

Submit a Copy To Appropriate District Office
District I – (575) 393-6161
 1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
 811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
 1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
 Energy, Minerals and Natural Resources

Form C-103
 Revised July 18, 2013

OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

WELL API NO. 30-025-52118
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No. 330703
7. Lease Name or Unit Agreement Name Senile Felines 18 7 State Com
8. Well Number 13H
9. OGRID Number 16696
10. Pool name or Wildcat RED TANK; BONE SPRING, EAST

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) 1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐ 2. Name of Operator OXY USA Inc. 3. Address of Operator 5 Greenway Plaza, Suite 110, Houston, Texas 4. Well Location Unit Letter <u>O</u> : <u>340</u> feet from the <u>South</u> line and <u>1500</u> feet from the <u>East</u> line Section <u>18</u> Township <u>22S</u> Range <u>33E</u> NMPM County <u>LEA</u> 11. Elevation (Show whether DR, RKB, RT, GR, etc.) <u>3631' (GL)</u>	
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12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐ TEMPORARILY ABANDON ☐ CHANGE PLANS ☒ PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐ DOWNHOLE COMMINGLE ☐ CLOSED-LOOP SYSTEM ☐ OTHER: ☐		SUBSEQUENT REPORT OF: REMEDIAL WORK ☐ ALTERING CASING ☐ COMMENCE DRILLING OPNS. ☐ P AND A ☐ CASING/CEMENT JOB ☐ OTHER: ☐	
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13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

OXY USA Inc., respectfully requests approval to amend the subject well AAPD. The SHL change is noted below and updated C102 well plat with HSU change. Also, see the attached drilling documents to update casing to 3S Slim design w/ new VAM connection.

Old SHL: 340 FSL 1410 FEL, O-18-22S-33E
 New SHL: 340 FSL 1500 FWL, O-18-22S-33E

Old HSU: E/2 of Sections 7 & 18
 New HSU: E/2 of W/2 & W/2 of E/2 of Sections 7 & 18

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Melissa Guidry TITLE Regulatory Advisor Sr. DATE 05/22/24

Type or print name Melissa Guidry E-mail address: melissa_guidry@oxy.com PHONE: (713) 497-2481

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
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District IV
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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 30-025-52118	² Pool Code 51687	³ Pool Name RED TANK; BONE SPRING, EAST
⁴ Property Code 330703	⁵ Property Name SENILE FELINES 18 7 STATE COM	⁶ Well Number 13H
⁷ OGRID No. 16696	⁸ Operator Name OXY USA INC.	⁹ Elevation 3631'

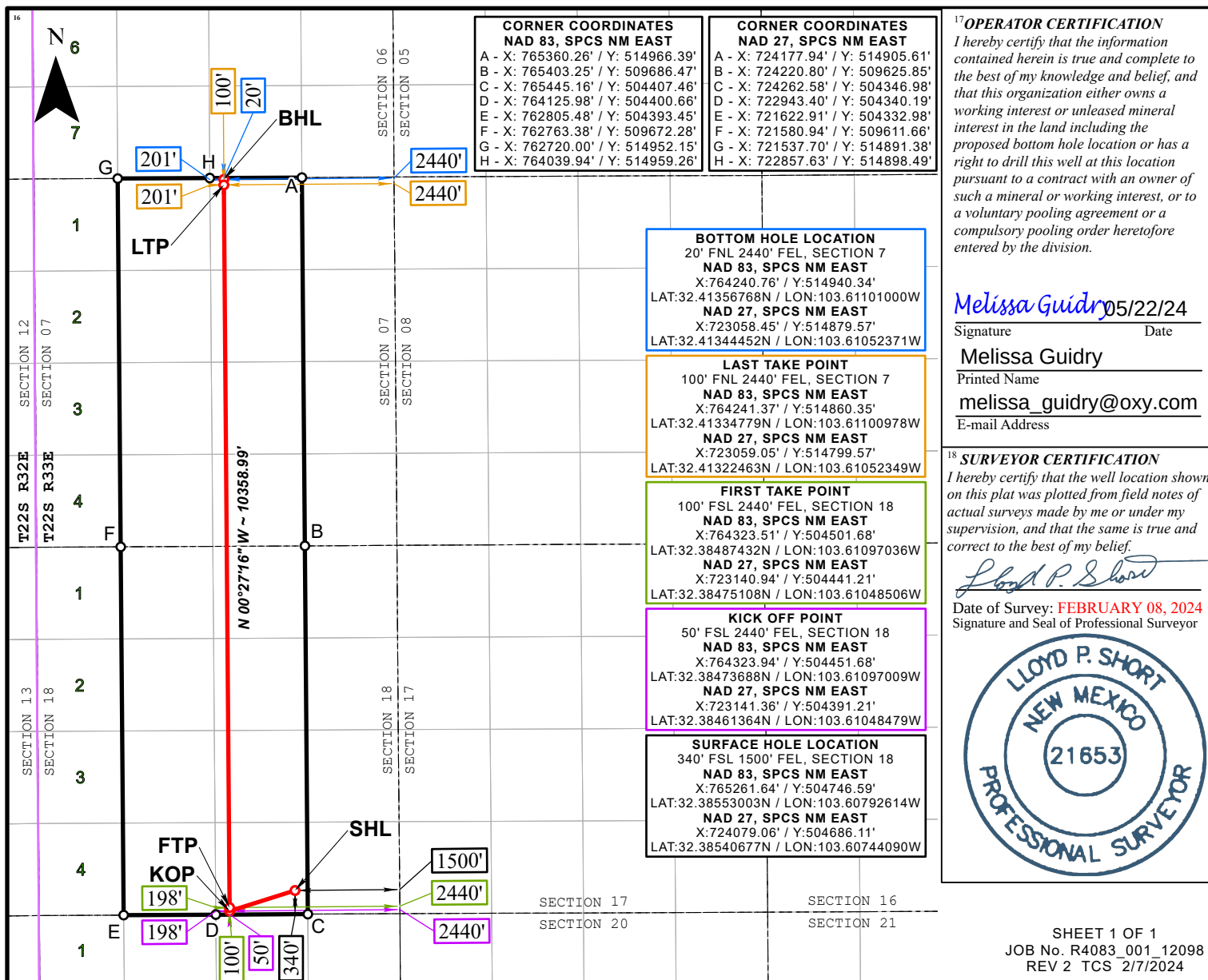
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	18	22S	33E		340	SOUTH	1500	EAST	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
B	7	22S	33E		20	NORTH	2440	EAST	LEA
¹² Dedicated Acres 640.00	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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.



Oxy USA Inc. - Senile Felines 18_7 State Com 13H

Drill Plan

1. Geologic Formations

TVD of Target (ft):	9450	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	19801	Deepest Expected Fresh Water (ft):	879

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	879	879	
Salado	1550	1550	Salt
Castile	2786	2786	Salt
Delaware	4853	4839	Oil/Gas/Brine
Bell Canyon	4933	4918	Oil/Gas/Brine
Cherry Canyon	5942	5911	Oil/Gas/Brine
Brushy Canyon	7132	7083	Losses
Bone Spring	8801	8727	Oil/Gas
Bone Spring 1st	9914	9840	Oil/Gas
Bone Spring 2nd			Oil/Gas
Bone Spring 3rd			Oil/Gas
Wolfcamp			Oil/Gas
Penn			Oil/Gas
Strawn			Oil/Gas

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

2. Casing Program

Section	Hole Size (in)	MD		TVD		Csg. OD (in)	Csg Wt. (ppf)	Grade	Conn.
		From (ft)	To (ft)	From (ft)	To (ft)				
Surface	17.5	0	939	0	939	13.375	54.5	J-55	BTC
Intermediate	9.875	0	8827	0	8751	7.625	26.4	L-80 HC	BTC
Production	6.75	0	19801	0	9450	5.5	20	P-110	Sprint-SF

All casing strings will be tested in accordance with 43 CFR part 3170 Subpart 3172

All Casing SF Values will meet or exceed those below			
SF Collapse	SF Burst	Body SF Tension	Joint SF Tension
1.00	1.100	1.4	1.4

	Y or N
Is casing new? If used, attach certification as required in 43 CFR 3160	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?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
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?	

3. Cementing Program

Section	Stage	Slurry:	Sacks	Yield (ft ³ /ft)	Density (lb/gal)	Excess:	TOC	Placement	Description
Surface	1	Surface - Tail	981	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	194	1.68	13.2	5%	7,382	Circulate	Class C+Ret., Disper.
Int.	2	Intermediate 2S - Tail BH	1314	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	650	1.84	13.3	25%	8,327	Circulate	Class C+Ret.

Offline Cementing Request

Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365. Please see Offline Cementing Variance attachment for further details.

Bradenhead CBL Request

Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8" intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019. Please see Bradenhead CBL Variance attachment for further details.

