•	Form 3160-5 (June 2015) DE	UNITED STATES	S NTERIOR	FOR OMI Expire	RM APPROVED 3 NO. 1004-0137 s: January 31, 2018					
	SUNDRY	NOTICES AND REPO		A A A CALL Case Seman No NIVINI 1919	A					
	Do not use thi abandoned wel	A I Co Higdian, Allott	ee or Tribe Name							
	SUBMIT IN 1	7. If Unit or CA/A	greement, Name and/or No.							
	1. Type of Well		<u></u>	8. Well Name and CAL-MON MD	No. P1 35 FEDERAL 5H					
	2. Name of Operator OXY USA INC	Contact: E-Mail: david_stew	DAVID STEWART vart@oxy.com	9. API Well No. 30 ~ 0/5	5-44775					
	3a. Address P.O. BOX 50250		3b. Phone No. (include area code) Ph: 432-685-5717	10. Field and Pool COTTON DF	or Exploratory Area RAW BONE SPRING					
	4. Location of Well <i>(Footage, Sec., T.</i>	, R., M., or Survey Description	<u> </u>	11. County or Pari	sh, State					
	Sec 35 T23S R31E NENE 110 32.267874 N Lat, 103.742929	DFNL 890FEL W Lon			NTY, 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     Recomplete	Well Integrity Other					
	☐ Final Abandonment Notice	Change Plans	□ Plug and Abandon	☐ Temporarily Abandon	Change to Original A					
		Convert to Injection	Plug Back	□ Water Disposal	FD					
	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.									
	OXY USA Inc. respectfully req 10400015549 be amended du of the original location.	uest that the filed APD for e to a buried pipeline on	or the Cal-Mon MDP1 35 Fede the proposed pad. The well w	ral #5H, APD No. as moved 136' east						
	Please see attached for the fo	llowing amended attachn	nents. SEE A	<b>TACHED FOR</b>						
	1. C-102 2. Drilling Plan 3. Directional Plan/Plot		CONDI	TIONS OF APPR	ROVAL					
	4. SUPO 5. Site Plan/Rig Diagram/Misc 6. Staking Form	Survey Plats		NM OIL C	ONSERVATION					
712/20	18: Engineering neview co	mpleted by m Ha	me 1 10	ARTE:	5 1 C 2018					
5-12	14. I hereby certify that the foregoing is	true and correct.	EXISTICS (C)	7 <u>S</u> FER	3 10 2010					
	μ <sup>ο</sup> σ	Electronic Submission # For O Committed to AFMSS for	404244 verified by the BLM Wel XY USA INC, sent to the Carisb or processing by MUSTAFA HAC	I Information System ad QUE on 02/12/2018 ()	ECEIVED					
	Name (Printed/Typed) DAVID ST	EWART	Title SR. RE	GULATORY ADVISOR						
	Signature (Electronic S	ubmission)	Date 02/12/2	018						
		THIS SPACE FO	OR FEDERAL OR STATE	OFFICE USE						
	_Approved By_ Carp L. L	mt	Title ACA	1 lond EM/a	11/2 Bate /72/20,					
	Conditions of approval, if my, are attached certify that the applicant holds legal or equivalent which would entitle the applicant to condu-	d Approval of this notice does hable title to those rights in the ct operations thereon.	s not warrant or e subject lease Office CF	-0						
	Title 18 U.S.C. Section 1001 and Title 43 States any false, fictitious or fraudulent s	U.S.C. Section 1212, make it a statements or representations as	crime for any person knowingly and to any matter within its jurisdiction.	willfully to make to any departmer	nt or agency of the United					
	(Instructions on page 2) <b>** OPERAT</b>	OR-SUBMITTED ** O	PERATOR-SUBMITTED *	* OPERATOR-SUBMITT	ED **					

Denire 1 1623 N. Franch Dr., Hobla, NM 82240 Panor. (373) 393-6161 Fax. (373) 393-6720 Denire II. 8113 F. Frei S., Arnesia, NM 82310 Phone: (373) 744-1221 Fax. (373) 746-7270 Denire II. 1000 Ras Brazon Roed, Astoc, NM 87410 Phone: (303) 314-6178 Fax. (505) 314-647 for District IV. 1220 S. St. Francis Dr., Sante Fa. NM 8703 Phone: (303) 476-3460 Fax: (525) 476-3462 State of New Mexico IL COMSERVATION Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION St 1220 South St. Francis Dr EB 1 6 2017 Santa Fe, NM 87505

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

AMENDED REPORT

**XECEIVED** 

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number			Pool	Code				Pool Name			
30-01	5-	_	133	67	ſ	Cotton Drew Bore Spring					1
Рторе	rty Code				Property	Name				Well Number	
			CAL-	-MON M	DP1	"35" FE	DERAL			5H	
OGR	LID No.				Operator	Name				E	levation
166	56			<i>OX</i> 3	' US	A INC.				3469.0'	
	Surface Location - MOUEI) 136' Est										
UL or lot no.	Section	Township	Range		Lot Idn	Feet from the	North/South line	Feet from the	East/Wes	t lunc	County
A	35	23 SOUTH	31 EAST, N.	V.P.M.		110'	NORTH	890'	EAST		EDDY
	A		Bottom Hol	e Locatio	n If 1	Different H	From Surfac	e		d	<b></b>
UL ar lot no.	Section	Township	Range		Lot Ids	Feet from the	North/South line	Feet from the	East/Wes	t line	County
P 35 23 SOUTH 31 EAST,		31 EAST, N.I	И.Р.И.		180'	SOUTH	12 <b>6</b> 0'	EAS	r	EDDY	
Dedicated Acres Joint or Infill Cons		Consolidation Code	Order No.	<b>.</b>		L	L <u></u>				
160 Y				K	SL	7593	•				

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.



