

NM OIL CONSERVATION
ARTESIA DISTRICT

Intent ☒ As Drilled ☐

JAN 31 2019

API # 30-015-45624			RECEIVED					
Operator Name: Oxy USA Inc.						Property Name: CAL-MUN 35 Federal		

Kick Off Point (KOP)

UL A	Section 35	Township 23S	Range 31E	Lot	Feet 50	From N/S NORTH	Feet 850	From E/W EAST	County EDDY
Latitude 32.2680384					Longitude -103.7427993				NAD NAD83

First Take Point (FTP)

UL A	Section 35	Township 23S	Range 31E	Lot	Feet 100	From N/S NORTH	Feet 850	From E/W EAST	County EDDY
Latitude 32.2679009					Longitude -103.7427994				NAD NAD83

Last Take Point (LTP)

UL D	Section 35	Township 23S	Range 31E	Lot	Feet 100	From N/S SOUTH	Feet 850	From E/W EAST	County EDDY
Latitude 32.2581433					Longitude -103.748028				NAD NAD83

Is this well the defining well for the Horizontal Spacing Unit? ☐

Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:		Property Name:
Well Number		

KZ 06/29/2018

Oxy USA Inc. - Cal-Mon 35 Fed 175H – Drill Plan Sundry

1. Geologic Formations

TVD of target	10920'	Pilot Hole Depth	N/A
MD at TD:	15887'	Deepest Expected fresh water:	781'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	781	
Salado	1,089	Salt
Castile	2,954	Salt
Lamar/Delaware	4,446	Oil/Gas/Brine
Bell Canyon	4,474	Oil/Gas/Brine
Cherry Canyon	5,364	Oil/Gas/Brine
Brushy Canyon	6,596	Losses
Bone Spring	8,287	Oil/Gas
1st Bone Spring	9,361	Oil/Gas
2nd Bone Spring	9,602	Oil/Gas
3rd Bone Spring	9,961	Oil/Gas

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

2. Casing Program

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF	SF Burst	Buoyant Body SF	Buoyant Joint SF
	From (ft)	To (ft)					Collapse		Tension	Tension
14.75	0	831	10.75	40.5	J-55	BTC	1.125	1.2	1.4	1.4
9.875	0	10885	7.625	26.4	L-80 HC	BTC	1.125	1.2	1.4	1.4
6.75	0	10835	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
6.75	10835	15887	4.5	13.5	P-110	DQX	1.125	1.2	1.4	1.4
SF Values will meet or Exceed										

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

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

*Oxy requests the option to run production casing with DQX and/or SF TORQ connections to accommodate hole conditions or drilling operations.

Oxy USA Inc. - Cal-Mon 35 Fed 175H – Drill Plan Sundry

3. Cementing Program

Casing String	# Sk	Wt. (lb/gal)	Yld (ft ³ /sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	687	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate 1st Stage (Lead)	499	10.2	2.58	11.568	6:59	Pozzolan Cement, Retarder
Intermediate 1st Stage (Tail)	167	13.2	1.61	7.804	7:11	Class H Cement, Retarder, Dispersant, Salt
DV/ECP Tool @ 4496 (We request the option to cancel the second stage if cement is circulated to surface during the first stage of cement)						
Intermediate 2nd Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate 2nd Stage (Tail)	1000	13.6	1.67	8.765	7:32	Class C Cement, Accelerator, Retarder
Production (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Production (Tail)	681	13.2	1.38	6.686	3:39	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	831	100%
Intermediate 1st Stage (Lead)	4396	9385	20%
Intermediate 1st Stage (Tail)	9385	10385	20%
Intermediate 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate 2nd Stage (Tail)	0	4496	100%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	9885	15887	20%

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
9.875" Hole	13-5/8"	3M	Annular	✓	70% of working pressure
		3M	Blind Ram	✓	250/5000psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

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

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Oxy USA Inc. - Cal-Mon 35 Fed 175H – Drill Plan Sundry

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

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	831	Water-Based Mud	8.6-8.8	40-60	N/C
831	10385	Saturated Brine-Based or Oil-Based Mud	8.0-10.0	35-45	N/C
10385	15887	Water-Based or Oil-Based Mud	9.5-12.0	38-50	N/C

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

6. Logging and Testing Procedures

Oxy requests to log up to 3 separate runs in the curve from 10,650' -12,200' MD in addition to the current logging plan:

1. Quad combo with spectral gamma ray and magnetic resonance
2. Tentative rotary side wall core (50)
3. Dielectric

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
Tentative	Coring. Oxy requests the option to run a rotary side wall core.

