

Additional data for EC transaction #426459 that would not fit on the form

32. Additional remarks, continued

production open hole section.

2. Amend the cementing program, see attached.

3. Amend BOP program and add BOP Break Testing request, see attached.

BOP Break Testing Request

As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow BOP Break Testing under the following conditions:

- a. After a full BOP test is conducted on the first well on the pad.
- b. When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.
- c. Full BOP test will be required prior to drilling any production hole

4. Amend the mud program, depth and type, see attached.

OXY USA Inc. - Patton MDP1 17 Federal 173H – Amended Drill Plan

This sundry reflects changes in casing design, cement design, BOP, and mud program design.

1. Geologic Formations

TVD of target	11731'	Pilot Hole Depth	N/A
MD at TD:	16594'	Deepest Expected fresh water:	671'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	671	
Salado	1035	Brine
Castile	2878	Brine
Lamar/Delaware	4358	Brine
Bell Canyon	4383	Oil/Gas
Cherry Canyon	5283	Oil/Gas
Brushy Canyon	6490	Losses
Bone Spring	8210	Oil/Gas
1st Bone Spring	9186	Oil/Gas
2nd Bone Spring	9484	Oil/Gas
3rd Bone Spring	10345	Oil/Gas
Wolfcamp	11524	Oil/Gas

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program → SEE CDA

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant	Buoyant
	From (ft)	To (ft)							Body SF Tension	Joint SF Tension
14.75	0	721	10.75	40.5	J55	BTC	1.125	1.2	1.4	1.4
9.875	0	11115	7.625	26.4	L80	BTC	1.125	1.2	1.4	1.4
6.75	0	11665	5.5	20	P110	DQX	1.125	1.2	1.4	1.4
6.75	11665	16594	4.5	13.5	P110	DQX	1.125	1.2	1.4	1.4
SF Values will meet or Exceed										

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

*Oxy requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool may be run in case hole conditions merit pumping a second stage cement job to comply with permitted top of cement. If cement circulated to surface during first stage we will drop a cancelation cone and not pump the second stage.

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Annular Clearance Variance Request

As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422” annular clearance requirement from Onshore Order #2 under the following conditions:

1. Annular clearance to meet or exceed 0.422” between intermediate casing ID and production casing coupling only on the first 500’ overlap between both casings.
2. Annular clearance less than 0.422” is acceptable for the curve and lateral portions of the production open hole section.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM’s minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50’ above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	Y
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500’ into previous casing?	Y
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100’ to 600’ below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

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3. Cementing Program

Casing String	# Sks	Wt. (lb/gal)	Yld (ft³/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface Lead	N/A	N/A	N/A	N/A	N/A	N/A
Surface Tail	595	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
1st Stage Intermediate Lead	614	10.2	2.58	11.568	6:59	Pozzolan Cement, Retarder
1st Stage Intermediate Tail	167	13.2	1.61	7.804	7:11	Class H Cement, Retarder, Dispersant, Salt
DV/ECP Tool @ 4408 (We request the option to cancel the second stage if cement is circulated to surface during the first stage of cement operations)						
2nd Stage Intermediate Lead	N/A	N/A	N/A	N/A	N/A	N/A
2nd Stage Intermediate Tail	1524	13.6	1.67	8.765	7:32	Class C Cement, Accelerator, Retarder
Production Lead	N/A	N/A	N/A	N/A	N/A	N/A
Production Tail	671	13.2	1.38	6.686	3:39	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface Lead	N/A	N/A	N/A
Surface Tail	0	721	100%
1st Stage Intermediate Lead	4308	10115	20%
1st Stage Intermediate Tail	10115	11115	20%
2nd Stage Intermediate Lead	N/A	N/A	N/A
2nd Stage Intermediate Tail	0	4408	200%
Production Lead	N/A	N/A	N/A
Production Tail	10615	16594	20%

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4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
9.875" Hole	13-5/8"	10M	Annular	✓	70% of working pressure
			Blind Ram	✓	250/10000
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

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. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
	A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015. See attached schematics.

OXY USA Inc. - Patton MDP1 17 Federal 173H – Amended Drill Plan

BOP Break Testing Request

As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow BOP Break Testing under the following conditions:

- After a full BOP test is conducted on the first well on the pad.
- When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.
- Full BOP test will be required prior to drilling any production hole.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	721	Water-Based Mud	8.6-8.8	40-60	N/C
721	11115	Saturated Brine-Based Mud or Oil-Based Mud	9.0-9.6	35-45	N/C
11115	16594	Water-Based Mud or Oil-Based Mud	9.5-12.0	38-50	N/C