## 1. Geologic Formations

TVD of target	10184'	Pilot Hole Depth	N/A
MD at TD:	15010'	Deepest Expected fresh water:	785

## **Delaware Basin**

Formation	TVD - RKB	<b>Expected</b> Fluids
Rustler	785	Brine
Salado	1090	Brine/Losses
Castile	2965	
Lamar/Delaware	4415	
Bell Canyon	4471	Brine
Cherry Canyon	5235	Oil/Gas
Brushy Canyon	6611	Oil/Gas/Losses
Bone Spring	8288	Oil/Gas
1st Bone Spring	9362	Oil/Gas
2nd Bone Spring	9616	Oil/Gas

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

## 2. Casing Program

									Buoyant	Buoyant
Hole Size	Casing In	iterval	Csg. Size	Weight		SF	SF	<b>Body SF</b>	Joint SF	
(in)	From (ft)	To (ft)	(in)	(lbs)	Grade	Cont	Collapse	Burst	Tension	Tension
17.5	0	835	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	4465	9.625	36	1238	BTC	1.125	1.2	1.4	1.4
8.5	0	15010	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
								alues will	meet or Ex	ceed

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.

	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 <sup>rd</sup> 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 <sup>nd</sup> 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?	

## 3. Cementing Program

Casing	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H20 (gal/sk)	500# Comp. Strength (hours)	Slurry Description	
Surface	795	14.2	1.68	6.53	6:50	Class C Cement, Accelerator	
Intermediate	1291	12.9	1.74	8.67	15:07	Pozzolan Cement, Retarder	
Casing	158	14.8	1.326	6.34	6:31	Class C Cement, Retarder, Dispersant, Salt	
Production	690	10.2	3.057	15.65	19:09	Class C Cement	
Casing	954	13.2	1.631	8.37	15:15	Class H Cement, Retarder, Dispersant, Salt	

Casing String	Top of Lead (ft)	Bottom of Lead (ft)	Top of Tail (ft)	Bottom of Tail (ft)	% Excess Lead	% Excess Tail
Surface	N/A	N/A	0	835	N/A	100%
Intermediate Casing	0	3965	3965	4465	75%	20%
Production Casing	3965	9134	9134	15010	75%	15%

## 4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Туре		4	Tested to:
	13-5/8"		Annula	Annular		70% of workingpressure
10.05211-1-		5М	Blind Ra	nm	<ul> <li>✓</li> </ul>	
12.25" Hole			Pipe Ram			250/5000:
			Double R	am	1	250/5000psi
			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?						
Y Are anchors required by manufacturer? A multibowl or a unionized multibowl wellhead system will be employed. The wellheat 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 th system must be tested. We will test the flange connection of the wellhead with a test po 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.						

## 5. Mud Program

I	Depth		Weight			
From (ft) To (ft)		Туре	(ppg)	Viscosity	Water Loss	
0	835	Water-Based Mud	8.4-8.6	40-60	N/C	
835	4465	Brine	9.8-10.0	35-45	N/C	
4465	15010	Oil-Based Mud	8.2-9.2	35-50	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.

What will be used to monitor the loss or gain	PVT/MD Totco/Visual Monitoring
of fluid?	

## 6. Logging and Testing Procedures

Logg	ing, Coring and Testing.
Yes	Will run GR from TD to surface (horizontal well - vertical portion of hole). Stated logs
	run will be in the Completion Report and submitted to the BLM.
No	Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Addi	tional logs planned	Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

## 7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5084 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	162°F

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N	H2S is present
Y	H2S Plan attached

## 8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe.	Yes
• We plan to drill the four well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be	
secured with a night cap whenever the rig is not over the well.	
Will more than one drilling rig be used for drilling operations? If yes, describe.	Yes
• Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Oxy would not be able to preset surface, the Primary Rig will MIRU and	
drill the well in its entirety per the APD. Please see the attached document	
for information on the spudder rig.	

