OCD Artesia

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NM OIL CONSERVATION
ARTESIA DISTRICT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

NOV 14 2016

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

RECEIVED

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM19199

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
CAL-MON 35 FEDERAL 41H

2. Name of Operator
OXY USA INCORPORATED
Contact: DAVID STEWART
E-Mail: david_stewart@oxy.com

9. API Well No.
30-015-43140-00-X1

3a. Address
5 GREENWAY PLAZA SUITE 110
HOUSTON, TX 77046-0521

3b. Phone No. (include area code)
Ph: 432.685.5717

10. Field and Pool, or Exploratory
INGLE WELLS

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 35 T23S R31E NWNW 0250FNL 0710FWL
32.267378 N Lat, 103.754341 W Lon

11. County or Parish, and State
EDDY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall 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 requests approval for the following changes to the approved APD:

1. Change the well name and number from Cal-Mon Federal #21H to the Cal-Mon 35 Federal #41H, see attached.

2. Drill a pilothole and amend the proposed TD and horizontal completion interval. New TD - 17191'M 12570'V - Pilothole - 12867', See attached.
This well was originally permitted in the Cotton Draw Bone Spring and will now be completed first in the Wolfcamp.

3. Amend casing/cementing program - Amend casing sizes, setting depth and run liner completion string, See attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #352118 verified by the BLM Well Information System
For OXY USA INCORPORATED, sent to the Carlsbad
Committed to AFMSS for processing by DEBORAH MCKINNEY on 10/04/2016 (17DLM0004SE)

Name *(Printed/Typed)* DAVID STEWART — Title REGULATORY ADVISOR

Signature (Electronic Submission) — Date 09/22/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHARLES NIMMER — Title PETROLEUM ENGINEER — Date 11/08/2016

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Carlsbad

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional data for EC transaction #352118 that would not fit on the form

32. Additional remarks, continued

Oxy is requesting permission to have minimum fill of cement behind the 4-1/2" production liner and to be 100' into previous casing string. The reason for this is so that we can come back and develop shallower benches from the same 7-5/8" main wellbore in the future. Our plan is to use a whipstock for our exit through the main wellbore and based on our lateral target, we are planning a whipstock cased/hole exit so that kick-off point will allow for roughly 10deg/100? doglegs needed for the curve. Cement will be brought to the top of this liner hanger.

4. Amend BOP Program and testing, see attached.
Because it is not possible to land a 16-3/4" test plug through 13-5/8" BOP, Oxy is requesting permission to test the BOP against the lower pipe rams after N/U BOP on 16-3/4" wellhead. The lower pipe rams will serve as a test plug.
A 2M, 10 minute test will be performed on all BOP components. Maximum Anticipated Surface Pressure for drilling the 13-1/2" hole section is:
(4481' x 10 ppg x 0.052) ? (0.1 psi/ft x 4481') = 1882 psi
Upper pipe rams will be tested against lower pipe rams
Annular will also against the lower pipe rams
Blind rams will be tested against casing with nothing in the hole
This will be a 30 minute test
Lower pipe rams will be tested against casing after running the BHA in the hole
Test pressure will not exceed 70% burst of 16" casing. This test will also serve as a casing test, and will be held for 30 minutes.
After cementing the 10-3/4" casing, subsequent tests on BOP will be performed using a traditional test plug

5. Amend the Mud Program, see attached.

6. Amend the Logging Procedure, see attached.

OXY USA Inc. - Cal-Mon 35 Federal 41H

1. Geologic Formations

TVD of Target	12570'	Pilot Hole Depth	12867'
MD at TD	17195'	Deepest Expected Fresh Water	708'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	708	
Salado	1013	
Lamar/Delaware	4381	Oil/Gas
Bell Canyon*	4420	Water/Oil/Gas
Cherry Canyon*	5177	Oil/Gas
Lower Cherry Canyon*	6508	Oil/Gas
Brushy Canyon*	6545	Oil/Gas
1st Bone Spring	8228	Oil/Gas
Lower Avalon	8810	Oil/Gas
2nd Bone Spring	9556	Oil/Gas
3rd Bone Spring	10432	Oil/Gas
Wolfcamp	**11605**	**Oil/Gas**
Strawn	13412	Oil/Gas

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

2. Casing Program

Hole Size (in)	Casing Interval		Csg. Size	Weight	Grade	Conn.	SF	SF Burst	SF
	From (ft)	To (ft)	(in)	(lbs)			Collapse		Tension
20	0	758	16	75	J55	BTC	3.01	1.27	2.73
13.5	0	4431	10.75	45.5	J55	BTC	2.11	1.26	2.14
9.875	0	7500	7.625	29.7	L80	BTC	1.21	1.22	1.6
9.875	7500	10000	7.625	29.7	HC L-80	BTC	1.13	1.22	2.97
9.875	10000	11655	7.625	29.7	HC P-110	BTC	1.14	1.78	5.56
6.75	11555	17195	4.5	13.5	P-110	DQX	1.72	1.21	2.45