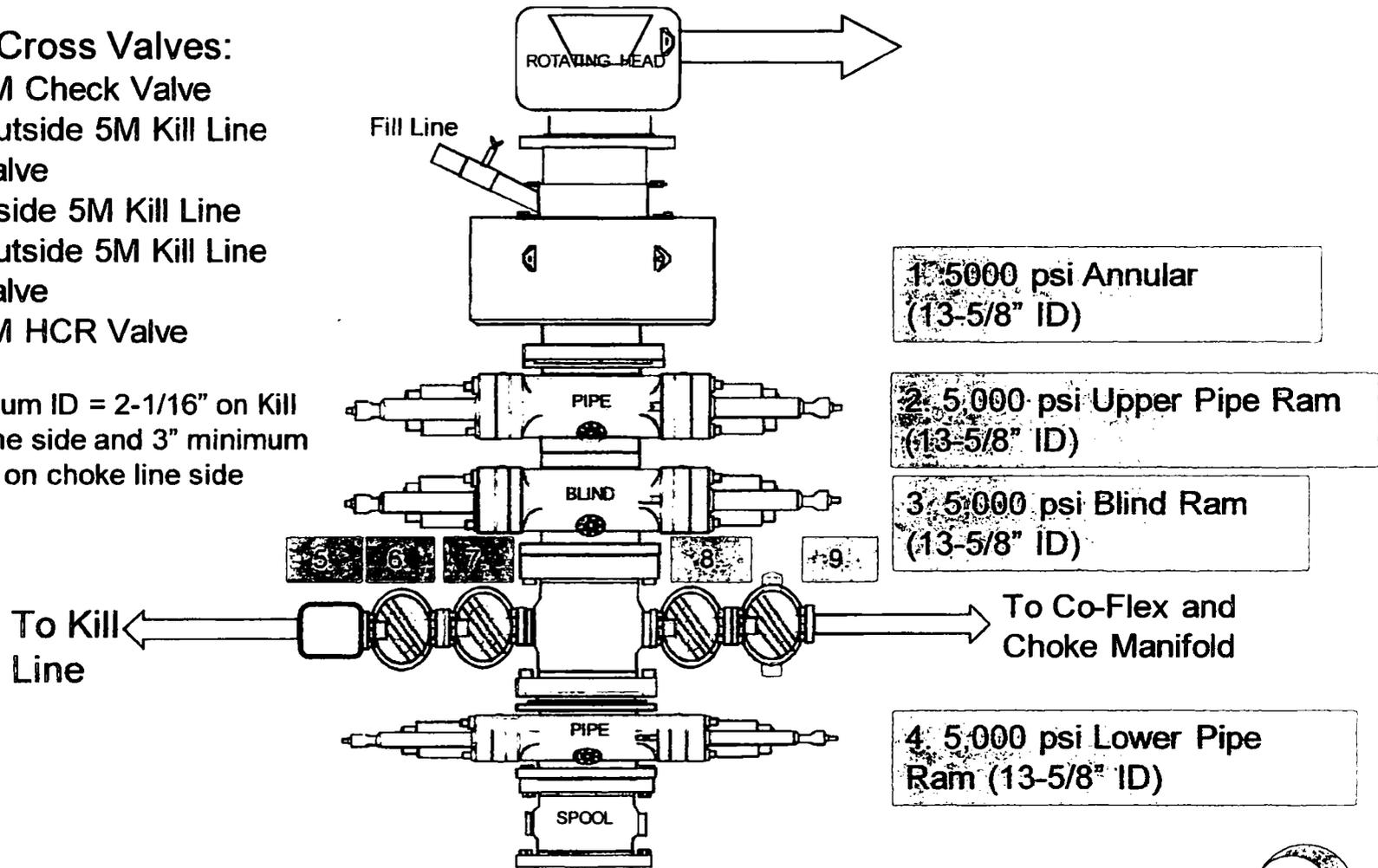
Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