## Total estimated cuttings volume: 1517.7 bbls.

## 9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Philippe Haffner	Drilling Engineer	713-985-6379	832-767-9047
Diego Tellez	Drilling Engineer Supervisor	713-350-4602	713-303-4932
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
John Willis	Drilling Manager	713-366-5556	713-259-1417

Dstabase: Company: Project: Site: Well: Well: Wellbore: Design:	stabase:       HOPSPP         iompany:       ENGINEERING DESIGNS         roject:       PRD NM DIRECTIONAL PLANS (NAD 1983)         ite:       CAL-MON MDP1 35 FED         Velit:       CAL-MON MDP1 35 FED 5H         Velibore:       W800         Design:       Permitting Plan					Local Co-ordinate Reference:Well CAL-MON MDP1 35 FED 5HTVD Reference;Datum @ 3494 60ftMD Reference:Datum @ 3494 60ftNorth Reference:GridSurvey Calculation Method:Minimum Curvature						
Project	P	RD NA	I DIRECTION	IAL PLANS (	NAD 1983)							
Map System: Geo Datum: Map Zone:	n: US State Plane 1983 : North American Datum 1983 New Mexico Eastern Zone			System Da	System Datum: Mean Sea Level Using geodetic scale factor							
Site	C,	AL-M	ON MOP1 35	FED								
Site Position: From: Position Unce	Site Position: From: Map Position Uncertainty: 0.00		Norti Easti 00 ft Slot	Northing:         461,672.99 usft         L           Easting:         720,407.82 usft         L           Slot Radius:         13 200 in         G		Latitude: Longitude: Grid Convergence:			32° 16' 4.386302 N 03° 45' 14 322166 W 0.31 °			
Well	c	AL-MC	DN MDP1 35	FED 5H								
Well Position	ion +N/-S 14 44 ft +E/-W 3 415 54 ft		444 ft N 554 ft E	lorthing: asting:		461,687.4 723 823 1	1,687.43 usft Latitude: 3 823 17 usft Longitude:		32* 16' 4 345000 N 103* 44' 34 543583 W			
Position Unce	Position Uncertainty 2.0		200 ft V	Velihead Elev	vation:	٥	00 ft Gn	ound Level:		3,468 10 ft		
Wellbore	v	<b>VB0</b> 0										
Magnetics		Model Name		Samp	e Date	Declina (*)	Declination (*)		Dip Angle (*)		Field Strength (n1)	
			HDGM		5/24/2017		6 93		60.05		48, 182	
Design	P	emitt	ting Plan									
Audit Notes:												
Version:				Pha	se:	PROTOTYPE	т	ie On Depth:		0.00		
Vertical Section	on:	Depth F		epth From (' (ft)	TVD)	+N/-S (ft)	+N/-S +E/-W (ft) (ft)		Direction (*)			
				0.00		Q 00	i	0.00	11	83.94		
Plan Sections												
Measured Depth (ft)	Inclinati (*)	ion	Azimuth (*)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (*/100ft)	Build Rate (*/100ft)	Turn Rate (*/100ft)	TF0 (")	Target	
0 00	C	00 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
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9,134 69	9	9.99	278.98	9,106.99	51.75	5 -327 42	0.00	) 0.00	0.00	0.00		
9.634.28	(	0.00	179 70	9,604 04	58.53	3 -370 34	2 00	-2.00	000	180 00	CAL-MON MDP1 35	
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Database: Company: Project: Sita: Well: Well: Wellbora;	HOPSPP ENGINEERING DESIGNS PRD NM DIRECTIONAL PLANS (NAD 1983) CAL-MON MDP1 35 FED CAL-MON MDP1 35 FED 5H WB00	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well CAL-MON MDP1 35 FED 5H Datum @ 3494.60ft Datum @ 3494 60ft Grid Minimum Curvature
Design:	Permitting Plan		

Planned Survey

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Measured Depth (ft)	Inclination (")	Azimuth (*)	Vertical Depth (ft)	+N/-S (ft)	+ <b>E/-W</b> (f1)	Vertical Section (ft)	Dogieg Rate (*/100ft)	Build Rate ("/100ft)	Turn Rate (*/100ft)
0.00 100.00 200.00 300.00 400.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 100.00 200.00 300.00 400.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0 00 0 00 0.00 0.00 0.00	0 00 0.00 0.00 0.00 0.00	0.00 0 00 0 00 0 00 0 00	0.00 0.00 0.00 0.00 0.00 0.00
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COMPASS 5000.1 Build 74