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Additional logs planned		Interval
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	
Abnormal Temperature	No
BH Temperature at deepest TVD	

Total estimated cuttings volume: 1324.2 bbls.

8. Company Personnel

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>	<u>Mobile Phone</u>
Margaret Giltner	Drilling Engineer	713-366-5026	210-683-8480
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



OXY



Borehole:	Well:	Field:	Structure:
Original Hole	Oxy Cal-Mon 35 Federal 175H	NM Eddy County (NAD 83)	Oxy Cal-Mon 35 Federal 175H

Gravity & Magnetic Parameters

Modat:	HDGM 2018	Dip:	63°
MagDec:	6,831°	FS:	4

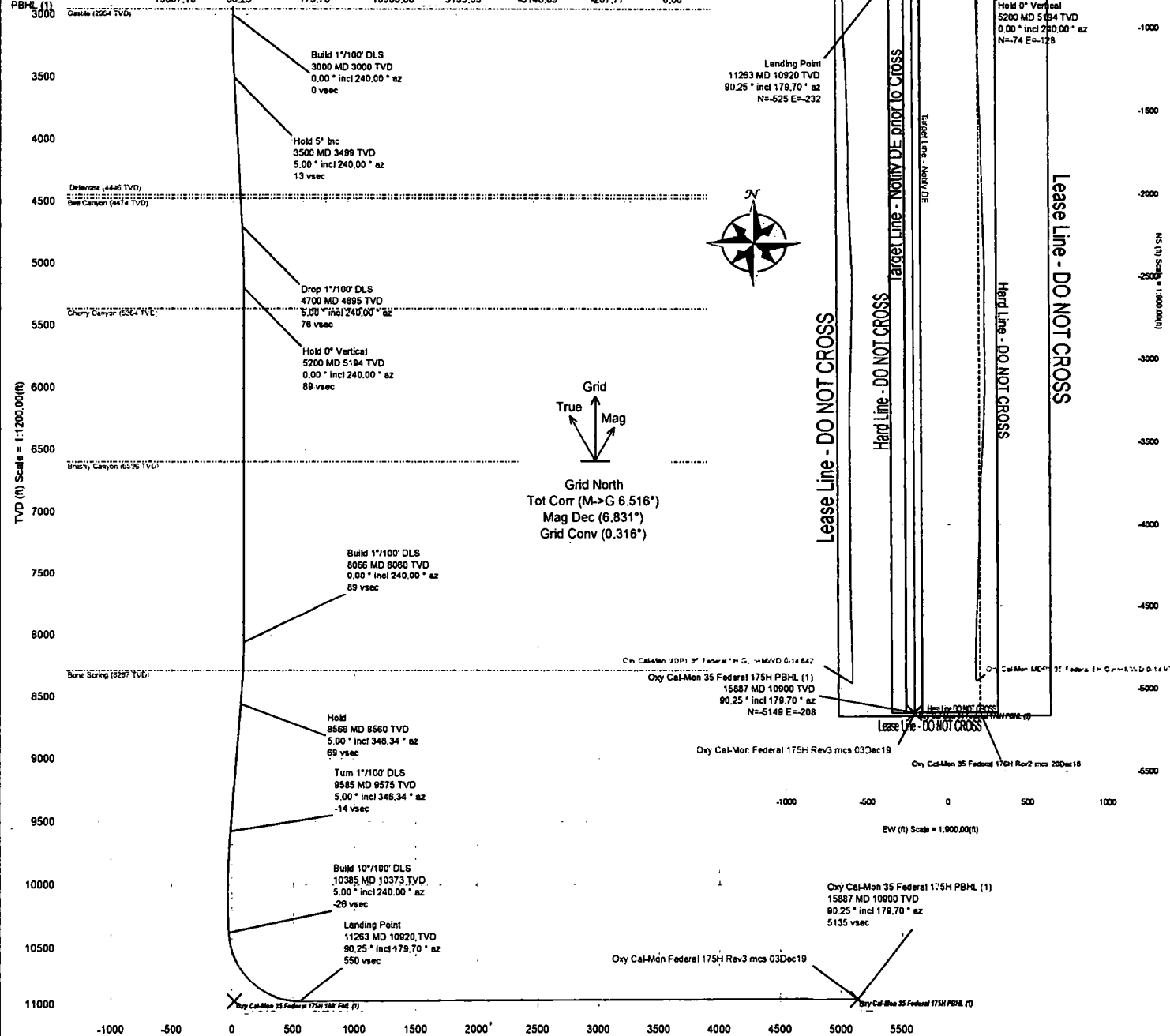
Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet