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type		✓	Tested to:	Deepest TVD Depth (ft) per Section:
9.875" Hole	13-5/8"	5M	Annular		✓	70% of working pressure	8751
		5M	Blind Ram		✓	250 psi / 5000 psi	
			Pipe Ram				
			Double Ram		✓		
			Other*				
6.75" Hole	13-5/8"	5M	Annular		✓	70% of working pressure	9450
		5M	Blind Ram		✓	250 psi / 5000 psi	
			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 43 CFR part 3170 Subpart 3172 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.

	Formation integrity test will be performed per 43 CFR part 3170 Subpart 3172. 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 43 CFR part 3170 Subpart 3172.
	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 43 CFR part 3170 Subpart 3172 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.

BOP Break Testing Request

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019. Please see BOP Break Testing Variance attachment for further details.

Oxy will use Cameron ADAPT wellhead system that uses an OEC top flange connection. This connection has been fully vetted and verified by API to Spec 6A and carries an API monogram.

5. Mud Program

Section	Depth - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	939	0	939	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	939	8827	939	8751	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	8827	19801	8751	9450	Water-Based or Oil-Based Mud	8.0 - 9.6	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.

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring
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6. Logging and Testing Procedures

Logging, 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	
Additional logs planned		Interval
No	Resistivity	
No	Density	
Yes	CBL	Production string
Yes	Mud log	Bone Spring – TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4718 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	156°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

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 43 CFR part 3170 Subpart 3172. 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. We plan to drill the 3 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.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. 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.	Yes
Total Estimated Cuttings Volume: 1513 bbls	

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)

Senile Felines 18_7

Senile Felines 18_7 State Com 13H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

29 April, 2024

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Senile Felines 18_7 State Com 13H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3656.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3656.00ft
Site:	Senile Felines 18_7	North Reference:	Grid
Well:	Senile Felines 18_7 State Com 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Project	PRD NM DIRECTIONAL PLANS (NAD 1983)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site		Senile Felines 18_7			
Site Position:		Northing:	504,962.34 usft	Latitude:	32.386155
From:	Map	Easting:	763,528.05 usft	Longitude:	-103.613537
Position Uncertainty:		0.89 ft	Slot Radius:	13.200 in	

Well	Senile Felines 18_7 State Com 13H					
Well Position	+N/-S	0.00 ft	Northing:	504,746.59 usf	Latitude:	32.385530
	+E/-W	0.00 ft	Easting:	765,261.64 usf	Longitude:	-103.607926
Position Uncertainty		1.79 ft	Wellhead Elevation:	ft	Ground Level:	3,631.00 ft
Grid Convergence:		0.39 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	9/21/2023	6.25	59.98	47,594.80000000

Design	Permitting Plan			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	354.28

Plan Survey Tool Program	Date	4/29/2024		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,801.05	Permitting Plan (Wellbore #1)	B005Mc_MWD+HRGM+SA MWD+HRGM+Sag+MSA

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,265.00	0.00	0.00	3,265.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,264.71	10.00	249.31	4,259.65	-30.74	-81.38	1.00	1.00	0.00	249.31	
8,926.63	10.00	249.31	8,850.78	-316.70	-838.48	0.00	0.00	0.00	0.00	
9,861.05	90.00	359.55	9,450.00	254.42	-942.12	10.00	8.56	11.80	109.95	
19,801.05	90.00	359.55	9,450.00	10,194.11	-1,020.92	0.00	0.00	0.00	0.00	PBHL (Senile)

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Senile Felines 18_7 State Com 13H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3656.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3656.00ft
Site:	Senile Felines 18_7	North Reference:	Grid
Well:	Senile Felines 18_7 State Com 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
879.00	0.00	0.00	879.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSTLER									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,550.00	0.00	0.00	1,550.00	0.00	0.00	0.00	0.00	0.00	0.00
SALADO									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,786.00	0.00	0.00	2,786.00	0.00	0.00	0.00	0.00	0.00	0.00
CASTILE									
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,265.00	0.00	0.00	3,265.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 1°/100'									
3,300.00	0.35	249.31	3,300.00	-0.04	-0.10	-0.03	1.00	1.00	0.00
3,400.00	1.35	249.31	3,399.99	-0.56	-1.49	-0.41	1.00	1.00	0.00
3,500.00	2.35	249.31	3,499.93	-1.70	-4.51	-1.24	1.00	1.00	0.00
3,600.00	3.35	249.31	3,599.81	-3.46	-9.16	-2.53	1.00	1.00	0.00
3,700.00	4.35	249.31	3,699.58	-5.83	-15.44	-4.26	1.00	1.00	0.00
3,800.00	5.35	249.31	3,799.22	-8.82	-23.35	-6.45	1.00	1.00	0.00
3,900.00	6.35	249.31	3,898.70	-12.42	-32.88	-9.08	1.00	1.00	0.00
4,000.00	7.35	249.31	3,997.99	-16.63	-44.04	-12.16	1.00	1.00	0.00
4,100.00	8.35	249.31	4,097.05	-21.46	-56.82	-15.69	1.00	1.00	0.00
4,200.00	9.35	249.31	4,195.86	-26.90	-71.21	-19.67	1.00	1.00	0.00
4,264.71	10.00	249.31	4,259.65	-30.74	-81.38	-22.48	1.00	1.00	0.00
Hold 10° Tangent									
4,300.00	10.00	249.31	4,294.40	-32.90	-87.11	-24.06	0.00	0.00	0.00
4,400.00	10.00	249.31	4,392.88	-39.04	-103.35	-28.54	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Senile Felines 18_7 State Com 13H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3656.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3656.00ft
Site:	Senile Felines 18_7	North Reference:	Grid
Well:	Senile Felines 18_7 State Com 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.00	10.00	249.31	4,491.36	-45.17	-119.59	-33.03	0.00	0.00	0.00
4,600.00	10.00	249.31	4,589.84	-51.30	-135.83	-37.51	0.00	0.00	0.00
4,700.00	10.00	249.31	4,688.33	-57.44	-152.07	-42.00	0.00	0.00	0.00
4,800.00	10.00	249.31	4,786.81	-63.57	-168.31	-46.48	0.00	0.00	0.00
4,853.00	10.00	249.31	4,839.00	-66.82	-176.92	-48.86	0.00	0.00	0.00
DELAWARE									
4,900.00	10.00	249.31	4,885.29	-69.71	-184.56	-50.97	0.00	0.00	0.00
4,933.22	10.00	249.31	4,918.00	-71.74	-189.95	-52.46	0.00	0.00	0.00
BELL CANYON									
5,000.00	10.00	249.31	4,983.77	-75.84	-200.80	-55.46	0.00	0.00	0.00
5,100.00	10.00	249.31	5,082.25	-81.97	-217.04	-59.94	0.00	0.00	0.00
5,200.00	10.00	249.31	5,180.73	-88.11	-233.28	-64.43	0.00	0.00	0.00
5,300.00	10.00	249.31	5,279.22	-94.24	-249.52	-68.91	0.00	0.00	0.00
5,400.00	10.00	249.31	5,377.70	-100.38	-265.76	-73.40	0.00	0.00	0.00
5,500.00	10.00	249.31	5,476.18	-106.51	-282.00	-77.88	0.00	0.00	0.00
5,600.00	10.00	249.31	5,574.66	-112.64	-298.24	-82.37	0.00	0.00	0.00
5,700.00	10.00	249.31	5,673.14	-118.78	-314.48	-86.85	0.00	0.00	0.00
5,800.00	10.00	249.31	5,771.62	-124.91	-330.72	-91.34	0.00	0.00	0.00
5,900.00	10.00	249.31	5,870.11	-131.05	-346.96	-95.82	0.00	0.00	0.00
5,941.52	10.00	249.31	5,911.00	-133.59	-353.70	-97.68	0.00	0.00	0.00
CHERRY CANYON									
6,000.00	10.00	249.31	5,968.59	-137.18	-363.20	-100.31	0.00	0.00	0.00
6,100.00	10.00	249.31	6,067.07	-143.31	-379.44	-104.79	0.00	0.00	0.00
6,200.00	10.00	249.31	6,165.55	-149.45	-395.68	-109.28	0.00	0.00	0.00
6,300.00	10.00	249.31	6,264.03	-155.58	-411.92	-113.76	0.00	0.00	0.00
6,400.00	10.00	249.31	6,362.51	-161.72	-428.16	-118.25	0.00	0.00	0.00
6,500.00	10.00	249.31	6,461.00	-167.85	-444.40	-122.73	0.00	0.00	0.00
6,600.00	10.00	249.31	6,559.48	-173.98	-460.64	-127.22	0.00	0.00	0.00
6,700.00	10.00	249.31	6,657.96	-180.12	-476.88	-131.70	0.00	0.00	0.00
6,800.00	10.00	249.31	6,756.44	-186.25	-493.12	-136.19	0.00	0.00	0.00
6,900.00	10.00	249.31	6,854.92	-192.38	-509.36	-140.67	0.00	0.00	0.00
7,000.00	10.00	249.31	6,953.40	-198.52	-525.60	-145.16	0.00	0.00	0.00
7,100.00	10.00	249.31	7,051.89	-204.65	-541.84	-149.64	0.00	0.00	0.00
7,131.59	10.00	249.31	7,083.00	-206.59	-546.97	-151.06	0.00	0.00	0.00
BRUSHY CANYON									
7,200.00	10.00	249.31	7,150.37	-210.79	-558.08	-154.13	0.00	0.00	0.00
7,300.00	10.00	249.31	7,248.85	-216.92	-574.32	-158.61	0.00	0.00	0.00
7,400.00	10.00	249.31	7,347.33	-223.05	-590.56	-163.10	0.00	0.00	0.00
7,500.00	10.00	249.31	7,445.81	-229.19	-606.80	-167.58	0.00	0.00	0.00
7,600.00	10.00	249.31	7,544.29	-235.32	-623.04	-172.07	0.00	0.00	0.00
7,700.00	10.00	249.31	7,642.78	-241.46	-639.28	-176.55	0.00	0.00	0.00
7,800.00	10.00	249.31	7,741.26	-247.59	-655.52	-181.04	0.00	0.00	0.00
7,900.00	10.00	249.31	7,839.74	-253.72	-671.76	-185.52	0.00	0.00	0.00
8,000.00	10.00	249.31	7,938.22	-259.86	-688.00	-190.01	0.00	0.00	0.00
8,100.00	10.00	249.31	8,036.70	-265.99	-704.24	-194.49	0.00	0.00	0.00
8,200.00	10.00	249.31	8,135.18	-272.13	-720.48	-198.98	0.00	0.00	0.00
8,300.00	10.00	249.31	8,233.67	-278.26	-736.72	-203.46	0.00	0.00	0.00
8,400.00	10.00	249.31	8,332.15	-284.39	-752.96	-207.95	0.00	0.00	0.00
8,500.00	10.00	249.31	8,430.63	-290.53	-769.20	-212.44	0.00	0.00	0.00
8,600.00	10.00	249.31	8,529.11	-296.66	-785.44	-216.92	0.00	0.00	0.00
8,700.00	10.00	249.31	8,627.59	-302.80	-801.68	-221.41	0.00	0.00	0.00
8,800.00	10.00	249.31	8,726.07	-308.93	-817.92	-225.89	0.00	0.00	0.00
8,800.94	10.00	249.31	8,727.00	-308.99	-818.07	-225.93	0.00	0.00	0.00
BONE SPRING									