#### Planned Survey

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Measured	Vertical				Vertical	Dogleg	Build	Turn	
Depth (ft)	inclination	Azimuth	Depth (ft)	+N/-S	+E/-W	Section (ft)	Rate (*/100ft)	Rate (*/100ft)	Rate (*/100ft)
5 400 00	0.00	0.00	5 400 00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	Q.DU	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800 00	0.00	0.00	0.00	0.00	0.00	0.00
5,900 00	U.U0	u 00	2,900.00	U.UD	0.00	0.00	0.00	0.00	0.00
6,000 00	0.00	0 00	6,000 00	0.00	0 00	0.00	0 00	0.00	0 00
6,100 00	0.00	0 00	6,100.00	0 00	0 00	0 00	0 00	0.00	0 00
6,200 00	0.00	0 00	6,200.00	0.00	0 00	0 00	0 00	0 00	0 00
6,300.00	0.00	0 00	6,300.00	0 00	0.00	0.00	0.00	0 00	0 00
5,400.00	0.00	0.00	6,400.00	0 00	0.00	0 00	0.00	0 00	0 00
6,500.00	0 00	0 00	6,500.00	0.00	0.00	0.00	0.00	0.00	0 00
6,600.00	0 00	0.00	6,600.00	0 00	0.00	0 00	0.00	0 00	0 00
6,700.00	0 00	0.00	6,700.00	0 00	0.00	0.00	0.00	0 00	0 00
6,800.00	0 00	0.00	6,800.00	0.00	0.00	0 00	0.00	0 00	0 00
6,900.00	0 00	0.00	6,900.00	0.00	0.00	0.00	0.00	0 00	0.00
6,975.00	0 00	0.00	6,975.00	0.00	0.00	0.00	0 00	0 00	0.00
7,000.00	0 50	278.98	7,000.00	0.02	-0.11	-0.01	2.00	2 00	0.00
7,100.00	2.50	278.98	7,099.96	0.43	-2.69	-0.24	2.00	2 00	0.00
7,200 00	4.50	278.98	7,199.77	1.38	-8 72	-0.78	2 00	2 00	0 00
7,300 00	6.50	278 98	7,299.30	2.87	-18 19	-1 62	2 00	2.00	0.08
7,400.00	8 50	278.98	7,398.44	4.91	-31 08	-2 77	2 00	2 00	0 00
7,474 58	9.99	278.98	7,472.05	6.78	-42 92	-3 82	2 00	2.00	0 00
7,500.00	9,99	278 98	7,497.09	7.47	-47 27	-4 21	0.00	0.00	0.00
7,600.00	9.99	278 98	7,595.57	10.18	-64 41 -81 55	-573	0.00	0.00	0.00
7,000 00	0.00	276.09	7 707 54	15 60	.08.60	9.79	0.00	0.00	0.00
7,800.00	9 99	278.90	7,792.04	15.00	-115 82	-10 31	0.00	0.00	0.00
8,000,00	0 00	278.98	7 989 50	21.01	-132 96	.11.83	000	0.00	0.00
8 100 00	0 00	278.98	8 087 99	23.72	-150 10	-13 36	0.00	0.00	0.00
8.200.00	9 99	278.98	8 186.47	26.43	-167.24	-14.88	0.00	0.00	0 00
8 300.00	9 99	278 98	8.284.95	29.14	-184.38	-16.41	0.00	0.00	0.00
8 400.00	9 99	278.98	8,383,44	31.85	-201 51	-17.93	0.00	0.00	0.00
8.500.00	9 99	278.98	8,481.92	34.56	-218.65	-19.46	0.00	0.00	0.00
8,600 00	9 <del>99</del>	278.98	8,580.40	37.27	-235.79	-20 98	0.00	0 00	0.00
8,700.00	9.99	278 98	8,678.89	39.98	-252.93	-22.51	0.00	0 00	0.00
8,800 00	9 99	278 98	8,777.37	42.68	-270.06	-24 03	0 00	0 00	0.00
8,900 00	9.99	278 98	8,875.85	45.39	-287.20	-25 56	0 00	0 00	0.00
9,000 00	9.99	278 <del>9</del> 8	8,974.34	48.10	-304.34	-27 08	0 00	0 00	0.00
9,100.00	9.99	278 <del>9</del> 8	9,072.82	50.81	•321.48	-28 61	0 00	0 00	0.00
9,134 69	9.99	278 98	9,106.99	51.75	+327.42	-29.13	0 00	0.00	0.00
9,200 00	8.69	278 98	9.171.43	53.40	-337.89	-30 07	2.00	-2 00	0 00
9,300 00	6.69	278 98	9,270 52	55.49	-351.10	-31.24	2 00	-2.00	0 00
9,400 00	4.69	278 98	9,370.03	57.04	-360.88	-32 11	2.00	-2 00	0 00
9,500 00	2.69	278 98	9,469.81	58.04	-367.23	-32 68	2.00	-2.00	0 00
9.600.00	0 69	278 98	9.569.77	58.50	-370.14	-32 94	2.0D	•2.00	0 00
9 634 28	0.00	179 70	9 604.04	58.53	-370.34	-32.95	2.00	-2.00	0 00
9 700 00	6 57	179 70	9.669.62	54.77	-370.32	-29 20	10 00	10.00	0 00
9 800 00	16.57	179 70	9,767.46	34.73	-370.21	-9.22	10.00	10.00	0 00
9 900.00	26.57	179 70	9,660.34	-1.99	-370.02	27.40	10.00	10.00	0.00
10 000.00	36 57	17970	9,945.43	-54.28	•369.74	79.55	10.00	10.00	0.00
10.100.00	46 57	179.70	10,020.15	-120.55	-369.39	145.64	10.00	10.00	0.00
10.200.00		179.70	10,004.22	-190./9	-300.90	243.0/	10.00	10.00	0.00
10,000 00	00.31		10.143.11	-200.02	-000.01	21120	10.00	10.00	0.00