Lat: N 12 16 4.34 Northing: 461683.527US Grid Conv: 0.2157*
Lon: W 103 44 31.34 Easting: 724098.167US Scale Fact: 0.99394

Miscellaneous

Site: Oxy Cal-Mon 35 TVD Ref: RKB(3499ft above MSL)
Federal 176H
Plan: Oxy Cal-Mon Federal 176H Rev3 mcs 03Dec19

Critical Points										
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS		
SHL	0.00	0.00	250.14	0.00	0.00	0.00	0.00			
Rustler	781.00	0.00	240.00	781.00	0.00	0.00	0.00			
Salado	1089.00	0.00	240.00	1089.00	0.00	0.00	0.00			
Castle	2954.00	0.00	240.00	2954.00	0.00	0.00	0.00			
Build 1°/100° DLS	3000.00	0.00	240.00	3000.00	0.00	0.00	0.00			
Hold 5° Inc	3500.00	5.00	240.00	3499.37	13.14	-10.90	-18.88	1.00		
Delaware	4450.25	5.00	240.00	4448.00	63.08	-52.31	-80.81	0.00		
Bell Canyon	4478.36	5.00	240.00	4474.00	64.54	-53.54	-82.73	0.00		
Drop 1°/100° DLS	4700.00	5.00	240.00	4694.80	76.18	-63.19	-109.46	0.00		
Hold 0° Vertical	5200.00	0.00	240.00	5194.16	89.32	-74.10	-128.34	1.00		
Cherry Canyon	5369.84	0.00	240.00	5364.00	89.32	-74.10	-128.34	0.00		
Brushy Canyon	8601.84	0.00	240.00	8596.00	89.32	-74.10	-128.34	0.00		
Build 1°/100° DLS	8665.84	0.00	240.00	8660.00	89.32	-74.10	-128.34	0.00		
Stone Spring	8922.89	0.00	246.34	8852.00	85.11	-82.87	-128.10	1.00		
Hold	8556.30	5.00	346.34	8555.83	82.87	-57.87	-133.50	1.00		
Turn 1°/100° DLS	8585.06	5.00	346.34	8574.71	-14.23	33.49	-154.48	0.00		
Build 10°/100° DLS	10385.48	5.00	240.00	10373.38	-25.88	50.00	-193.00	1.00		
Landing Point	11263.20	90.25	179.70	10920.00	549.82	-525.10	-231.74	10.00		
City Canyon 35 Federal 175H	15887.10	90.25	179.70	10900.00	5135.35	-5148.89	-207.77	0.00		



Vertical Section (ft) Azim = 187.07° Scale = 1:1200.00(ft) Origin = 0N/-S, 0E/-W



Oxy Cal-Mon Federal 175H Rev3 mcs 03Dec19 Proposal Geodetic Report

(Def Plan)