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Senile Felines 18_7 State Com 13H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3656.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3656.00ft
Site:	Senile Felines 18_7	North Reference:	Grid
Well:	Senile Felines 18_7 State Com 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,900.00	10.00	249.31	8,824.56	-315.06	-834.16	-230.38	0.00	0.00	0.00
8,926.63	10.00	249.31	8,850.78	-316.70	-838.48	-231.57	0.00	0.00	0.00
KOP, Build 10°/100'									
9,000.00	10.16	292.19	8,923.12	-316.50	-850.45	-230.18	10.00	0.22	58.45
9,100.00	16.72	326.14	9,020.47	-301.19	-866.67	-213.33	10.00	6.56	33.94
9,200.00	25.57	339.33	9,113.69	-268.97	-882.35	-179.71	10.00	8.85	13.19
9,300.00	35.02	345.89	9,199.96	-220.82	-897.00	-130.34	10.00	9.45	6.57
9,400.00	44.69	349.92	9,276.65	-158.22	-910.18	-66.74	10.00	9.67	4.03
9,500.00	54.45	352.76	9,341.43	-83.05	-921.49	9.18	10.00	9.77	2.84
9,600.00	64.27	354.97	9,392.33	2.39	-930.59	95.11	10.00	9.82	2.22
9,700.00	74.12	356.85	9,427.82	95.52	-937.19	188.43	10.00	9.85	1.87
9,800.00	83.98	358.55	9,446.79	193.49	-941.11	286.31	10.00	9.86	1.70
9,861.05	90.00	359.55	9,450.00	254.42	-942.12	347.03	10.00	9.87	1.64
Landing Point									
9,900.00	90.00	359.55	9,450.00	293.37	-942.43	385.82	0.00	0.00	0.00
10,000.00	90.00	359.55	9,450.00	393.37	-943.22	485.40	0.00	0.00	0.00
10,100.00	90.00	359.55	9,450.00	493.36	-944.02	584.97	0.00	0.00	0.00
10,200.00	90.00	359.55	9,450.00	593.36	-944.81	684.55	0.00	0.00	0.00
10,300.00	90.00	359.55	9,450.00	693.36	-945.60	784.13	0.00	0.00	0.00
10,400.00	90.00	359.55	9,450.00	793.35	-946.39	883.71	0.00	0.00	0.00
10,500.00	90.00	359.55	9,450.00	893.35	-947.19	983.29	0.00	0.00	0.00
10,600.00	90.00	359.55	9,450.00	993.35	-947.98	1,082.86	0.00	0.00	0.00
10,700.00	90.00	359.55	9,450.00	1,093.34	-948.77	1,182.44	0.00	0.00	0.00
10,800.00	90.00	359.55	9,450.00	1,193.34	-949.56	1,282.02	0.00	0.00	0.00
10,900.00	90.00	359.55	9,450.00	1,293.34	-950.36	1,381.60	0.00	0.00	0.00
11,000.00	90.00	359.55	9,450.00	1,393.34	-951.15	1,481.18	0.00	0.00	0.00
11,100.00	90.00	359.55	9,450.00	1,493.33	-951.94	1,580.76	0.00	0.00	0.00
11,200.00	90.00	359.55	9,450.00	1,593.33	-952.74	1,680.33	0.00	0.00	0.00
11,300.00	90.00	359.55	9,450.00	1,693.33	-953.53	1,779.91	0.00	0.00	0.00
11,400.00	90.00	359.55	9,450.00	1,793.32	-954.32	1,879.49	0.00	0.00	0.00
11,500.00	90.00	359.55	9,450.00	1,893.32	-955.11	1,979.07	0.00	0.00	0.00
11,600.00	90.00	359.55	9,450.00	1,993.32	-955.91	2,078.65	0.00	0.00	0.00
11,700.00	90.00	359.55	9,450.00	2,093.31	-956.70	2,178.22	0.00	0.00	0.00
11,800.00	90.00	359.55	9,450.00	2,193.31	-957.49	2,277.80	0.00	0.00	0.00
11,900.00	90.00	359.55	9,450.00	2,293.31	-958.28	2,377.38	0.00	0.00	0.00
12,000.00	90.00	359.55	9,450.00	2,393.30	-959.08	2,476.96	0.00	0.00	0.00
12,100.00	90.00	359.55	9,450.00	2,493.30	-959.87	2,576.54	0.00	0.00	0.00
12,200.00	90.00	359.55	9,450.00	2,593.30	-960.66	2,676.12	0.00	0.00	0.00
12,300.00	90.00	359.55	9,450.00	2,693.29	-961.46	2,775.69	0.00	0.00	0.00
12,400.00	90.00	359.55	9,450.00	2,793.29	-962.25	2,875.27	0.00	0.00	0.00
12,500.00	90.00	359.55	9,450.00	2,893.29	-963.04	2,974.85	0.00	0.00	0.00
12,600.00	90.00	359.55	9,450.00	2,993.29	-963.83	3,074.43	0.00	0.00	0.00
12,700.00	90.00	359.55	9,450.00	3,093.28	-964.63	3,174.01	0.00	0.00	0.00
12,800.00	90.00	359.55	9,450.00	3,193.28	-965.42	3,273.58	0.00	0.00	0.00
12,900.00	90.00	359.55	9,450.00	3,293.28	-966.21	3,373.16	0.00	0.00	0.00
13,000.00	90.00	359.55	9,450.00	3,393.27	-967.00	3,472.74	0.00	0.00	0.00
13,100.00	90.00	359.55	9,450.00	3,493.27	-967.80	3,572.32	0.00	0.00	0.00
13,200.00	90.00	359.55	9,450.00	3,593.27	-968.59	3,671.90	0.00	0.00	0.00
13,300.00	90.00	359.55	9,450.00	3,693.26	-969.38	3,771.48	0.00	0.00	0.00
13,400.00	90.00	359.55	9,450.00	3,793.26	-970.18	3,871.05	0.00	0.00	0.00
13,500.00	90.00	359.55	9,450.00	3,893.26	-970.97	3,970.63	0.00	0.00	0.00
13,600.00	90.00	359.55	9,450.00	3,993.25	-971.76	4,070.21	0.00	0.00	0.00
13,700.00	90.00	359.55	9,450.00	4,093.25	-972.55	4,169.79	0.00	0.00	0.00
13,800.00	90.00	359.55	9,450.00	4,193.25	-973.35	4,269.37	0.00	0.00	0.00
13,900.00	90.00	359.55	9,450.00	4,293.24	-974.14	4,368.94	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Senile Felines 18_7 State Com 13H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3656.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3656.00ft
Site:	Senile Felines 18_7	North Reference:	Grid
Well:	Senile Felines 18_7 State Com 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,000.00	90.00	359.55	9,450.00	4,393.24	-974.93	4,468.52	0.00	0.00	0.00
14,100.00	90.00	359.55	9,450.00	4,493.24	-975.72	4,568.10	0.00	0.00	0.00
14,200.00	90.00	359.55	9,450.00	4,593.23	-976.52	4,667.68	0.00	0.00	0.00
14,300.00	90.00	359.55	9,450.00	4,693.23	-977.31	4,767.26	0.00	0.00	0.00
14,400.00	90.00	359.55	9,450.00	4,793.23	-978.10	4,866.84	0.00	0.00	0.00
14,500.00	90.00	359.55	9,450.00	4,893.23	-978.89	4,966.41	0.00	0.00	0.00
14,600.00	90.00	359.55	9,450.00	4,993.22	-979.69	5,065.99	0.00	0.00	0.00
14,700.00	90.00	359.55	9,450.00	5,093.22	-980.48	5,165.57	0.00	0.00	0.00
14,800.00	90.00	359.55	9,450.00	5,193.22	-981.27	5,265.15	0.00	0.00	0.00
14,900.00	90.00	359.55	9,450.00	5,293.21	-982.07	5,364.73	0.00	0.00	0.00
15,000.00	90.00	359.55	9,450.00	5,393.21	-982.86	5,464.30	0.00	0.00	0.00
15,100.00	90.00	359.55	9,450.00	5,493.21	-983.65	5,563.88	0.00	0.00	0.00
15,200.00	90.00	359.55	9,450.00	5,593.20	-984.44	5,663.46	0.00	0.00	0.00
15,300.00	90.00	359.55	9,450.00	5,693.20	-985.24	5,763.04	0.00	0.00	0.00
15,400.00	90.00	359.55	9,450.00	5,793.20	-986.03	5,862.62	0.00	0.00	0.00
15,500.00	90.00	359.55	9,450.00	5,893.19	-986.82	5,962.20	0.00	0.00	0.00
15,600.00	90.00	359.55	9,450.00	5,993.19	-987.61	6,061.77	0.00	0.00	0.00
15,700.00	90.00	359.55	9,450.00	6,093.19	-988.41	6,161.35	0.00	0.00	0.00
15,800.00	90.00	359.55	9,450.00	6,193.18	-989.20	6,260.93	0.00	0.00	0.00
15,900.00	90.00	359.55	9,450.00	6,293.18	-989.99	6,360.51	0.00	0.00	0.00
16,000.00	90.00	359.55	9,450.00	6,393.18	-990.79	6,460.09	0.00	0.00	0.00
16,100.00	90.00	359.55	9,450.00	6,493.18	-991.58	6,559.66	0.00	0.00	0.00
16,200.00	90.00	359.55	9,450.00	6,593.17	-992.37	6,659.24	0.00	0.00	0.00
16,300.00	90.00	359.55	9,450.00	6,693.17	-993.16	6,758.82	0.00	0.00	0.00
16,400.00	90.00	359.55	9,450.00	6,793.17	-993.96	6,858.40	0.00	0.00	0.00
16,500.00	90.00	359.55	9,450.00	6,893.16	-994.75	6,957.98	0.00	0.00	0.00
16,600.00	90.00	359.55	9,450.00	6,993.16	-995.54	7,057.56	0.00	0.00	0.00
16,700.00	90.00	359.55	9,450.00	7,093.16	-996.33	7,157.13	0.00	0.00	0.00
16,800.00	90.00	359.55	9,450.00	7,193.15	-997.13	7,256.71	0.00	0.00	0.00
16,900.00	90.00	359.55	9,450.00	7,293.15	-997.92	7,356.29	0.00	0.00	0.00
17,000.00	90.00	359.55	9,450.00	7,393.15	-998.71	7,455.87	0.00	0.00	0.00
17,100.00	90.00	359.55	9,450.00	7,493.14	-999.50	7,555.45	0.00	0.00	0.00
17,200.00	90.00	359.55	9,450.00	7,593.14	-1,000.30	7,655.02	0.00	0.00	0.00
17,300.00	90.00	359.55	9,450.00	7,693.14	-1,001.09	7,754.60	0.00	0.00	0.00
17,400.00	90.00	359.55	9,450.00	7,793.13	-1,001.88	7,854.18	0.00	0.00	0.00
17,500.00	90.00	359.55	9,450.00	7,893.13	-1,002.68	7,953.76	0.00	0.00	0.00
17,600.00	90.00	359.55	9,450.00	7,993.13	-1,003.47	8,053.34	0.00	0.00	0.00
17,700.00	90.00	359.55	9,450.00	8,093.12	-1,004.26	8,152.92	0.00	0.00	0.00
17,800.00	90.00	359.55	9,450.00	8,193.12	-1,005.05	8,252.49	0.00	0.00	0.00
17,900.00	90.00	359.55	9,450.00	8,293.12	-1,005.85	8,352.07	0.00	0.00	0.00
18,000.00	90.00	359.55	9,450.00	8,393.12	-1,006.64	8,451.65	0.00	0.00	0.00
18,100.00	90.00	359.55	9,450.00	8,493.11	-1,007.43	8,551.23	0.00	0.00	0.00
18,200.00	90.00	359.55	9,450.00	8,593.11	-1,008.22	8,650.81	0.00	0.00	0.00
18,300.00	90.00	359.55	9,450.00	8,693.11	-1,009.02	8,750.38	0.00	0.00	0.00
18,400.00	90.00	359.55	9,450.00	8,793.10	-1,009.81	8,849.96	0.00	0.00	0.00
18,500.00	90.00	359.55	9,450.00	8,893.10	-1,010.60	8,949.54	0.00	0.00	0.00
18,600.00	90.00	359.55	9,450.00	8,993.10	-1,011.40	9,049.12	0.00	0.00	0.00
18,700.00	90.00	359.55	9,450.00	9,093.09	-1,012.19	9,148.70	0.00	0.00	0.00
18,800.00	90.00	359.55	9,450.00	9,193.09	-1,012.98	9,248.28	0.00	0.00	0.00
18,900.00	90.00	359.55	9,450.00	9,293.09	-1,013.77	9,347.85	0.00	0.00	0.00
19,000.00	90.00	359.55	9,450.00	9,393.08	-1,014.57	9,447.43	0.00	0.00	0.00
19,100.00	90.00	359.55	9,450.00	9,493.08	-1,015.36	9,547.01	0.00	0.00	0.00
19,200.00	90.00	359.55	9,450.00	9,593.08	-1,016.15	9,646.59	0.00	0.00	0.00
19,300.00	90.00	359.55	9,450.00	9,693.07	-1,016.94	9,746.17	0.00	0.00	0.00
19,400.00	90.00	359.55	9,450.00	9,793.07	-1,017.74	9,845.74	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSP	Local Co-ordinate Reference:	Well Senile Felines 18_7 State Com 13H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3656.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3656.00ft
Site:	Senile Felines 18_7	North Reference:	Grid
Well:	Senile Felines 18_7 State Com 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
19,500.00	90.00	359.55	9,450.00	9,893.07	-1,018.53	9,945.32	0.00	0.00	0.00	
19,600.00	90.00	359.55	9,450.00	9,993.07	-1,019.32	10,044.90	0.00	0.00	0.00	
19,700.00	90.00	359.55	9,450.00	10,093.06	-1,020.12	10,144.48	0.00	0.00	0.00	
19,800.00	90.00	359.55	9,450.00	10,193.06	-1,020.91	10,244.06	0.00	0.00	0.00	
19,801.05	90.00	359.55	9,450.00	10,194.11	-1,020.92	10,245.10	0.00	0.00	0.00	
TD at 19,801.05' MD										