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

	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 3rd 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 2nd 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	696	14.8	1.36	6.55	6:30	Premium Plus Cement 2% Calcium Chloride – Flake (Accelerator)
1st Intermediate	1173	12.9	1.85	9.84	12:22	TUNED LIGHT (TM) SYSTEM 0.80% HR-601(Retarder), 3 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
	496	14.8	1.33	6.34	7:19	Super H Cement, 0.1 % HR-800 (Retarder), 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.3 % CFR-3 (Dispersant), 2 lbm Kol-Seal (Lost Circulation Additive), 3 lbm Salt (Salt)
Production Casing	804	10.3	3.05	15.63	15:07	TUNED LIGHT (TM) SYSTEM 0.80% HR-601(Retarder), 3 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
	300	13.2	1.65	8.45	12:57	Super H Cement, 0.1 % HR-800 (Retarder), 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.3 % CFR-3 (Dispersant), 2 lbm Kol-Seal (Lost Circulation Additive), 3 lbm Salt (Salt)
Production Liner	558	13.2	1.63	8.37	15:15	Super H Cement, 0.1 % HR-800 (Retarder), 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.4 % CFR-3 (Dispersant), 3 lbm Salt (Salt)

Casing String	Top of Lead (ft)	Btm of Lead / Top of Tail (ft)	Btm of Tail (ft)	% Excess Lead	% Excess Tail
Surface	N/A	0	758		50%
1st Intermediate	0	3431	4431	75%	75%
Production Casing	3931	10655	11655	75%	125%
Production Liner	N/A	11555	17195		15%

- **Cement Top and Liner Overlap**
  - Oxy is requesting permission to have minimum fill of cement behind the 4-1/2" production liner to be 100 ft into previous casing string
    - The reason for this is so that we can come back and develop shallower benches from the same 7-5/8" mainbore in the future
  - Our plan is to use a whipstock for our exit through the mainbore
    - Based on our lateral target, we are planning a whipstock cased/hole exit so that kick-off point will allow for roughly 10deg/100' doglegs needed for the curve
  - Cement will be brought to the top of this liner hanger

Include Pilot Hole Cementing specs:
Pilot hole depth: 12867' MD
KOP: 11585' MD (Open Hole)

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type
12211' MD	12867' MD	40	192	15.6	1.19	5.39	VersaCem H, 100% Cement H, 0.2% HR-601 (Retarder), 0.5% GasStop
11555' MD	12211' MD	40	173	14.4	1.246	5.73	VersaCem H, 50% Cement H, 50% Poz mix, 2% Bentonite, 0.3% CFR-3 (friction reducer)

Note: The first plug is designed to be 656' in length to isolate the bottom Wolfcamp from potential high pressure zones. The second one plug is designed to be 656' in length to isolate the 7-5/8" casing shoe from 11,555' to 12,211' (100' inside the shoe).

4. Pressure Control Equipment

BOP installed and tested before drilling which	Size?	Min. Required WP	Type	✓	Tested to:
13.5" 1st Intermediate	13-5/8"	2M	Annular	✓	70% of working pressure
		2M	Blind Ram	✓	250/2,000 psi
			Upper Pipe Ram		
			Double Ram	✓	
			Lower Pipe Ram		
9.875" 2nd Intermediate Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250/5,000 psi
			Upper Pipe Ram	✓	
			Double Ram		
			Lower Pipe Ram	✓	
6.75" Pilot Hole	13-5/8"	10M	Annular	✓	70% of working pressure
		10M	Blind Ram	✓	250/10,000 psi
			Upper Pipe Ram	✓	
			Double Ram		
			Lower Pipe Ram	✓	

*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.

- **BOP Pressure Test**
  - Because it is not possible to land a 16-3/4" test plug through 13-5/8" BOP, Oxy is requesting permission to test the BOP against the lower pipe rams after N/U BOP on 16-3/4" wellhead
    - The lower pipe rams will serve as a test plug
  - A 2M, 10 minute test will be performed on all BOP components
    - Maximum Anticipated Surface Pressure for drilling the 13-1/2" hole section is:
      - (4481' x 10 ppg x 0.052) – (0.1 psi/ft x 4481') = 1882 psi
  - Upper pipe rams will be tested against lower pipe rams
  - Annular will also against the lower pipe rams
  - Blind rams will be tested against casing with nothing in the hole
    - This will be a 30 minute test
  - Lower pipe rams will be tested against casing after running the BHA in the hole
    - Test pressure will not exceed 70% burst of 16" casing
    - This test will also serve as a casing test, and will be held for 30 minutes
  - After cementing the 10-3/4" casing, subsequent tests on BOP will be performed using a traditional test plug

	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 wellhead is being used. 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. See attached schematic.	

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	758	EnerSeal (MMH)	8.4-8.6	40-60	N/C
758	4431	Brine	9.8-10.0	35-45	N/C
4431	11655	EnerSeal (MMH)	9.4-10.0	38-50	N/C
11655	Pilot TD (12867)	Water-Based Mud	11.0-12.0 ~~10.0-13.5~~ ~~12.5-13.0~~	42-48	<10cc
11455	17195	Oil-Based Mud	~~10-12.0~~	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.

Correction Via Operator

Oxy proposes to drill out the 16" surface casing shoe with a saturated brine system from 758' - 4431', which is the intermediate casing point. At this point we will drill out the intermediate casing with a high viscosity mixed metal hydroxide system. We will drill with this system to the Production casing TD @ 11655'.

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

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	
No	CBL	
Yes	Mud log	Surface Shoe - TD
Yes	PEX	Delaware - Top Bone Spring and 2nd Intermediate - Pilot TD

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	9033 psi (Pilot TD) and 7310 psi (Lateral)
Abnormal Temperature	No

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 already submitted.