Report Date: January 03, 2019 - 03:06 PM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Oxy Cal-Mon 35 Federal 175H / Oxy Cal-Mon 35 Federal 175H
 Well: Oxy Cal-Mon 35 Federal 175H
 Borehole: Original Hole
 UWI / API#: Unknown / Unknown
 Survey Name: Oxy Cal-Mon Federal 175H Rev3 mcs 03Dec19
 Survey Date: December 17, 2018
 Tort / AHD / DDI / ERD Ratio: 110.781' / 5514.132 ft / 5.949 / 0.505
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 16' 4.34080", W 103° 44' 31.34078"
 Location Grid N/E Y/X: N 481688.520 RUS, E 724098.160 RUS
 CRS Grid Convergence Angle: 0.3157°
 Grid Scale Factor: 0.99994735
 Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 187.085° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3489.000 ft above MSL
 Seabed / Ground Elevation: 3472.500 ft above MSL
 Magnetic Declination: 6.831°
 Total Gravity Field Strength: 998.4456mgn (9.80685 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47985.280 nT
 Magnetic Dip Angle: 59.990°
 Declination Date: December 17, 2018
 Magnetic Declination Model: HDGM 2018
 North Reference: Grid North
 Grid Convergence Used: 0.3157°
 Total Corr Mag North->Grid
 North: 6.5158°
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	250.14	0.00	0.00	0.00	0.00	N/A	481688.52	724098.16	N 32 16 4.34	W 103 44 31.34
Rustler	781.00	0.00	240.00	781.00	0.00	0.00	0.00	0.00	481688.52	724098.16	N 32 16 4.34	W 103 44 31.34
Salado	1089.00	0.00	240.00	1089.00	0.00	0.00	0.00	0.00	481688.52	724098.16	N 32 16 4.34	W 103 44 31.34
Castle	2954.00	0.00	240.00	2954.00	0.00	0.00	0.00	0.00	481688.52	724098.16	N 32 16 4.34	W 103 44 31.34
Build 11'100' DLS	3000.00	0.00	240.00	3000.00	0.00	0.00	0.00	0.00	481688.52	724098.16	N 32 16 4.34	W 103 44 31.34
Hold 5' Inc	3500.00	5.00	240.00	3499.37	13.14	-10.90	-18.88	1.00	481677.62	724079.26	N 32 16 4.23	W 103 44 31.58
Delaware	4450.25	5.00	240.00	4446.00	83.06	-52.31	-90.81	0.00	481638.21	724007.50	N 32 16 3.83	W 103 44 32.40
Bel Canyon	4478.38	5.00	240.00	4474.00	84.54	-53.54	-92.73	0.00	481634.99	724005.44	N 32 16 3.82	W 103 44 32.42
Drop 11'100' DLS	4700.00	5.00	240.00	4694.80	76.18	-63.19	-106.46	0.00	481625.33	723988.71	N 32 16 3.72	W 103 44 32.62
Hold 0' Vertical	5200.00	0.00	240.00	5194.18	89.32	-74.10	-128.34	1.00	481614.43	723969.83	N 32 16 3.61	W 103 44 32.84
Cherry Canyon	5389.84	0.00	240.00	5384.00	89.32	-74.10	-128.34	0.00	481614.43	723969.83	N 32 16 3.61	W 103 44 32.84
Brushy Canyon	6501.84	0.00	240.00	6506.00	89.32	-74.10	-128.34	0.00	481614.43	723969.83	N 32 16 3.61	W 103 44 32.84
Build 11'100' DLS	8065.84	0.00	240.00	8060.00	89.32	-74.10	-128.34	0.00	481614.43	723969.83	N 32 16 3.61	W 103 44 32.84
Bone Spring	8202.89	2.27	348.34	8287.00	85.11	-69.72	-129.40	1.00	481618.80	723968.77	N 32 16 3.66	W 103 44 32.85
Hold	8566.30	5.00	348.34	8559.83	88.89	-52.87	-133.50	1.00	481635.65	723964.87	N 32 16 3.82	W 103 44 32.90
Turn 11'100' DLS	9585.06	5.00	348.34	9574.71	-14.23	33.49	-154.48	0.00	481722.01	723943.88	N 32 16 4.68	W 103 44 33.14
Build 10'100' DLS	10385.48	5.00	240.00	10373.38	-25.88	50.00	-193.00	1.00	481738.52	723905.17	N 32 16 4.85	W 103 44 33.59
Landing Point	11283.20	90.25	179.70	10920.00	549.82	-525.10	-231.74	10.00	481163.45	723888.43	N 32 15 58.16	W 103 44 34.07
Oxy Cal-Mon 35 Federal 175H PBHL (1)	15887.10	90.25	179.70	10900.00	5135.35	-5148.89	-207.77	0.00	456559.91	723890.40	N 32 15 13.40	W 103 44 34.09

Survey Type:

Def Plan

Survey Error Model:

ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

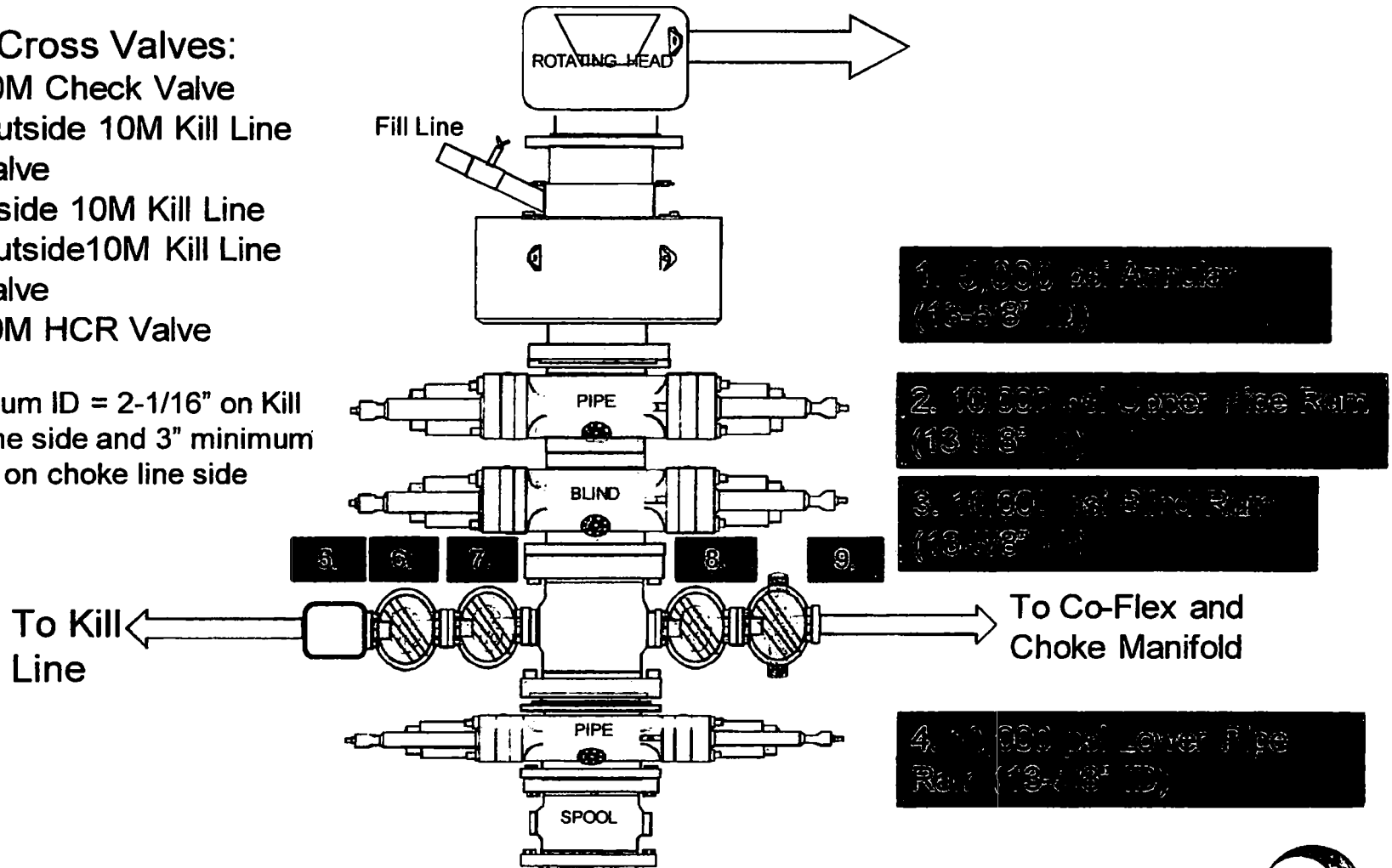
Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Hole / Oxy Cal-Mon Federal 175H Rev3 mcs 03Dec19
	1	26.500	15887.098	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Original Hole / Oxy Cal-Mon Federal 175H Rev3 mcs 03Dec19