Design Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
FTP (Senile Felines - plan misses target center by 187.07ft at 9450.42ft MD (9310.93 TVD, -121.75 N, -916.14 E) - Point	0.00	0.00	9,450.00	-244.92	-938.16	504,501.68	764,323.51	32.384874	-103.610971	
KOP (Senile Felines - plan misses target center by 221.15ft at 9412.69ft MD (9285.58 TVD, -149.33 N, -911.73 E) - Circle (radius 50.00)	0.00	0.00	9,450.00	-294.92	-937.73	504,451.68	764,323.94	32.384737	-103.610970	
PBHL (Senile Felines - plan hits target center - Point	0.00	0.00	9,450.00	10,194.11	-1,020.92	514,940.34	764,240.76	32.413568	-103.611010	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
879.00	879.00	RUSTLER				
1,550.00	1,550.00	SALADO				
2,786.00	2,786.00	CASTILE				
4,853.00	4,839.00	DELAWARE				
4,933.22	4,918.00	BELL CANYON				
5,941.52	5,911.00	CHERRY CANYON				
7,131.59	7,083.00	BRUSHY CANYON				
8,800.94	8,727.00	BONE SPRING				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
3,265.00	3,265.00	0.00	0.00	Build 1°/100'	
4,264.71	4,259.65	-30.74	-81.38	Hold 10° Tangent	
8,926.63	8,850.78	-316.70	-838.48	KOP, Build 10°/100'	
9,861.05	9,450.00	254.42	-942.12	Landing Point	
19,801.05	9,450.00	10,194.11	-1,020.92	TD at 19,801.05' MD	



CONNECTION DATA SHEET

OD: 5.500 in. Grade: P110 RY
Weight: 20.00 lb/ft Drift: 4.653 in. (API)
Wall Th.: 0.361 in.