8. Other facts of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe.	No
Will more than one drilling rig be used for drilling operations? If yes, describe.	No

Attachments
_x__ Directional Plan
_x__ Casing Specs Sheet

9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Ludwing Franco	Drilling Engineer	713-366-5174	832-523-6392
Tim Barnard	Drilling Engineer Team Lead	713-366-5706	281-740-3084
Amrut Athavale	Drilling Engineer Supervisor	713-350-4747	281-740-4448
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Angie Contreras	Drilling & Completions Manager	713-497-2012	832-605-4882
Daniel Holderman	Drilling Manager	713-497-2006	832-525-9029

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

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

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

☑ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-43140		Wildcat Wolfcamp

Property Code	Property Name	Well Number
	CAL-MON "35" FEDERAL	41H

OGRID No.	Operator Name	Elevation
16696	OXY USA INC.	3456.2'

Surface Location

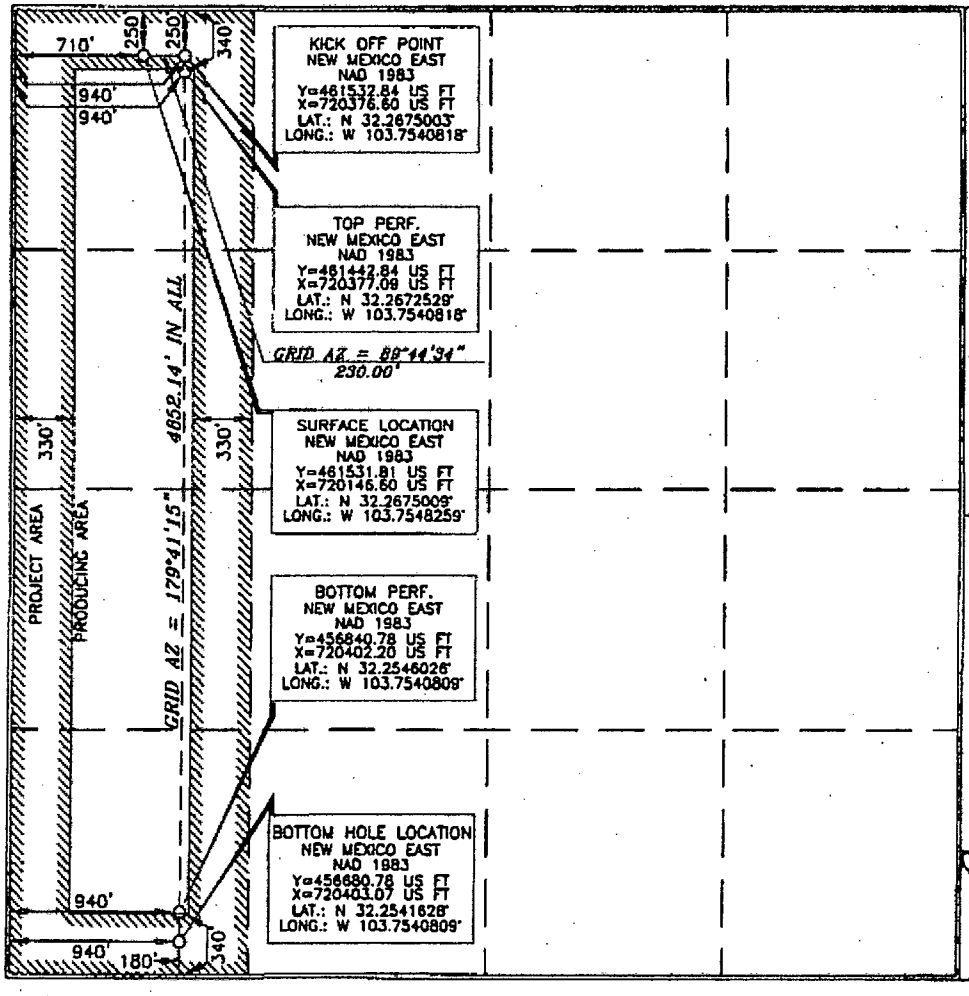
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	35	23 SOUTH	31 EAST, N.M.P.M.		250'	NORTH	710'	WEST	EDDY

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
M	35	23 SOUTH	31 EAST, N.M.P.M.		180'	SOUTH	940'	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160	N		

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.



OPERATOR CERTIFICATION

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

Signature — Date: 9/21/16

David Stewart SR. Reg Adv.
Printed Name

david_stewart@oxy.com
E-mail Address

SURVEYOR CERTIFICATION

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

JERRY J. ASH
NEW MEXICO
15079
REGISTERED PROFESSIONAL LAND SURVEYOR

AUGUST 3, 2016
Date of Survey

Signature and Seal of Professional Surveyor

9/15/2016
Certificate Number 15079

WO# 160803WL (Rev. A) (KA)

Schlumberger ST01 Plan - Rev3 OXY RKB = 26.5 ft

Borehole:	Well:	Field:	Structure:
ST01	Oxy Cal-Mon 35 Federal 41H	NM Eddy County (NAD 83)	Oxy Cal-Mon 35 Federal 41H