COMPASS 5000.1 Build 74

#### Planned Survey

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Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(ft)	(*)	(*)	(ft)	(ft)	(ft)	(ft)	(*/100ft)	(*/100ft)	(*/100ft)
10,400.00	76.57	179.70	10,161.34	-381.37	-368.01	405.75	10.00	10.00	0.00
10,500.00	86.57	179.70	10,175.97	-480.16	-367.49	504.27	10.00	10.00	0 00
10,533.28	89,90	179.70	10,177.00	-513.42	-367.31	537.44	10.00	10.00	0.00
10,600.00	89.90	179.70	10,177.11	-580.14	-366.96	603.98	0.00	0.00	0.00
10,700.00	89.90	179.70	10,177.29	-680.14	-366.43	703.70	0.00	0.00	0.00
10,800.00	89.90	179.70	10,177,46	-780.14	-365.90	803.43	0.00	0 00	0.00
10,900.00	89.90	179.70	10,177.63	-880.14	-365.37	903.16	0.00	0.00	0.00
11,000.00	89.90	179.70	10,177.80	-980.13	-364.84	1,002.88	0.00	0.00	0.00
11,100.00	89.90	179.70	10,177.97	-1,080.13	-364.31	1,102.61	0.00	û. <b>0</b> 0	0.00
11,200.00	89.90	179.70	10,178,14	-1,180.13	-363.78	1,202.33	0.00	0.00	0.00
11,300,00	89.90	179.70	10,178.31	-1.280.13	-363.25	1,302.06	0 00	0.00	0 00
11,400 00	89.90	17 <del>9</del> .70	10,178.48	-1,380.13	-362.73	1,401.79	0 00	0.00	0 00
11,500 00	89.90	179.70	10, 178.65	-1,480.13	-362.20	1,501.51	0.00	0.00	0.00
11,600.00	89.90	179.70	10, 178.81	-1,580.12	-361.67	1,601.24	0.00	0.00	0 00
11,700.00	89.91	179 70	10, 178.98	-1,680.12	-361.14	1,700.96	0.00	0.00	0.00
11,800.00	89.91	179.70	10,179.14	-1,780.12	-360.61	1,800.69	0.00	0.00	0.00
11,900.00	89.91	179.70	10,179.31	-1,880 12	-360.08	1,900.42	0.00	0.00	0.00
12,000.00	89.91	179.70	10, 179.47	-1,980.12	-359.55	2,000.14	0.00	0.00	0.00
12,100.00	89.91	179.70	10, 179.63	-2,080.12	-359.02	2,099.87	0.00	0.00	0.00
12,200.00	89.91	179.70	10, 179.79	-2,180.12	-358.49	2,199.59	0.00	0.00	0.00
12,300.00	89.91	179.70	10,179.95	-2,280.11	-357.96	2,299.32	0.00	0.00	0.00
12,400.00	89.91	179.70	10,180 11	-2,380.11	-357.43	2,399.04	0.00	0.00	0.00
12,500.00	89.91	179.70	10,180.27	-2,480.11	-356.90	2,498.77	0.00	0 00	0.00
12,600.00	89.91	179.70	10,180.43	-2,580.11	-356.37	2,598.50	0 00	0.00	0.00
12,700.00	89.91	179.70	10,180 59	-2,680.11	-355.85	2,698.22	0 00	0.00	0.00
12,800.00	89 91	179.70	10,180.75	-2,780.11	-355.32	2,797.95	0 00	0.00	0.00
12,900.00	89.91	179 70	10,180.90	-2,880 10	-354 79	2,897.67	0.00	0.00	0.00
13,000.00	89.91	179.70	10,181.06	-2,980 10	-354 26	2,997.40	0 00	0.00	0 00
13,100.00	89.91	179.70	10,181.21	-3,080 10	-353.73	3,097.13	0.00	0.00	0 00
13,200.00	89.91	179.70	10,181.36	-3,180.10	-353 20	3,196.85	0.00	0.00	0.00
13,300.00	89.91	179.70	10,181.52	-3,280.10	-352.67	3,296.58	0.00	0.00	0 00
13,400.00	89.91	179.70	10,181.67	-3,380.10	-352.14	3,3 <del>9</del> 6,30	0 00	0.00	0.00
13,500.00	89.91	179.70	10,181.82	-3.480.10	-351.61	3,495.03	0.00	0.00	0.00
13,600.00	89.91	179.70	10,181.97	-3.580.09	-351.08	3,595.75	0.00	0 00	0.00
13,700.00	89.91	179.70	10,182.12	-3,680.09	-350.55	3,695.48	0.00	0 00	0.00
13, <b>800</b> .00	89 92	179.70	10,182.27	-3,780.09	-350.02	3,795.21	0.00	0 00	0.00
13,900.00	89.92	179.70	10,182.41	-3,880.09	-349.49	3,894.93	0.00	0 00	0.00
14,000 00	89.92	179.70	10,182.56	-3,980.09	-348.96	3,994 66	0.00	0.00	0.00
14,100.00	89.92	179.70	10,182.71	-4,080.09	-348.44	4,094.38	0 00	0.00	0.00
14,200.00	89 <del>9</del> 2	179.70	10,182.85	-4,180.09	-347.91	4,194 11	0 00	0.00	0.00
14,300 00	89.92	179 70	10,183.00	-4,280.08	-347.38	4,293 84	0.00	0.00	0.00
14,400 00	89.92	179 70	10,183.14	-4,380.08	-346.85	4,393 56	0.00	0.00	0.00
14,500.00	89.92	179.70	10,183.28	-4,480.08	-346.32	4,493.29	0.00	0.00	0.00
14,600.00	89.92	179.70	10,183.43	-4,580.08	-345.79	4,593.01	0 00	0.00	0.00
14,700.00	89.92	179.70	10, 183.57	-4,680.08	-345 26	4,692.74	0.00	0.00	0 00
14,800.00	89.92	179 70	10,183.71	-4,780 08	-344.73	4,792.47	0.00	0.00	0.00
14,900.00	89.92	179.70	10, 183.85	-4,880 07	-344.20	4,892.19	0.00	0.00	0 00
15,000.00	89.92	179.70	10,183.99	-4,980.07	-343.67	4,991.92	0.00	0.00	0.00
15,009.97	89.92	179.70	10,184.00	-4,990.04	-343.62	5,001.86	0.01	0 01	0.00