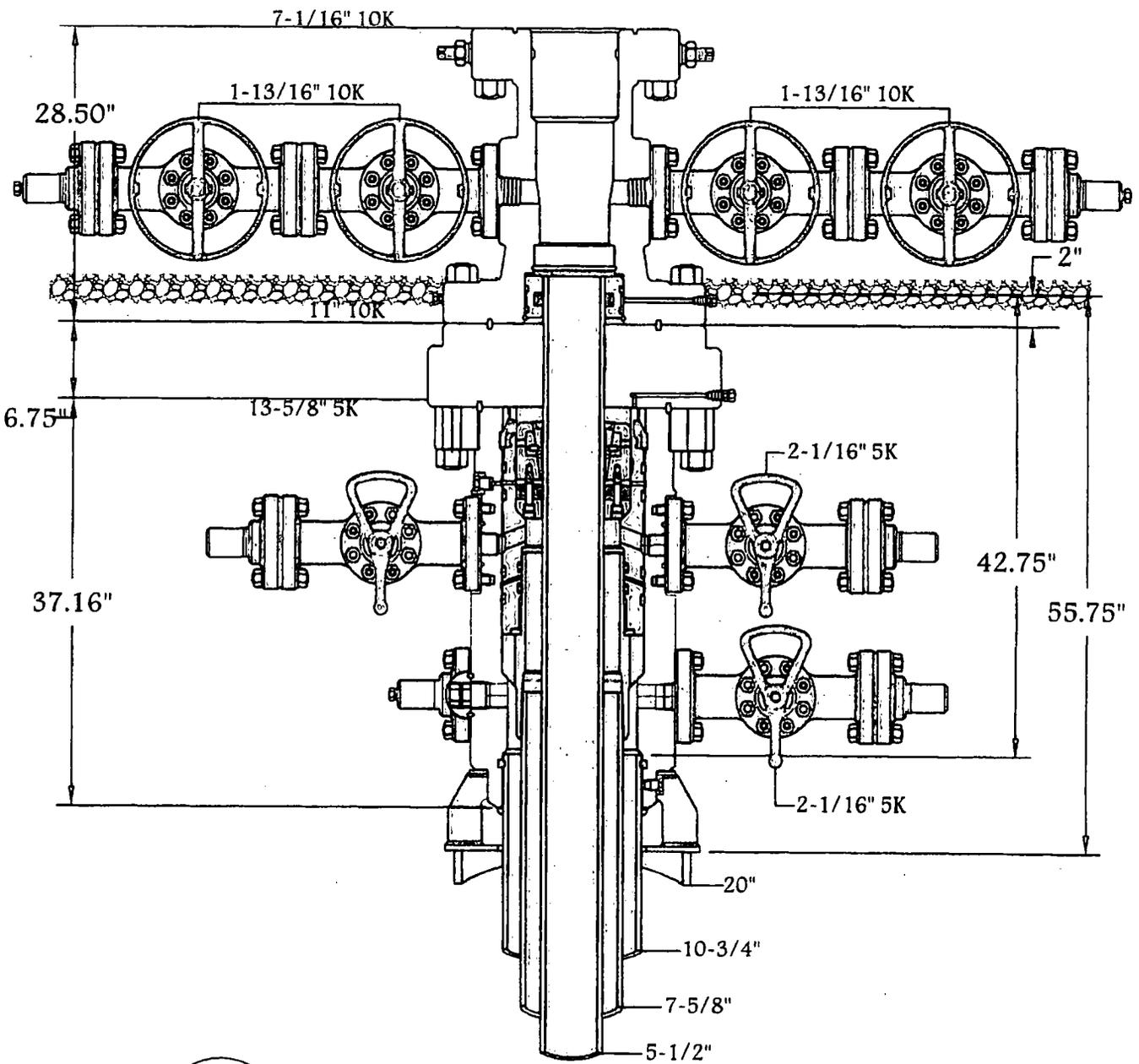
5M BOP Stack

Mud Cross Valves:

5. 5M Check Valve
6. Outside 5M Kill Line Valve
7. Inside 5M Kill Line Valve
8. Outside 5M Kill Line Valve
9. 5M HCR Valve

*Minimum ID = 2-1/16" on Kill Line side and 3" minimum ID on choke line side





13-5/8" 5K MN-DS



Name	Date	Working Pressure	#

PERFORMANCE DATA

FMK UP ULTRA™ DQX
 Technical Data Sheet

4.500 in

13.50 lbs/ft

P-110

Tubular Parameters

Size	4.500	in	Minimum Yield	110,000	psi
Nominal Weight	13.50	lbs/ft	Minimum Tensile	125,000	psi
Grade	P-110		Yield Load	422,000	lbs
PE Weight	13.04	lbs/ft	Tensile Load	479,000	lbs
Wall Thickness	0.290	in	Min. Internal Yield Pressure	12,400	psi
Nominal ID	3.920	in	Collapse Pressure	10,700	psi
Drift Diameter	3.795	in			
Nom. Pipe Body Area	3.836	in ²			

Connection Parameters

Connection OD	5.000	in
Connection ID	3.920	in
Make-Up Loss	0.712	in
Critical Section Area	3.836	in ²
Tension Efficiency	100.0	%
Compression Efficiency	100.0	%
Yield Load in Tension	422,000	lbs
Min. Internal Yield Pressure	12,400	psi
Collapse Pressure	10,700	psi
Uniaxial Bending	1.12	100 ft

Make-Up Torques

Min. Make-Up Torque	6,000	ft-lbs
Opt. Make-Up Torque	7,000	ft-lbs
Max. Make-Up Torque	8,000	ft-lbs
Field Torque	1,000	ft-lbs



Printed on: October-22-2014

NOTE

This document is the Technical Data Sheet for the product described herein. It is intended for use by the purchaser of the product for the purpose of determining the product's performance characteristics. The purchaser should consult the product's technical specifications for a complete list of performance characteristics and limitations. The purchaser should also consult the product's technical specifications for a complete list of performance characteristics and limitations. The purchaser should also consult the product's technical specifications for a complete list of performance characteristics and limitations.

