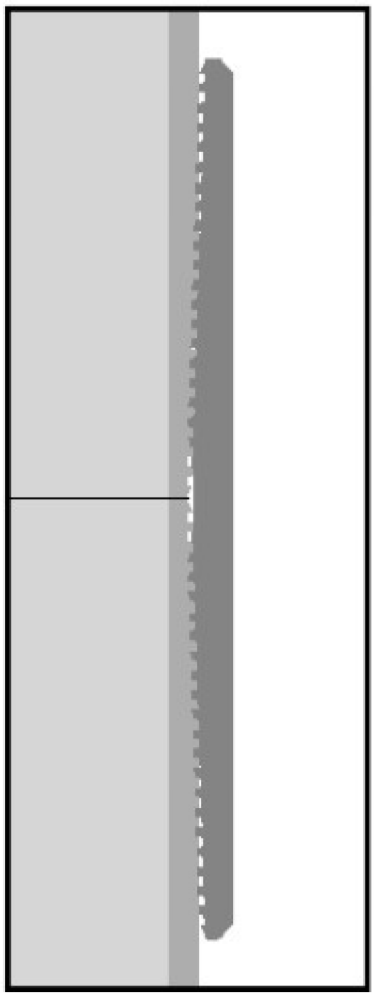

For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

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.

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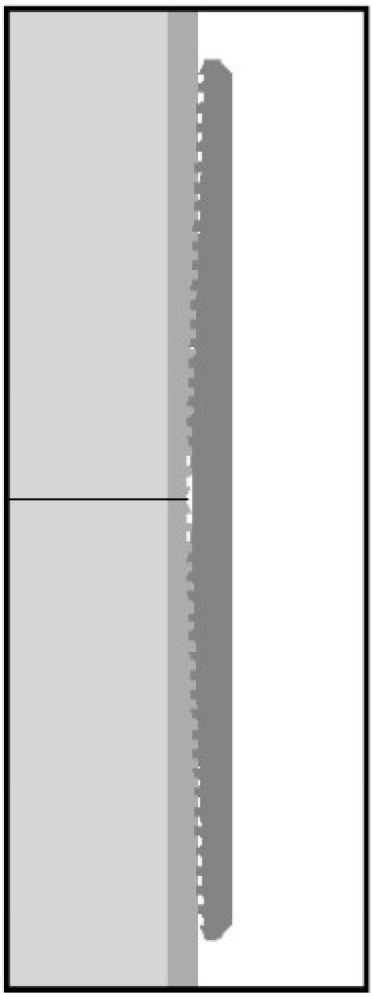
DWC Connection Data Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a give 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.



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Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.4 ppg).

Production Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.47 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be run above that (0.47 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.
- Injection Down Casing: 9500 psi surface injection pressure plus an internal pressure gradient of 0.65 psi/ft with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (9.0 ppg).

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District III
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District IV
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 113721
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	PREVIOUS COA'S APPLY	6/7/2022