## Design Targets

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Target Name - hit/miss target - Shape	Dip Angle (")	Dip Dir. (*)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CAL-MON MDP1 35 - plan hits target ce - Point	0.00 Inter	0.00	9,604.04	58 53	-370 34	461,745.96	723 <b>,452.85</b>	32' 16 4 944322 N	103' 44' 38 852854
CAL-MON MDP1 35 - plan hits target ce - Point	0 00 Enter	0 00	10, <b>184 00</b>	-4.990 04	-343.62	456,697.66	723 479.57	32' 15' 14 987509 N	103° 44' 38.864405

#### Plan Annotations

Measured	Vertical	Local Coor	dinates	
Depth (ft)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
6,975.00	6,975 00	0.00	0.00	STEP OUT DLS 2.00
7,474.58	7,472 05	6.78	-42 92	HOLD 10 DEG TANGENT
9,134 69	9,106,99	51.75	-327.42	DROP BACK TO VERTICAL DLS 2 00
9,634 28	9,604 04	58 53	-370.34	BUILD CURVE 10 DEG / 100
10,533 28	10,177.00	-513 42	-367.31	LANDING POINT
15 009 97	10,184 00	-4,990 04	-343.62	TD at 15009 97



#### Surface Use Plan of Operations

Operator Name/Number:	<u>OXY USA Inc. – 16696</u>
Lease Name/Number:	Cal-Mon MDP1 35 Federal #5H
Pool Name/Number:	Cotton Draw Bone Spring 13367
Surface Location:	110 FNL 1026 FEL NENE (A) Sec 35 T23S R31E - NMNM19199
Bottom Hole Location:	180 FSL 1260 FEL SESE (P) Sec 35 T23S R31E - NMNM19199

#### \*Due to buried pipeline the surface location was moved 136' east.

#### 1. Existing Roads

- a. A copy of the USGS "Bootleg Ridge, NM" quadrangle map is attached showing the proposed location. The well location is spotted on the map, which shows the existing road system.
- b. The well was staked by Terry J Asel, Certificate No. 15079 on 1/8/18, certified 1/16/18.
- c. Directions to Location: From the intersection of SH 128 and CR 798, go north on CR 798 for 1.0 miles. Turn left on caliche road and go west for 0.2 miles. Turn right on proposed road and go north for 142.5 feet to location.

#### 2. New or Reconstructed Access Roads:

- a. A new access road will be built. The access road will run approximately 142.5' north through pasture to the southwest corner of the pad.
- b. The maximum width of the road will be 14'. It will be crowned and made up of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
- c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 1%.
- d. No cattle guards, grates or fence cuts will be required. Turnouts are planned every 1000' as needed.
- e. Blade, water and repair existing caliche roads as needed.
- f. Water Bars will be incorporated every 200' during the construction of the road.

#### 3. Location of Existing Wells:

Existing wells within a one mile radius of the proposed well are shown on attached plat.

#### 4. Location of Existing and/or Proposed Facilities:

- a. In the event the well is found productive, the Cal-Mon 35 central tank battery would be utilized and the necessary production equipment will be installed at the well site. See proposed facilities layout diagram.
- b. All flow lines will adhere to API standards. They will consist of 2 4" composite flowlines operating < 75% MAWP, surface and 1 4" composite gas lift supply line operating <1500 psig, buried, lines to follow surveyed route. Survey of a strip of land 30' wide and 873.5' in length crossing Fee Land in Section 35 T23S R31E NMPM and 5128.4' in length crossing USA Land in Section 35, T23S, R31E, NMPM, Eddy County, NM and then 490.1' in length crossing Fee Land in Section 26 T23S R31E NMPM being 15' left and 15' right of the centerline survey, see attached.</p>
- c. Electric line will follow a route approved by the BLM. Survey of a strip of land 30' wide and 576.6' in length crossing Fee Land in Section 35 T23S R31E NMPM, Eddy County, NM and being 15' left and 15' right of the centerline survey, see attached.
- d. See attached for additional information on the Cal-Mon Development Surface Production Facilities

### 5. Location and types of Water Supply

This well will be drilled using a combination of water mud systems. It will be obtained from commercial water stations in the area and will be hauled to location by transport truck using existing and proposed roads. See attached for information on the fresh water station.