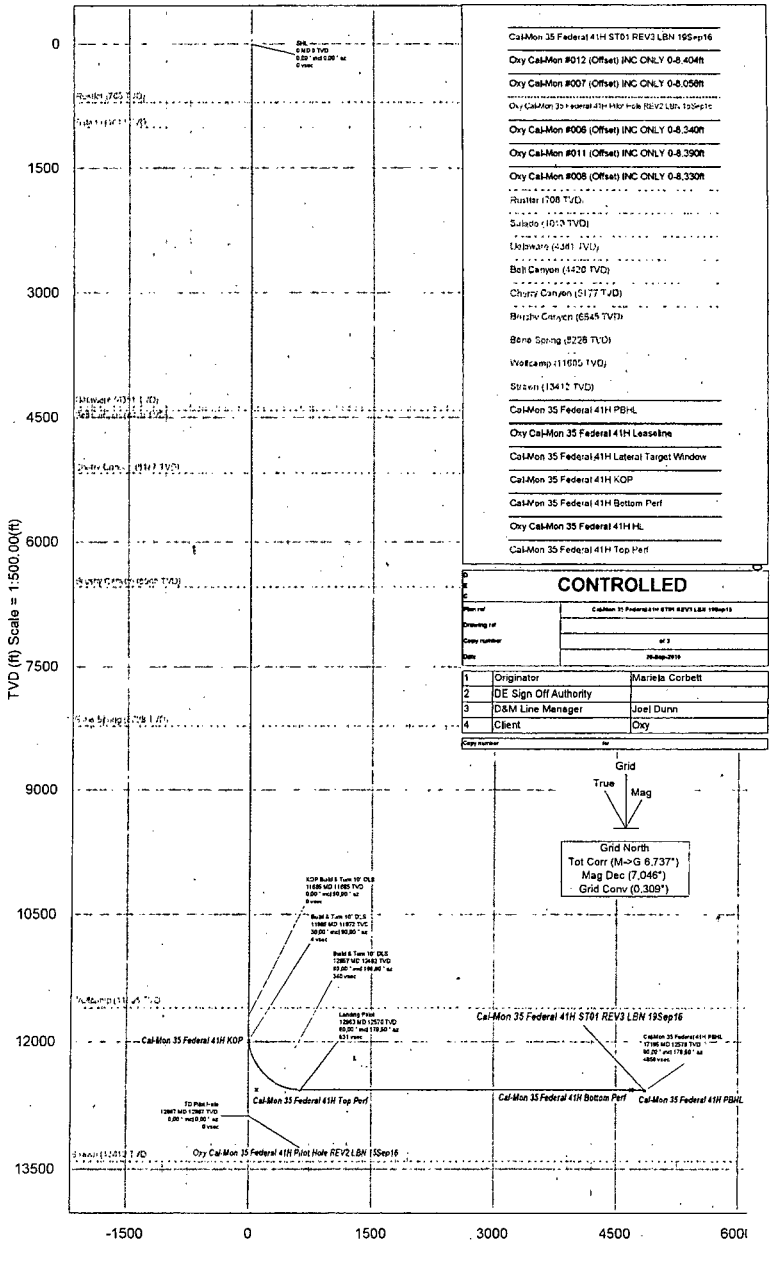
Gravity & Magnetic Parameters					Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous		
Model:	HDGM 2016	Dip:	60.089°	Date:	15-Sep-2016	Lat:	N 32 18 3.00	Northing:	461531.81ftUS	Grid Conv:	0.3089°	Slot:	Oxy Cal-Mon 35 Federal 41H	TVD Ref:	RKB=26.5'(3482.7ft above MSL)
MagDec:	7.046°	FS:	48245.498nT	Gravity FS:	998.448mgn (9.80665 Based)	Lon:	W 103 45 17.37	Easting:	720146.6ftUS	Scale Fact:	0.99994571	Plan:	Cal-Mon 35 Federal 41H ST01 REV3 LBN 19Sep16		