VAM® SPRINT-SE



Semi-Flush

Field Torque Values

Make-up Torque (ft-lb)

- 20,000 MIN
- 22,500 OPTI
- 25,000 MAX

Torque with Sealability (ft-lb)

- 36,000 MTS

Locked Flank Torque (ft-lb)

- 4,500 MIN
- 15,750 MAX

(2) MTS: Maximum Torque with Sealability.

PIPE BODY PROPERTIES

Nominal OD	5.500	in.
Nominal ID	4.778	in.
Nominal Wall Thickness	0.361	in.
Minimum Wall Thickness	87.5	%
Nominal Weight (API)	20.00	lb/ft
Plain End Weight	19.83	lb/ft
Drift	4.653	in.
Grade Type	Controlled Yield	
Minimum Yield Strength	110	ksi
Maximum Yield Strength	125	ksi
Minimum Ultimate Tensile Strength	140	ksi
Pipe Body Yield Strength	641	klb
Internal Yield Pressure	12,640	psi
Collapse Pressure	11,110	psi

CONNECTION PROPERTIES

Connection Type	Semi-Premium Integral Semi-Flu	
Nominal Connection OD	5.783	in.
Nominal Connection ID	4.718	in.
Make-up Loss	5.965	in.
Tension Efficiency	90	% Pipe Body
Compression Efficiency	90	% Pipe Body
Internal Pressure Efficiency	100	% Pipe Body
External Pressure Efficiency	100	% Pipe Body

JOINT PERFORMANCES

Tension Strength	577	klb
Compression Strength	577	klb
Internal Pressure Resistance	12,640	psi
External Pressure Resistance	11,110	psi
Maximum Bending, Structural	78	°/100 ft
Maximum Bending, with Sealability(1)	30	°/100 ft

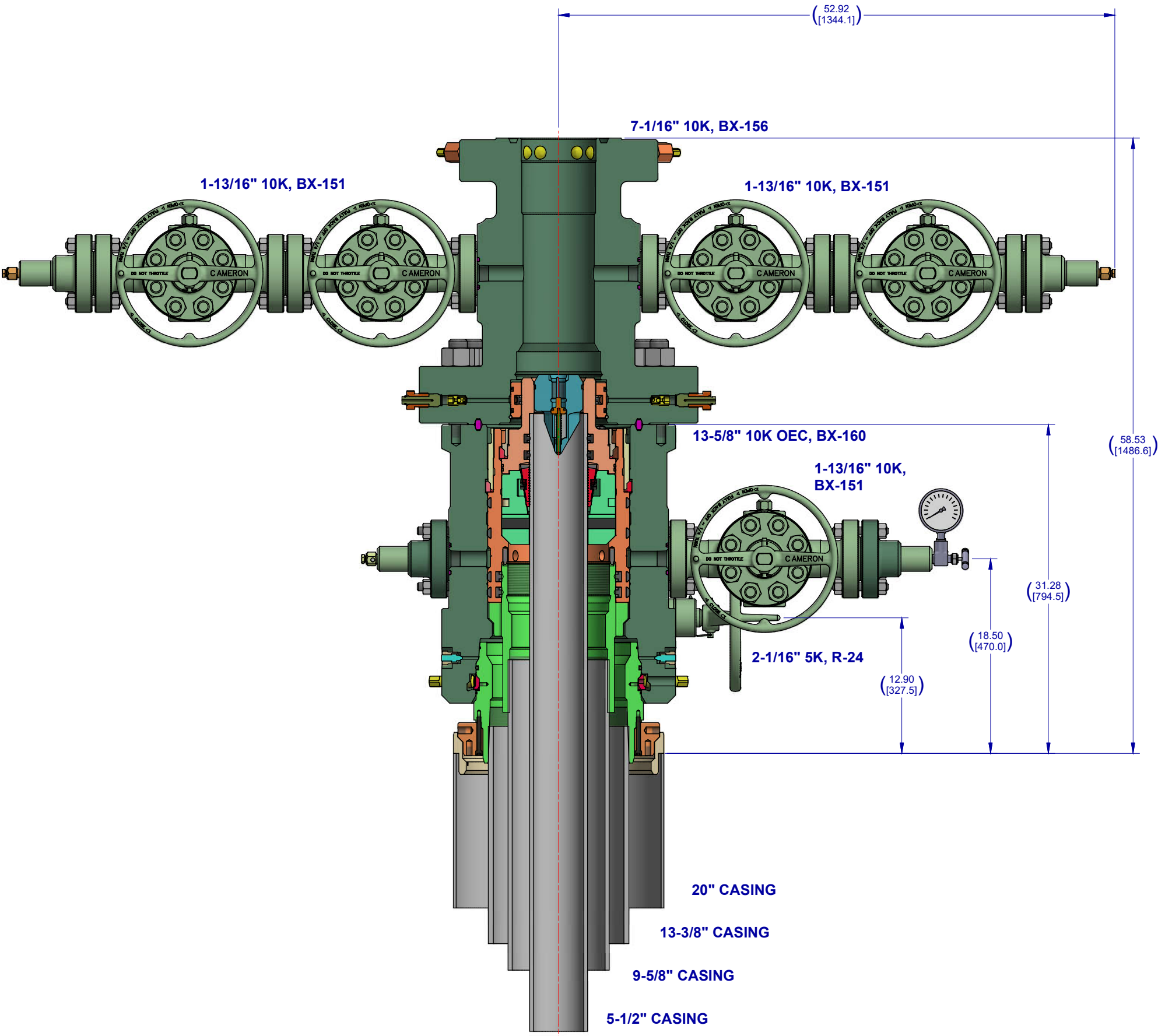
(1) Sealability rating demonstrated as per API RP 5C5 / ISO 13679



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AND ENSURE 100% WELL INTEGRITY WITH
VAM® FIELD SERVICE

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to contact us





Notes:

1. THIS IS A PROPOSAL DRAWING AND DIMENSIONS SHOWN ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PROCESS.

2. DIGITALLY ENABLED SOLUTIONS, CHOKES AND ESD'S AVAILABLE ON REQUEST

CONFIDENTIAL						
SURFACE TREATMENT	DO NOT SCALE		 CAMERON A Schlumberger Company	SURFACE SYSTEMS		
	DRAWN BY: D. GOTTUNG	DATE 18 Feb 22				
MATERIAL & HEAT TREAT	CHECKED BY: D. GOTTUNG	DATE 18 Feb 22	OXY 13-5/8" 10K ADAPT 16" X 10-3/4" X 7-5/8" X 5-1/2"			
	APPROVED BY: D. GOTTUNG	DATE 18 Feb 22				
ESTIMATED WEIGHT:	6115.068 LBS 2773.748 KG	INITIAL USE B/M:	SHEET 1 of 1	SD-053434-94-12		REV: 01 INVENTOR: D

BOP Break Testing Request

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019.

BOP break test under the following conditions:

- After a full BOP test is conducted
- When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower.
- When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper.

If the kill line is broken prior to skid, two tests will be performed.

- 1) Wellhead flange, co-flex hose, kill line connections and upper pipe rams
- 2) Wellhead flange, HCR valve, check valve, upper pipe rams

If the kill line is not broken prior to skid, only one test will be performed.

- 1) Wellhead flange, co-flex hose, check valve, upper pipe rams

See supporting information below:

Subject: Request for a Variance Allowing Break Testing of a Blowout Preventer Stack

OXY USA Inc. (OXY) requests a variance to allow break testing of the Blowout Preventer (BOP) stack when skidding a drilling rig between wells on multi-well pads. This practice entails retesting only the connections of the **BOP** stack that have been disconnected during this operation and not a complete **BOP** test.

Background

43 CFR part 3170 Subpart 3172 states that a **BOP** test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) is this requires a complete **BOP** test and not just a test of the affected component. 43 CFR part 3170 Subpart 3172, Section I.D.2. states, "Some situations may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this Order. This situation can be resolved by requesting a variance...". OXY feels the practice of break testing the **BOP** stack is such a situation. Therefore, as per 43 CFR part 3170 Subpart 3172, Section IV., OXY submits this request for the variance.