### 6. Construction Materials:

#### Primary

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM/State/Fee approved pit or from prevailing deposits found on the location. Will use BLM recommended extra caliche from other locations close by for roads, if available.

#### Secondary

The secondary way of obtaining caliche to build locations and roads will be by "turning over" the location. This means, caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cubic yards is max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

- a. The top 6" of topsoil is pushed off and stockpiled along the side of the location.
- b. An approximate 120' X 120' area is used within the proposed well site to remove caliche.
- c. Subsoil is removed and piled alongside the 120' X 120' within the pad site.
- d. When caliche is found, material will be stockpiled within the pad site to build the location and road.
- e. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
- f. Once the well is drilled the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in the attached plat.

#### 7. Methods of Handling Waste Material:

- a. A closed loop system will be utilized consisting of above ground steel tanks and haul-off bins. Disposal of liquids, drilling fluids and cuttings will be disposed of at an approved facility. Solids-CRI, Liquids-Laguna
- b. All trash, junk and other waste material will be contained in trash cages or bins to prevent scattering. When the job is completed, all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier, including broken sacks, will pickup slats remaining after completion of well.
- d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Disposal of fluids to be transported will be by the following companies. TFH Ltd, Laguna SWD Facility

#### 8. Ancillary Facilities: None needed.

#### 9. Well Site Layout:

The well site layout with dimensions of the pad layout and equipment location.

V-Door – East CL Tanks – North Pad – <u>330' X 535' – Four Well Pad</u>

### 10. Plans for Surface Reclamation:

a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original topsoil will again be returned to the pad and contoured, as close as

possible, to the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.

 b. If the well is deemed commercially productive, caliche from the areas of the pad site not required for operations will be reclaimed. The original topsoil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.

#### 11. Surface Ownership:

The surface in the NENE/4 of Section 35 T23S R31E is owned by OXY USA Inc. The minerals are owned by the U.S. Government and administered by the BLM. The surface is of limited use except for the grazing of livestock and the production of oil and gas.

#### 12. Other Information:

- a. The vegetation cover is generally sparse consisting of mesquite, yucca, shinnery oak, sandsage and perennial native range grass. The topsoil is sandy in nature. Wildlife in the area is also sparse consisting of deer, coyotes, rabbits, rodents, reptiles, dove and quail.
- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within one mile of the proposed well site.
- d. Cultural Resources Examination-This well is located in the Permian Basin PA. Payment made 7/20/17, Receipt No. 3896906. This well shares the same pad as the Cal-Mon MDP1 35 Federal #6H.

Pad + ¼ mile road	<u>\$1550.00</u>	\$.24/ft over ¼ mile	<u>\$ 0.00</u>	<u>\$1550.00</u>
Pipeline-up to 1 mile	<u>\$1431.00</u>	\$.27/ft over 1 mile	<u>\$ 0.00</u>	<u>\$1431.00</u>
Electric Line-up to 1 mile	<u>\$717.00</u>	\$.11/ft over 1 mile	<u>\$ 0.00</u>	<u>\$ 717.00</u>
Total	<u>\$3698.00</u>		<u>\$_0.00</u>	<u>\$3698.00</u>

e. Copy of this application has been mailed to SWCA Environmental Consultants, 5647 Jefferson St. NE, Albuquerque, NM 87109. No Potash leases within one mile of surface location.

#### 13. Bond Coverage:

Bond coverage is Individual-NMB000862, Nationwide-ESB00226.

#### 14. Operators Representatives:

The OXY Permian representatives responsible for ensuring compliance of the surface use plan are listed below:

Van Barton
Supt. Operations
1502 West Commerce Dr.
Carlsbad, NM 88220
Office - 575-628-4111
Cellular - 575-706-7671
Jim Wilson

Operation Specialist P.O. Box 50250 Midland, TX 79710 Cellular – 575-631-2442 Corrie Hartman Manager Asset P.O. Box 4294 Houston, TX Carlsbad, NM 88220 Office – 713-215-7084 Cellular – 832-541-3190

Cuong Q. Phan RMT Leader P.O. Box 4294 Houston, TX 77210 Office – 713-513-6645 Cellular – 281-832-0978