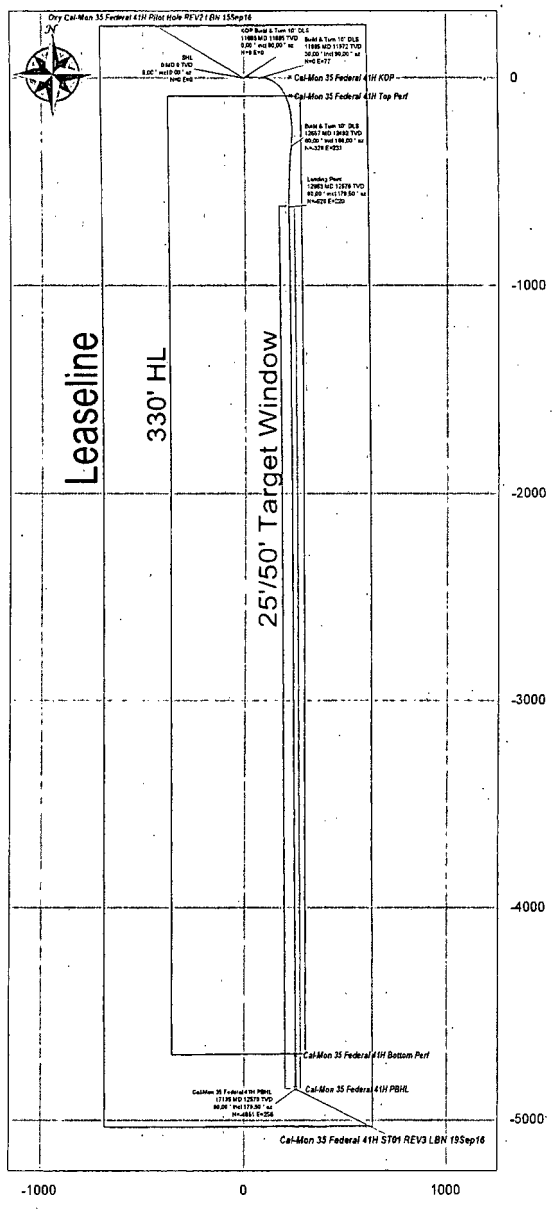
Pilot Hole Critical Points

Comments	Survey MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Sub-Sea TVD	VS (ft)	NS (ft)	EW (ft)	Latitude (deg)	Longitude (deg)	Easting (ftUS)	Northing (ftUS)	DLS (°/100ft)	Tool Face (deg)
SHL	0.00	0.00	0.00	0.00	-3482.70	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81		0.00
Rustler	708.00	0.00	0.00	708.00	-2774.70	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	0.00
Salado	1013.00	0.00	0.00	1013.00	-2469.70	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	0.00
Delaware	4381.00	0.00	0.00	4381.00	898.30	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	0.00
Bell Canyon	4420.00	0.00	0.00	4420.00	937.30	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	0.00
Cherry Canyon	5177.00	0.00	0.00	5177.00	1694.30	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	0.00
Brushy Canyon	6545.00	0.00	0.00	6545.00	3062.30	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	0.00
Bone Spring	8228.00	0.00	0.00	8228.00	4745.30	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	0.00
Wolfcamp	11605.00	0.00	0.00	11605.00	8122.30	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	
TD Pilot Hole	12867.00	0.00	0.00	12867.00	9384.30	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	

ST01 Critical Points

Comments	Survey MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Sub-Sea TVD	VS (ft)	NS (ft)	EW (ft)	Latitude (deg)	Longitude (deg)	Easting (ftUS)	Northing (ftUS)	DLS (°/100ft)	Tool Face (deg)
KOP Build & Turn 10° DLS	11685.30	0.00	90.00	11685.30	8202.60	0.00	0.00	0.00	N 32 16 3.003	W 103 45 17.373	720146.60	461531.81	0.00	90.00
Build & Turn 10° DLS	11985.30	30.00	90.00	11971.78	8489.08	4.05	0.00	76.76	N 32 16 2.999	W 103 45 16.479	720223.36	461531.81	10.00	110.87
Build & Turn 10° DLS	12657.15	60.00	186.00	12491.64	9008.94	339.60	-327.78	232.59	N 32 15 59.747	W 103 45 14.685	720379.16	461204.05	10.00	-12.83
Landing Point	12963.46	90.00	179.50	12570.10	9087.40	630.58	-619.84	219.75	N 32 15 56.858	W 103 45 14.853	720366.34	460912.00	10.00	
Cal-Mon 35 Federal 41H PBHL	17195.10	90.00	179.50	12570.00	9087.30	4858.08	-4851.30	256.48	N 32 15 14.986	W 103 45 14.691	720403.07	456680.78	0.00	





EW (ft) Scale = 1:200.00(ft)

Vertical Section (ft) Azim = 176.975° Scale = 1:500.00(ft) Origin = 0N/-S, 0E/-W

Schlumberger

Cal-Mon 35 Federal 41H ST01 REV3 LBN 19Sep16 Proposal Geodetic Report

(Non-Def Plan)