Supporting Rationale

43 CFR part 3170 Subpart 3172 became effective on December 19, 1988, and has remained the standard for regulating BLM onshore drilling operations for almost 30 years. During this time there have been significant changes in drilling technology. **BLM** continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR part 3170 Subpart 3172 was originally released. The drilling rig fleet OXY utilizes in New Mexico was built with many modern upgrades. One of which allows the rigs to skid between wells on multi-well pads. A part of this rig package is a hydraulic winch system which safely installs and removes the BOP from the wellhead and carries it during skidding operations. This technology has made break testing a safe and reliable procedure.

American Petroleum Institute (API) standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry. 43 CFR part 3170 Subpart 3172 recognized API Recommended Practices (RP) 53 in its original development. API Standard 53,

Blowout Prevention Equipment Systems for Drilling Wells (Fourth Edition, November 2012, Addendum 1, July 2016) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 6.5.3.4.1.b states "Pressure tests on the well control equipment shall be conducted after the disconnection or repair of any pressure containment seal in the **BOP** stack, choke line, kill line, choke manifold, or wellhead assembly but limited to the affected component."

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specifications and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations. BSEE issued new offshore regulations under 30 CFR Part 250, *Oil and Gas and Sulphur Operations in the Outer Continental Shelf - Blowout Preventer Systems and Well Control*, which became effective on July 28, 2016. Section 250.737(d.1) states "Follow the testing requirements of API Standard 53". In addition, Section 250.737(d.8) has adopted language from **API** Standard 53 as it states "Pressure test affected **BOP** components following the disconnection or repair of any well-pressure containment seal in the wellhead or **BOP** stack assembly".

Break testing has been approved by the BLM in the past. See the Appendix for a Sundry Notice that was approved in 2015 by the Farmington Field Office. This approval granted permission for the operator to break test when skidding its Aztec 1000 rig on multi-well pads.

Oxy feels break testing and our current procedures meet the intent of 43 CFR part 3170 Subpart 3172 and often exceed it. We have not seen any evidence that break testing results in more components failing tests than seen on full BOP tests. As skidding operations take place within the 30-day full BOPE test window, the BOP shell and components such as the pipe rams and check valve get tested to the full rated working pressure more often. Therefore, there are more opportunities to ensure components are in good working order. Also, Oxy's standard requires complete BOP tests more often than that of 43 CFR part 3170 Subpart 3172. In addition to function testing the annular at least weekly and the pipe and blind rams on each trip, Oxy also performs a choke drill prior to drilling out every casing shoe. As a crew's training is a vital part of well control, this procedure to simulate step one of the Driller's Method exceeds the requirements of 43 CFR part 3170 Subpart 3172.

Procedures

- 1) OXY to submit the break testing plan in the APD or Sundry Notice (SN) and receive approval prior to implementing (See Appendix for examples)
- 2) OXY would perform BOP break testing on multi-well pads where multiple intermediate sections can be drilled and cased within the 30-day BOP test window
- 3) After performing a complete BOP test on the first well and drilling and casing the hole section, three breaks would be made on the BOP.
 - Between the check valve and the kill line
 - Between the HCR valve and the co-flex hose or the co-flex hose and the manifold
 - Between the BOP flange and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by the hydraulic winch system
- 5) After skidding to the next well, the BOP is moved to the wellhead by the hydraulic winch system and installed
- 6) The choke line and kill line are reconnected
- 7) A test plug is installed in the wellhead with a joint of drill pipe and the internal parts of the check valve are removed
- 8) A shell test is performed against the upper pipe rams testing all three breaks
- 9) The internal parts of the check valve are reinstalled and the HCR valve is closed. A second test is performed on them
- 10) These tests consist of a 250 psi low test and a high test to the value submitted in the APD or SN (e.g., 5000 psi)
- 11) Perform a function test of components not pressure tested to include the lower pipe rams, the blind rams and the annular
- 12) If this were a three well pad, the same three breaks on the BOP would be made and steps 4 through 11 would be repeated
- 13) A second break test would only be done if the third hole section could be completed within the 30-day BOP test window
- 14) If a second break test is performed, additional components that were not tested on the initial break test will be tested on this break test

Notes:

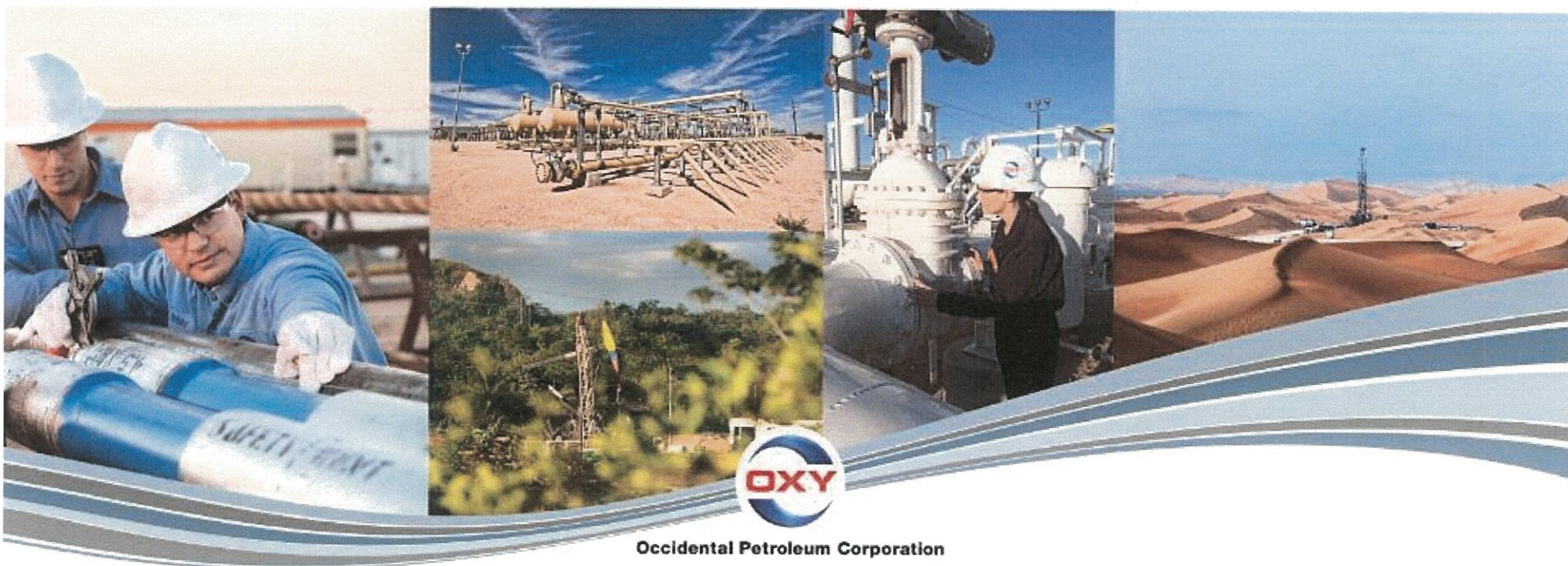
- a. If any parts of the BOP are changed out or any additional breaks are made during the skidding operation, these affected components would also be tested as in step 10.
- b. As the choke manifold remains stationary during the skidding operation and the only break to the manifold is tested in step 8 above, no further testing of the manifold is done until the next full BOP test.

Summary

OXY requests a variance to allow break testing of the BOP stack when skidding drilling rigs between wells on multi-well pads. API standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry and the BLM. API Standard 53 recognizes break testing as an acceptable practice and BSEE adopted language from this standard into its newly created 30 CFR Part 250 which also supports break testing. Due to this, OXY feels this request meets the intent of 43 CFR part 3170

REQUEST FOR A VARIANCE TO BREAK TEST THE BOP

Permian Resources New Mexico



Request for Variance

OXY USA Inc. (OXY) requests a variance to allow break testing of the Blowout Preventer (BOP) stack when skidding a drilling rig between wells on multi-well pads

- This practice entails retesting only the connections of the BOP stack that have been disconnected during this operation and not a complete BOP test.
- As the choke manifold remains stationary during the skidding operation and the only break to the manifold is tested, no further testing of the manifold is done until the next full BOP test.
- This request is being made as per Section IV of the *Onshore Oil and Gas Order (OOGO) No. 2*

Rationale for Allowing BOP Break Testing

American Petroleum Institute (API) standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry

- API Standard 53, *Blowout Prevention Equipment Systems for Drilling Wells* (Fourth Edition, November 2012, Addendum 1, July 2016) recognizes break testing as an acceptable practice.
- Specifically, API Standard 53, Section 6.5.3.4.1.b states “Pressure tests on the well control equipment shall be conducted after the disconnection or repair of any pressure containment seal in the BOP stack, choke line, kill line, choke manifold, or wellhead assembly but limited to the affected component.”