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IPSCO

PERFORMANCE DATA

TRK UP DQX
 Technical Data Sheet

5.500 in

20.00 lbs/ft

P-110

Tubular Parameters

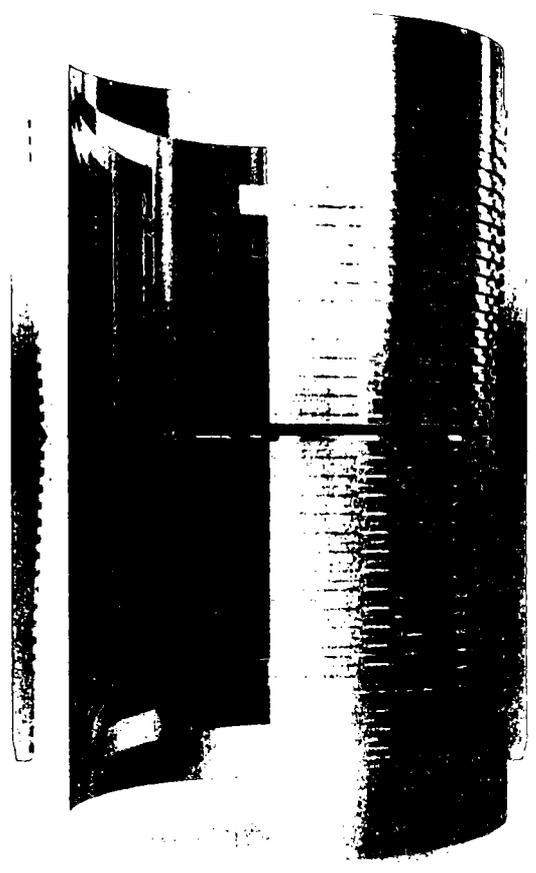
Size	5.500	in	Minimum Yield	110,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	125,000	psi
Grade	P-110		Yield Load	641,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	729,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	12,600	psi
Nominal ID	4.778	in	Collapse Pressure	11,100	psi
Drift Diameter	4.653	in			
Nom. Pipe Body Area	5.828	in ²			

Connection Parameters

Connection OD	6.050	in
Connection ID	4.778	in
Make-Up Loss	4.122	in
Critical Section Area	5.828	in ²
Tension Efficiency	100.0	%
Compression Efficiency	100.0	%
Yield Load In Tension	641,000	lbs
Min. Internal Yield Pressure	12,600	psi
Collapse Pressure	11,100	psi

Make-Up Torques

Min. Make-Up Torque	11,600	ft-lbs
Opt. Make-Up Torque	12,900	ft-lbs
Max. Make-Up Torque	14,100	ft-lbs
Yield Torque	20,600	ft-lbs



Printed on July 20, 2011.

of the product is intended for use in the oil and gas industry. The product is designed to meet the requirements of the API 5L specification. The product is made of high quality steel and is available in various grades and sizes. The product is used for a wide range of applications, including drilling, production, and distribution. The product is known for its strength, durability, and reliability. The product is available in various grades and sizes, including P-110, X-80, and X-100. The product is used in a wide range of applications, including drilling, production, and distribution. The product is known for its strength, durability, and reliability. The product is available in various grades and sizes, including P-110, X-80, and X-100.



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA INC.
LEASE NO.:	NMNM89172
WELL NAME & NO.:	PATTON MDP1 17 FED 173H
SURFACE HOLE FOOTAGE:	374'/N & 1615'/W
BOTTOM HOLE FOOTAGE:	180'/S & 2200'/W
LOCATION:	SECTION 17, T24S, R31E, NMPM
COUNTY:	EDDY

Potash	<input type="radio"/> None	<input checked="" type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP

All previous COAs still apply except for the following:

A. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **721** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the 7 5/8 inch 26.4 lb/ft. HCL-80 intermediate casing is:

Operator has proposed DV tool at a depth of 4408'. 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 operator circulates cement on the first stage, operator is approved to inflate the ACP and run the DV tool cancellation plug and cancel the second stage of the proposed cement plan. If cement does not circulate, operator will inflate ACP and proceed with the second stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**
3. The minimum required fill of cement behind the 5 1/2 X 4 1/2 inch production casing is:
 - Cement should tie-back at least 500 feet into previous casing. Operator shall provide method of verification.

MHH 07172018

GENERAL REQUIREMENTS

A. CASING

1. 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.
2. Wait on cement (WOC) for Potash Areas: 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 for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.
3. 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.
4. 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.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. 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.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.