VICINITY MAP

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24	; 5	20	R3 21	0E 22	23	24	19	20	R3	1E 22	22	¢	
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SEC	SEC. 35 IWP.23-S RGE 31-E SURVEY												
DESCRIPTION 110' FNL & 890' FEL     ASEL SURVEYING       ELEVATION													
LEASE CAL-MON MOPT "35" FEDERA ASH													
DIRECTIONS BEGINNING AT THE INTERSECTION OF HWY #128 AND COUNTY ROAD #798 (RED ROAD).													
<u>CO NO</u> FOR C	DRTH OI D 2 MILE	<u>V COUN</u> IS, TUR	ITY ROA N RIGH	<u>5 #798</u> T ON P	S FOR PROPOSE	<u>i o Mili</u> Ed Roai	<u>es, tur</u> d and	<u>rn left</u> Go nof	<u>ON C</u> RTH FO	AL-CHE R 142.5	<u>road a</u> 5 feet	IND TO TO LO	ATION.
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B. Try OSA

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	OXY U.S.A. INC.	
	NEW MEXICO STAKING FORM	
Date Staked:	1-8-18	-
Loaco / Well Name-	CIAL-MON MARI 25 Fod #5H	
Lease y wenterner	LIAL CALL COLLECT CONTROL AND	<u>-</u>
Legal Description:	110 FNL 890'FEL Sec 35 1235 R.SIC	<u> </u>
Latitude:	32° 16' 04.35" NAI	D 83
Longitude:	-103° 44' 34.54" NAI	D 83
X:	723823.17 NAI	D 83
۲:	461687.43 NAI	D 83
Elevation:	3469.0 NA	D 83
Move information:		
County:	Eddy	tanas m
Surface Owner	0 × 4	
Nearest Residence:		and management of the second
Nearest Water Well:		
V Door:	E45T	
Top soil:	West	
Road Description		
New Road:		n
Upgrade Existing Road	a a su a	
Interim Reclamation:	50' North	
Source of Caliche:		
Onsite Attendees: 1)41E		

# PERFORMANCE DATA

TMK UP DQX Technical Data Sheet

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Size         5.500         in         Minimum Yield         110.000         psi           Nominal Weight         20.00         Ibs/ft         Minimum Tensile         125,000         psi           Grade         P-110         Yield Load         641,000         lbs         ft           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         11100         psi           Drift Diameter         4.653         in         Connection Parameters         1100         psi           Connection OD         6.050         in         Connection Parameters         1100         psi           Connection OD         6.050         in         Connection Parameters         1100         psi           Connection Area         5.828         in*         Compression Efficiency         100.0         Conpression Efficiency         100.0         Conservert         100.0         Conservert         1100         psi           Make-Up Torque 5         11.00         psi         11.00         psi         11.00	Tubular Parameters	alle vite en son fall le tit en skendete klittet anvan dalfartale. On o	anner far serfiggeganer forder – offerande far i s	анар намалары талаларынын калар армактан <b>арма</b> рынан <mark>ама</mark> лары калар таларын каларык каларык каларык каларык кала		
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GradeP-110Yield Load641.000IbsPE Weight19.81Ibs/ftTensile Load729.000ibsWall Thickness0.361inMin. Internal Yield Pressure12,600psiNominal ID4.778inCollapse Pressure11.100psiDrift Diameter4.653inInInInNom Pipe Body Area5.828in?InInConnection Parameters6.050inInInConnection OD6.050inInConnection ID4.778InMake-Up Loss4.122inCritical Sectior Area5.828In?Tension Efficiency10.0%Vield Load In Tension641.900Make-Up Torques11.100Make-Up Torques11.600Make-Up Torques11.600Make-Up Torques11.600Make-Up Torque12.90IbsIbsMake-Up Torque2.50Make-Up Torque2.50Make-Up Torque2.50Make-Up Torque2.50Make-Up TorqueMake-Up TorqueAt 1.00Fi-IbsMake-Up TorqueAt 1.00Fi-IbsMake-Up TorqueAt 1.00Fi-IbsMake-Up TorqueAt 1.00Fi-IbsMake-Up TorqueAt 1.00Make-Up TorqueAt 1.00At 1.00At 1.00At 1.00<	Nominal Weight	20.00	lbs/ft	Minimum Tensile	125,000	psi
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	ieir' Torque	∠ 6°	f/			

#### Printed on July-29-2014

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5.500 in 20.00 lbs/ft P-110

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Oxy USA Incorporated
LEASE NO.:	NM19199
WELL NAME & NO.:	Cal-Mon MDP1 35 Federal 5H
SURFACE HOLE FOOTAGE:	110'/N & 890'/E
BOTTOM HOLE FOOTAGE	180'/S & 1260'/E
LOCATION:	Section 35, T.23 S., R.31 E., NMPM
COUNTY:	Eddy

Potash	• None	Secretary	C R-111-P
Cave/Karst Potential	C Low		C High
Variance		Flex Hose	C Other
Wellhead	Conventional	Multibowl	
Other	□4 String Area	Capitan Reef	□WIPP

All previous COAs still apply except for the following:

## A. CASING

Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

1. The minimum required fill of cement behind the 9 5/8 inch second intermediate casing is:

## **Option 1:**

• 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 Potash.

## **Option 2:**

Operator has proposed DV tool and 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 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

MHH 02122018

# **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.
- 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 <u>24</u> hours. WOC time will be recorded in the driller's log.
- <u>Wait on cement (WOC) for Water Basin:</u> 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 <u>8 hours</u>. 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.