Rationale for Allowing BOP Break Testing

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specifications and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

- BSEE issued new offshore regulations in July 2016 under 30 CFR Part 250, *Oil and Gas and Sulphur Operations in the Outer Continental Shelf - Blowout Preventer Systems and Well Control*. Within these regulations is language adopted from API Standard 53 which also supports break testing.
- Specifically, Section 250.737(d.8) states “Pressure test affected BOP components following the disconnection or repair of any well-pressure containment seal in the wellhead or BOP stack assembly.”

Rationale for Allowing BOP Break Testing

Break testing has been approved by the BLM in the past

- The Farmington Field Office approved a Sundry Notice (SN) to allow break testing in 2015
- This SN granted permission for the operator to break test when skidding its Aztec 1000 rig on multi-well pads

Oxy feels break testing and our current procedures meet or exceed the intent of OOGO No. 2

- As skidding operations take place within the 30-day full BOPE test window, the BOP shell and components such as the pipe rams and check valve get tested to the full rated working pressure more often
- Oxy's standard requires complete BOP tests more often than that of OOGO No. 2
- Oxy performs a choke drill prior to drilling out every casing shoe. As a crew's training is a vital part of well control, this procedure to simulate step one of the Driller's Method exceeds the requirements of OOGO No. 2



Break Testing Procedures

- 1) OXY to submit the break testing plan in the APD or Sundry Notice (SN) and receive approval prior to implementing
- 2) OXY would perform BOP break testing on multi-well pads where multiple intermediate sections can be drilled and cased within the full BOP test window
- 3) After performing a complete BOP test on the first well and drilling and casing the hole section, three breaks would be made on the BOP.
 - Between the check valve and the kill line
 - Between the HCR valve and the co-flex hose or the co-flex hose and the manifold
 - Between the BOP flange and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by the hydraulic winch system
- 5) After skidding to the next well, the BOP is moved to the wellhead by the hydraulic winch system and installed
- 6) The choke line and kill line are reconnected
- 7) A test plug is installed in the wellhead with a joint of drill pipe and the internal parts of the check valve are removed



Break Testing Procedures

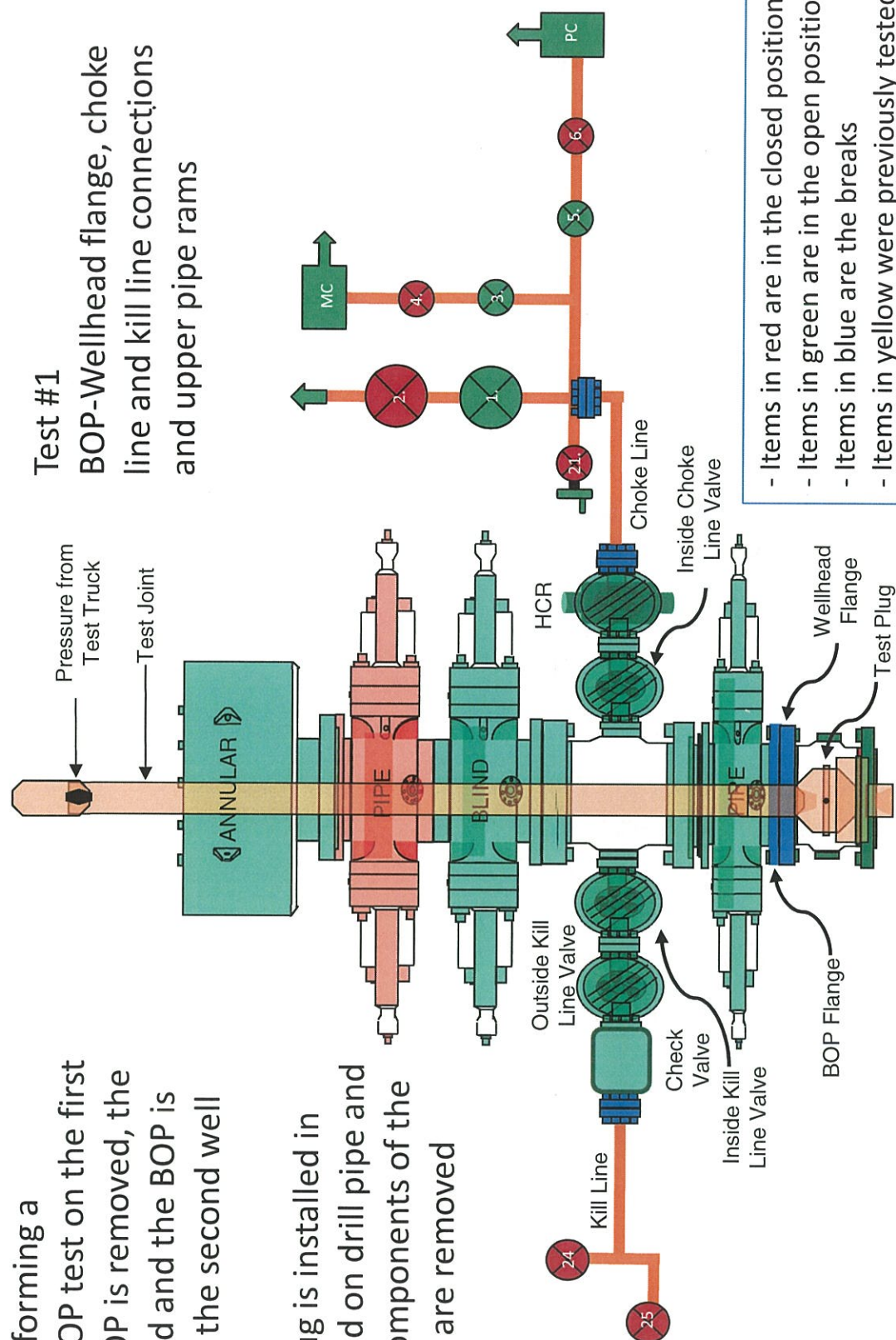
- 8) A shell test is performed against the upper pipe rams testing all three breaks
- 9) The internal parts of the check valve are reinstalled and the HCR valve is closed.
A second test is performed on them
- 10) These tests consist of a 250 psi low test and a high test to the value submitted in the APD or SN (e.g., 5000 psi)
- 11) Perform a function test of components not pressure tested to include the lower pipe rams, the blind rams and the annular
- 12) If this were a three well pad, the same three breaks on the BOP would be made and steps 4 through 11 would be repeated
- 13) A second break test would only be done if the third hole section could be completed within the 30-day BOP test window
- 14) If a second break test is performed, additional components that were not tested on the first break test will be tested



Break Testing Procedures and Tests

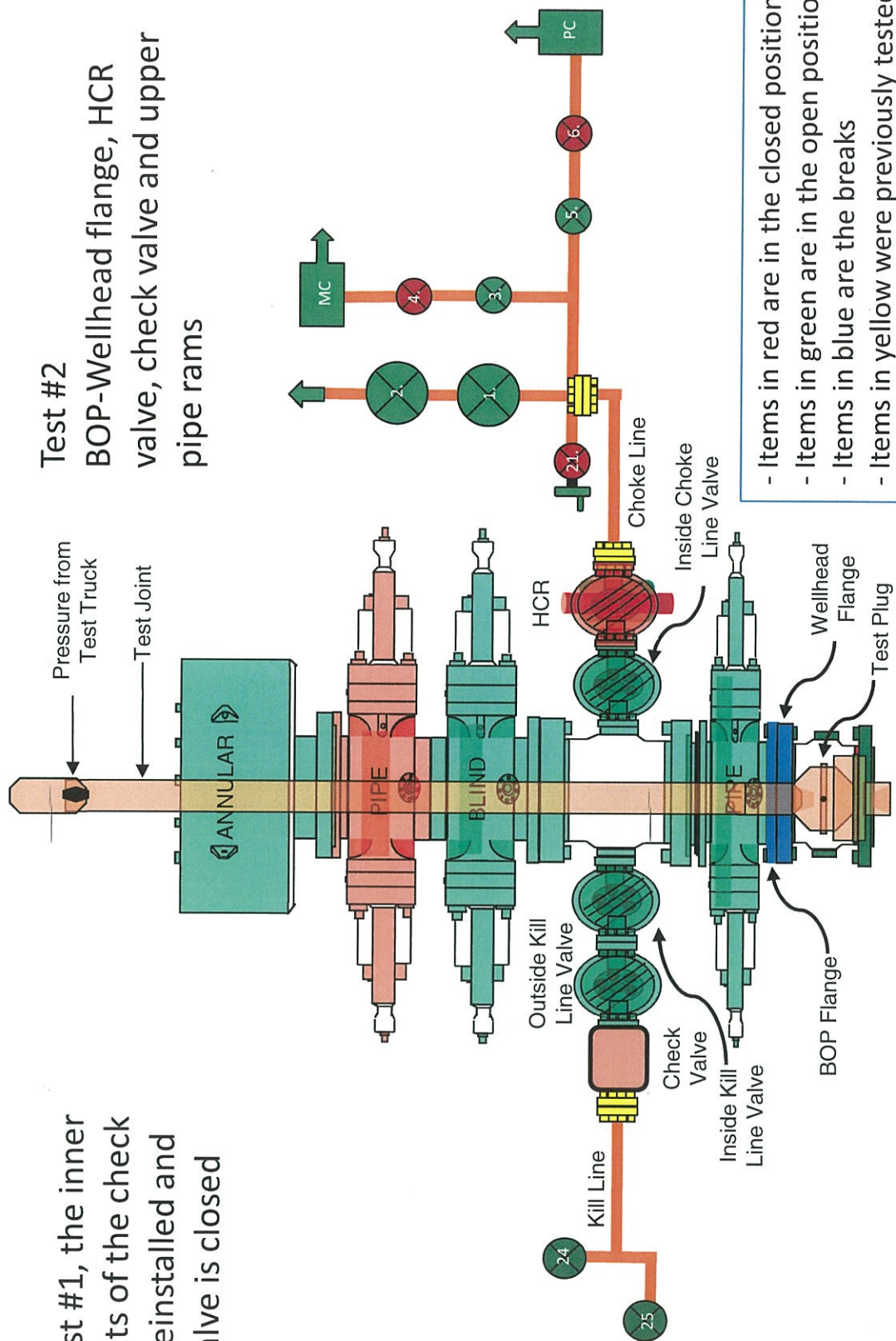
1. After performing a complete BOP test on the first well, the BOP is removed, the rig is skidded and the BOP is installed on the second well