Report Date:	September 20, 2016 - 10:56 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	176.974 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Cal-Mon 35 Federal 41H / Oxy Cal-Mon 35 Federal 41H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Cal-Mon 35 Federal 41H	**TVD Reference Elevation:**	3482.700 ft above MSL
Borehole:	ST01	**Seabed / Ground Elevation:**	3456.200 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.046 °
Survey Name:	Cal-Mon 35 Federal 41H ST01 REV3 LBN 19Sep16	**Total Gravity Field Strength:**	998.4457mgn (9.80665 Based)
Survey Date:	September 15, 2016	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	127.818 ° / 5010.008 ft / 5.942 / 0.399	**Total Magnetic Field Strength:**	48245.498 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.089 °
Location Lat / Long:	N 32° 16' 3.00320", W 103° 45' 17.37339"	**Declination Date:**	September 15, 2016
Location Grid N/E Y/X:	N 461531.810 ftUS, E 720146.600 ftUS	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	0.3089 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99994571	**Grid Convergence Used:**	0.3089 °
Version / Patch:	2.9.370.0	**Total Corr Mag North->Grid North:**	6.7375 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In to Pilot Hole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	100.00	0.00	90.00	100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	200.00	0.00	90.00	200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	300.00	0.00	90.00	300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	400.00	0.00	90.00	400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	500.00	0.00	90.00	500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	600.00	0.00	90.00	600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	700.00	0.00	90.00	700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	800.00	0.00	90.00	800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	900.00	0.00	90.00	900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1000.00	0.00	90.00	1000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1100.00	0.00	90.00	1100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1200.00	0.00	90.00	1200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1300.00	0.00	90.00	1300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1400.00	0.00	90.00	1400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1500.00	0.00	90.00	1500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1600.00	0.00	90.00	1600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1700.00	0.00	90.00	1700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1800.00	0.00	90.00	1800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1900.00	0.00	90.00	1900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2000.00	0.00	90.00	2000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2100.00	0.00	90.00	2100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2200.00	0.00	90.00	2200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2300.00	0.00	90.00	2300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2400.00	0.00	90.00	2400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2500.00	0.00	90.00	2500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2600.00	0.00	90.00	2600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2700.00	0.00	90.00	2700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2800.00	0.00	90.00	2800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2900.00	0.00	90.00	2900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3000.00	0.00	90.00	3000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3100.00	0.00	90.00	3100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3200.00	0.00	90.00	3200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3300.00	0.00	90.00	3300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3400.00	0.00	90.00	3400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3500.00	0.00	90.00	3500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3600.00	0.00	90.00	3600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3700.00	0.00	90.00	3700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3800.00	0.00	90.00	3800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3900.00	0.00	90.00	3900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4000.00	0.00	90.00	4000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4100.00	0.00	90.00	4100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4200.00	0.00	90.00	4200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4300.00	0.00	90.00	4300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4400.00	0.00	90.00	4400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4500.00	0.00	90.00	4500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4600.00	0.00	90.00	4600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4700.00	0.00	90.00	4700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4800.00	0.00	90.00	4800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4900.00	0.00	90.00	4900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5000.00	0.00	90.00	5000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5100.00	0.00	90.00	5100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5200.00	0.00	90.00	5200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5300.00	0.00	90.00	5300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5400.00	0.00	90.00	5400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5500.00	0.00	90.00	5500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5600.00	0.00	90.00	5600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5700.00	0.00	90.00	5700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5800.00	0.00	90.00	5800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5900.00	0.00	90.00	5900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6000.00	0.00	90.00	6000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6100.00	0.00	90.00	6100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6200.00	0.00	90.00	6200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6300.00	0.00	90.00	6300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6400.00	0.00	90.00	6400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6500.00	0.00	90.00	6500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6600.00	0.00	90.00	6600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6700.00	0.00	90.00	6700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6800.00	0.00	90.00	6800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6900.00	0.00	90.00	6900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7000.00	0.00	90.00	7000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7100.00	0.00	90.00	7100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7200.00	0.00	90.00	7200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7300.00	0.00	90.00	7300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7400.00	0.00	90.00	7400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7500.00	0.00	90.00	7500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7600.00	0.00	90.00	7600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7700.00	0.00	90.00	7700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7800.00	0.00	90.00	7800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7900.00	0.00	90.00	7900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8000.00	0.00	90.00	8000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8100.00	0.00	90.00	8100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8200.00	0.00	90.00	8200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8300.00	0.00	90.00	8300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8400.00	0.00	90.00	8400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8500.00	0.00	90.00	8500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8600.00	0.00	90.00	8600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8700.00	0.00	90.00	8700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8800.00	0.00	90.00	8800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8900.00	0.00	90.00	8900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9000.00	0.00	90.00	9000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9100.00	0.00	90.00	9100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9200.00	0.00	90.00	9200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9300.00	0.00	90.00	9300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9400.00	