5/10M BOP Stack

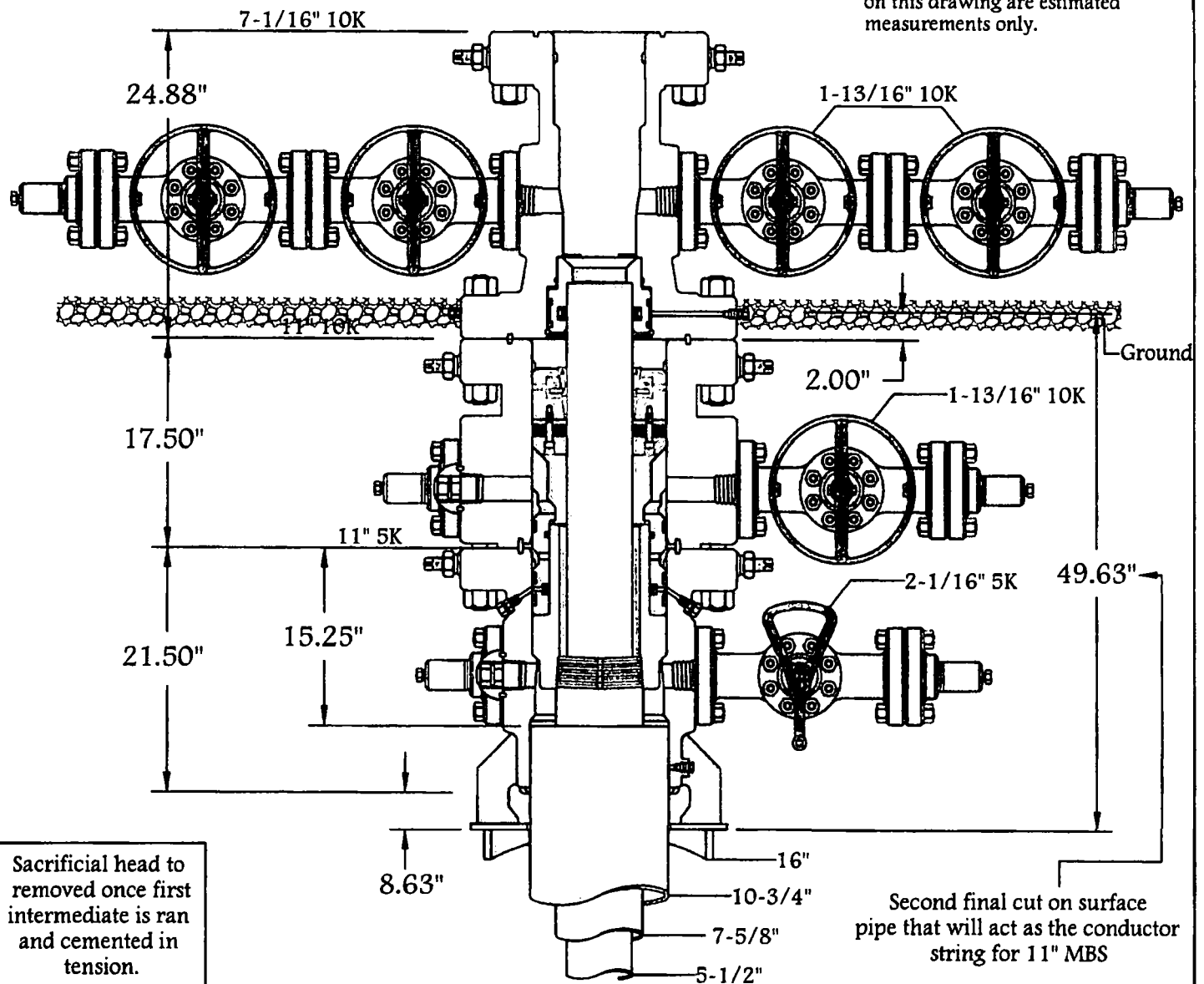
Mud Cross Valves:

5. 10M Check Valve
6. Outside 10M Kill Line Valve
7. Inside 10M Kill Line Valve
8. Outside 10M Kill Line Valve
9. 10M HCR Valve

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



Note: Dimensional information reflected on this drawing are estimated measurements only.



11" 10K MBS 4-String

CAMERON
A Schlumberger Company

Name	Brandon	Date	7-18-17	Working Pressure	#	B-0116
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