2. A test plug is installed in the wellhead on drill pipe and the inner components of the check valve are removed



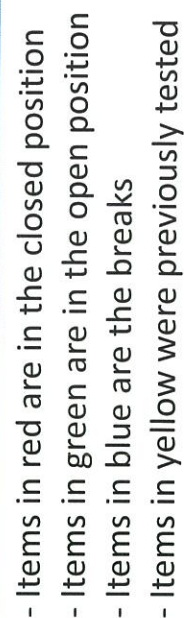
Break Testing Procedures and Tests

3. After Test #1, the inner components of the check valve are reinstalled and the HCR valve is closed



3. After Test #1, the inner components of the check valve are reinstalled and the inside choke line valve is closed

BOP-Wellhead flange, inside
choke line valve, check valve
and upper pipe rams



BOP Handling System



Hydraulic winch system which moves the BOP from its carrier to the wellhead

BOP standing in its carrier





12

BOP Handling System



Wellhead

Hydraulic winch
system moving
the BOP over to
the wellhead

Summary for Variance Request for Break Testing

- API standards, specifications and recommended practices are considered industry standards
 - OOGO No. 2 recognized API Recommended Practices (RP) 53 in its original development
 - API Standard 53 recognizes break testing as an acceptable practice
 - The Bureau of Safety and Environmental Enforcement has utilized API standards, specifications and best practices in the development of its offshore oil and gas regulations
 - API Standard 53 recognizes break testing as an acceptable practice
- OXY feels break testing meets the intent of OOGO No. 2 to protect public health and safety and the environment

Bradenhead Cement CBL Variance Request

Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8" intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019.

Three string wells:

- CBL will be required on one well per pad
- If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
- Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

Four string wells:

- CBL is not required
- If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
- Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

Offline Cementing Variance Request

Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365.

1. Cement Program

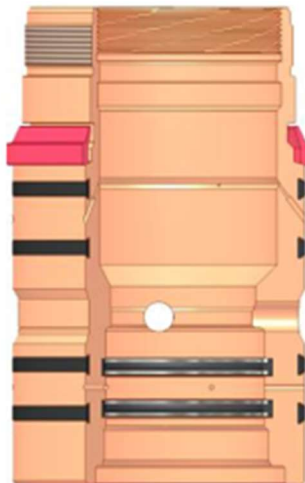
No changes to the cement program will take place for offline cementing.

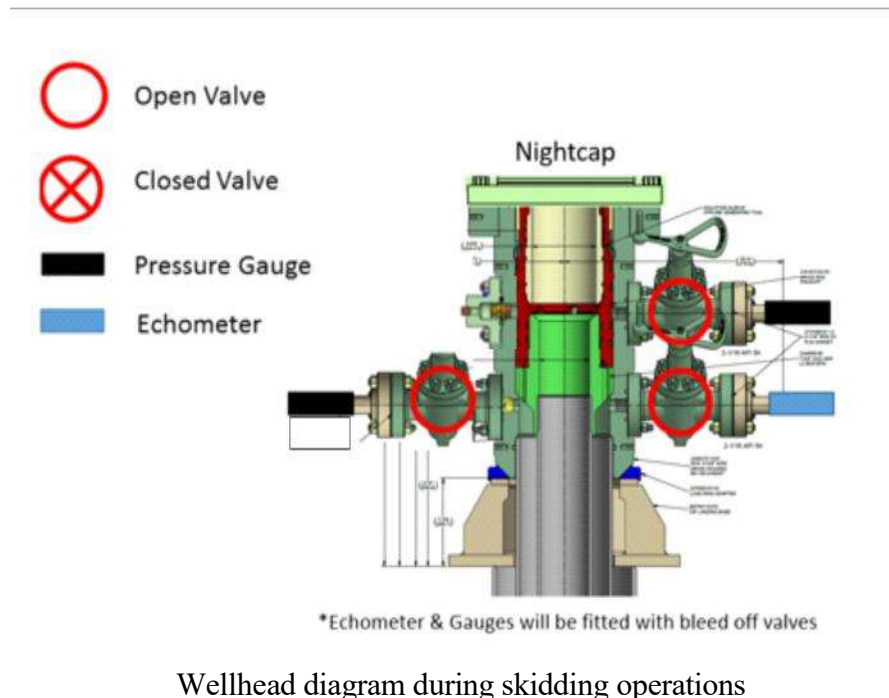
2. Offline Cementing Procedure

The operational sequence will be as follows:

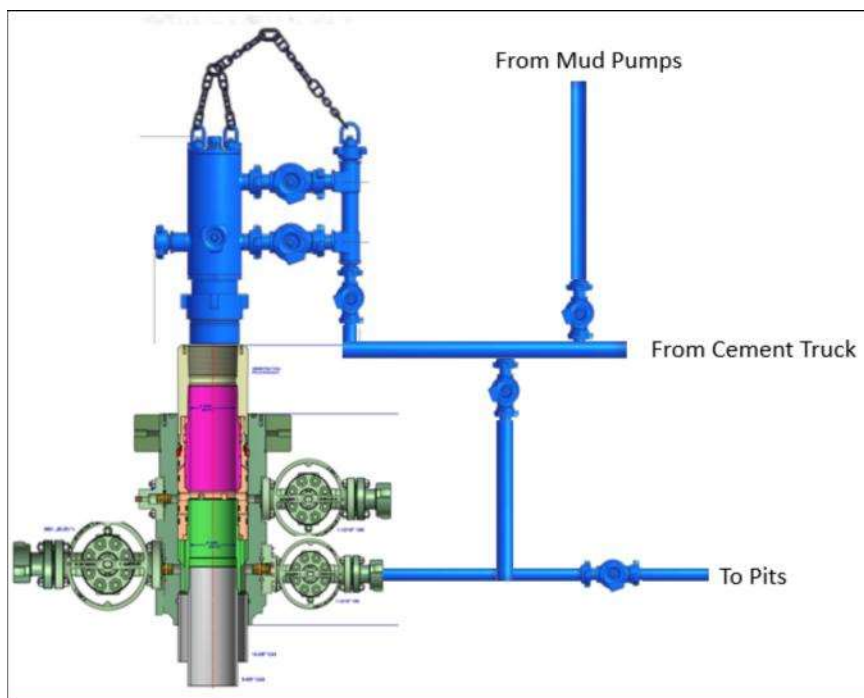
1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
2. Land casing with mandrel
3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
4. Set annular packoff shown below and pressure test to confirm integrity of the seal.
Pressure ratings of wellhead components and valves is 5,000 psi

Annular packoff with both external and internal seals





5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
 - a. If any barrier fails to test, the BOP stack will not be nipped down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50 psi compressive strength if cannot be verified.
6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nipping up for further remediation.
 - a. Well Control Plan
 - i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
 - ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
 - iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
 - iv. Once influx is circulated out of the hole, kill weight mud will be circulated
 - v. Well will be confirmed static
 - vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment



Wellhead diagram during offline cementing operations

10. Circulate bottoms up with cement truck
 - a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
 - b. Max anticipated time before circulating with cement truck is 6 hrs
11. Perform cement job taking returns from the annulus wellhead valve
12. Confirm well is static and floats are holding after cement job
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 346665

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 346665
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	10/29/2024