0.00	90.00	9400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9500.00	0.00	90.00	9500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9600.00	0.00	90.00	9600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9700.00	0.00	90.00	9700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9800.00	0.00	90.00	9800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9900.00	0.00	90.00	9900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10000.00	0.00	90.00	10000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10100.00	0.00	90.00	10100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10200.00	0.00	90.00	10200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10300.00	0.00	90.00	10300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10400.00	0.00	90.00	10400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10500.00	0.00	90.00	10500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10600.00	0.00	90.00	10600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10700.00	0.00	90.00	10700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10800.00	0.00	90.00	10800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10900.00	0.00	90.00	10900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11000.00	0.00	90.00	11000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11100.00	0.00	90.00	11100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11200.00	0.00	90.00	11200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11300.00	0.00	90.00	11300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11400.00	0.00	90.00	11400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11500.00	0.00	90.00	11500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11600.00	0.00	90.00	11600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
KOP Build & Turn 10° DLS	11685.30	0.00	90.00	11685.30	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11700.00	1.47	90.00	11700.00	0.01	0.00	0.19	10.00	461531.81	720146.79	N 32 16 3.00	W 103 45 17.37
	11800.00	11.47	90.00	11799.24	0.60	0.00	11.44	10.00	461531.81	720158.04	N 32 16 3.00	W 103 45 17.24
	11900.00	21.47	90.00	11895.01	2.10	0.00	39.76	10.00	461531.81	720186.36	N 32 16 3.00	W 103 45 16.91
Build & Turn 10° DLS	11985.30	30.00	90.00	11971.78	4.05	0.00	76.76	10.00	461531.81	720223.36	N 32 16 3.00	W 103 45 16.48
	12000.00	29.51	92.79	11984.54	4.61	-0.18	84.05	10.00	461531.63	720230.65	N 32 16 3.00	W 103 45 16.39
	12100.00	27.85	113.43	12072.49	17.55	-10.69	130.20	10.00	461521.12	720276.79	N 32 16 2.89	W 103 45 15.86
	12200.00	29.41	134.14	12160.48	46.04	-37.15	169.35	10.00	461494.66	720315.94	N 32 16 2.63	W 103 45 15.40
	12300.00	33.73	151.45	12245.83	89.21	-78.74	200.32	10.00	461453.07	720346.91	N 32 16 2.21	W 103 45 15.05
	12400.00	39.93	164.61	12325.96	145.76	-134.21	222.16	10.00	461397.60	720368.75	N 32 16 1.66	W 103 45 14.79
	12500.00	47.25	174.52	12398.43	213.96	-201.87	234.21	10.00	461329.95	720380.80	N 32 16 0.99	W 103 45 14.66
	12600.00	55.24	182.25	12461.04	291.74	-279.66	236.11	10.00	461252.16	720382.69	N 32 16 0.22	W 103 45 14.64
Build & Turn 10° DLS	12657.15	60.00	186.00	12491.64	339.60	-327.78	232.59	10.00	461204.05	720379.18	N 32 15 59.75	W 103 45 14.69
	12700.00	64.18	184.94	12511.69	377.04	-365.46	228.99	10.00	461166.37	720375.58	N 32 15 59.37	W 103 45 14.73
	12800.00	73.97	182.73	12547.37	469.66	-458.54	222.81	10.00	461073.30	720369.39	N 32 15 58.45	W 103 45 14.81
	12900.00	83.77	180.73	12566.65	567.32	-556.49	219.88	10.00	460975.36	720366.47	N 32 15 57.49	W 103 45 14.85
Landing Point	12983.48	90.00	179.50	12570.10	630.58	-619.84	219.75	10.00	460912.00	720366.34	N 32 15 56.86	W 103 45 14.85
	13000.00	90.00	179.50	12570.10	667.06	-656.36	220.07	0.00	460875.49	720366.66	N 32 15 56.50	W 103 45 14.85
	13100.00	90.00	179.50	12570.10	766.96	-756.35	220.94	0.00	460775.50	720367.52	N 32 15 55.51	W 103 45 14.85
	13200.00	90.00	179.50	12570.09	866.87	-856.35	221.80	0.00	460675.51	720368.39	N 32 15 54.52	W 103 45 14.84
	13300.00	90.00	179.50	12570.09	966.77	-956.35	222.67	0.00	460575.52	720369.26	N 32 15 53.53	W 103 45 14.84
	13400.00	90.00	179.50	12570.09	1066.67	-1056.34	223.54	0.00	460475.53	720370.13	N 32 15 52.54	W 103 45 14.84
	13500.00	90.00	179.50	12570.09	1166.57	-1156.34	224.41	0.00	460375.54	720371.00	N 32 15 51.55	W 103 45 14.83
	13600.00	90.00	179.50	12570.08	1266.48	-1256.34	225.28	0.00	460275.55	720371.86	N 32 15 50.56	W 103 45 14.83
	13700.00	90.00	179.50	12570.08	1366.38	-1356.33	226.15	0.00	460175.55	720372.73	N 32 15 49.57	W 103 45 14.82
	13800.00	90.00	179.50	12570.08	1466.28	-1456.33	227.01	0.00	460075.56	720373.60	N 32 15 48.58	W 103 45 14.82
	13900.00	90.00	179.50	12570.08	1566.18	-1556.32	227.88	0.00	459975.57	720374.47	N 32 15 47.59	W 103 45 14.82
	14000.00	90.00	179.50	12570.07	1666.09	-1656.32	228.75	0.00	459875.58	720375.34	N 32 15 46.60	W 103 45 14.81
	14100.00	90.00	179.50	12570.07	1765.99	-1756.32	229.62	0.00	459775.59	720376.20	N 32 15 45.61	W 103 45 14.81
	14200.00	90.00	179.50	12570.07	1865.89	-1856.31	230.49	0.00	459675.60	720377.07	N 32 15 44.62	W 103 45 14.81
	14300.00	90.00	179.50	12570.07	1965.79	-1956.31	231.35	0.00	459575.61	720377.94	N 32 15 43.63	W 103 45 14.80
	14400.00	90.00	179.50	12570.07	2065.70	-2056.31	232.22	0.00	459475.62	720378.81	N 32 15 42.64	W 103 45 14.80
	14500.00	90.00	179.50	12570.06	2165.60	-2156.30	233.09	0.00	459375.63	720379.68	N 32 15 41.65	W 103 45 14.79
	14600.00	90.00	179.50	12570.06	2265.50	-2256.30	233.96	0.00	459275.64	720380.54	N 32 15 40.66	W 103 45 14.79
	14700.00	90.00	179.50	12570.06	2365.41	-2356.29	234.83	0.00	459175.65	720381.41	N 32 15 39.68	W 103 45 14.79
	14800.00	90.00	179.50	12570.06	2465.31	-2456.29	235.69	0.00	459075.66	720382.28	N 32 15 38.69	W 103 45 14.78
	14900.00	90.00	179.50	12570.05	2565.21	-2556.29	236.56	0.00	458975.67	720383.15	N 32 15 37.70	W 103 45 14.78
	15000.00	90.00	179.50	12570.05	2665.11	-2656.28	237.43	0.00	458875.68	720384.02	N 32 15 36.71	W 103 45 14.78
	15100.00	90.00	179.50	12570.05	2765.02	-2756.28	238.30	0.00	458775.69	720384.88	N 32 15 35.72	W 103 45 14.77
	15200.00	90.00	179.50	12570.05	2864.92	-2856.27	239.17	0.00	458675.70	720385.75	N 32 15 34.73	W 103 45 14.77
	15300.00	90.00	179.50	12570.04	2964.82	-2956.27	240.03	0.00	458575.71	720386.62	N 32 15 33.74	W 103 45 14.76
	15400.00	90.00	179.50	12570.04	3064.72	-3056.27	240.90	0.00	458475.71	720387.49	N 32 15 32.75	W 103 45 14.76
	15500.00	90.00	179.50	12570.04	3164.63	-3156.26	241.77	0.00	458375.72	720388.36	N 32 15 31.76	W 103 45 14.76
	15600.00	90.00	179.50	12570.04	3264.53	-3256.26	242.64	0.00	458275.73	720389.22	N 32 15 30.77	W 103 45 14.75
	15700.00	90.00	179.50	12570.04	3364.43	-3356.26	243.51	0.00	458175.74	720390.09	N 32 15 29.78	W 103 45 14.75
	15800.00	90.00	179.50	12570.03	3464.33	-3456.25	244.37	0.00	458075.75	720390.96	N 32 15 28.79	W 103 45 14.74
	15900.00	90.00	179.50	12570.03	3564.24	-3556.25	245.24	0.00	457975.76	720391.83	N 32 15 27.80	W 103 45 14.74
	16000.00	90.00	179.50	12570.03	3664.14	-3656.24	246.11	0.00	457875.77	720392.70	N 32 15 26.81	W 103 45 14.74
	16100.00	90.00	179.50	12570.03	3764.04	-3756.24	246.98	0.00	457775.78	720393.56	N 32 15 25.82	W 103 45 14.73
	16200.00	90.00	179.50	12570.02	3863.94	-3856.24	247.85	0.00	457675.79	720394.43	N 32 15 24.83	W 103 45 14.73
	16300.00	90.00	179.50	12570.02	3963.85	-3956.23	248.71	0.00	457575.80	720395.30	N 32 15 23.84	W 103 45 14.73
	16400.00	90.00	179.50	12570.02	4063.75	-4056.23	249.58	0.00	457475.81	720396.17	N 32 15 22.85	W 103 45 14.72
	16500.00	90.00	179.50	12570.02	4163.65	-4156.23	250.45	0.00	457375.82	720397.04	N 32 15 21.86	W 103 45 14.72
	16600.00	90.00	179.50	12570.01	4263.55	-4256.22	251.32	0.00	457275.83	720397.90	N 32 15 20.87	W 103 45 14.71
	16700.00	90.00	179.50	12570.01	4363.46	-4356.22	252.19	0.00	457175.84	720398.77	N 32 15 19.89	W 103 45 14.71
	16800.00	90.00	179.50	12570.01	4463.36	-4456.21	253.05	0.00	457075.85	720399.64	N 32 15 18.90	W 103 45 14.71
	16900.00	90.00	179.50	12570.01	4563.26	-4556.21	253.92	0.00	456975.86	720400.51	N 32 15 17.91	W 103 45 14.70
	17000.00	90.00	179.50	12570.00	4663.17	-4656.21	254.79	0.00	456875.86	720401.38	N 32 15 16.92	W 103 45 14.70
	17100.00	90.00	179.50	12570.00	4763.07	-4756.20	255.66	0.00	456775.87	720402.24	N 32 15 15.93	W 103 45 14.69
Cal-Mon 35 Federal 41H PBHL	17195.10	90.00	179.50	12570.00	4858.08	-4851.30	256.48	0.00	456680.78	720403.07	N 32 15 14.99	W 103 45 14.69

Survey Type: Non-Def Plan

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")

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	ST01 / Cal-Mon 35 Federal 41H ST01 REV3 LBN 19Sep16
	1	26.500	17195.103	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	ST01 / Cal-Mon 35 Federal 41H ST01 REV3 LBN 19Sep16

Schlumberger

Oxy Cal-Mon 35 Federal 41H Pilot Hole REV2 LBN 15Sep16 Proposal
Geodetic Report
(Non-Def Plan)

Report Date:	September 15, 2016 - 03:10 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	0.000 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Cal-Mon 35 Federal 41H / Oxy Cal-Mon 35 Federal 41H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Cal-Mon 35 Federal 41H	**TVD Reference Elevation:**	3482.700 ft above MSL
Borehole:	Pilot Hole	**Seabed / Ground Elevation:**	3456.200 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.046 °
Survey Name:	Oxy Cal-Mon 35 Federal 41H Pilot Hole REV2 LBN 15Sep16	**Total Gravity Field Strength:**	998.4457mgn (9.80665 Based)
Survey Date:	September 15, 2016	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	0.000 ° / 0.000 ft / 0.000 / 0.000	**Total Magnetic Field Strength:**	48245.498 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.089 °
Location Lat / Long:	N. 32° 16' 3.00320", W 103° 45' 17.37339"	**Declination Date:**	September 15, 2016
Location Grid N/E Y/X:	N 461531.810 ftUS, E 720146.600 ftUS	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	0.3089 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99994571	**Grid Convergence Used:**	0.3089 °
Version / Patch:	2.9.370.0	**Total Corr Mag North->Grid North:**	6.7375 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	5900.00	0.00	0.00	5900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6200.00	0.00	0.00	6200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6300.00	0.00	0.00	6300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6400.00	0.00	0.00	6400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6500.00	0.00	0.00	6500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6700.00	0.00	0.00	6700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6800.00	0.00	0.00	6800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	6900.00	0.00	0.00	6900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7100.00	0.00	0.00	7100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7200.00	0.00	0.00	7200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7300.00	0.00	0.00	7300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7400.00	0.00	0.00	7400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7500.00	0.00	0.00	7500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7600.00	0.00	0.00	7600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7700.00	0.00	0.00	7700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	7800.00	0.00	0.00	7800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7900.00	0.00	0.00	7900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8000.00	0.00	0.00	8000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8100.00	0.00	0.00	8100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8200.00	0.00	0.00	8200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8300.00	0.00	0.00	8300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8400.00	0.00	0.00	8400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8500.00	0.00	0.00	8500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8600.00	0.00	0.00	8600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8700.00	0.00	0.00	8700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8800.00	0.00	0.00	8800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	8900.00	0.00	0.00	8900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9000.00	0.00	0.00	9000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9100.00	0.00	0.00	9100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9200.00	0.00	0.00	9200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9300.00	0.00	0.00	9300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9400.00	0.00	0.00	9400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9500.00	0.00	0.00	9500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9600.00	0.00	0.00	9600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9700.00	0.00	0.00	9700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9800.00	0.00	0.00	9800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	9900.00	0.00	0.00	9900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10000.00	0.00	0.00	10000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10100.00	0.00	0.00	10100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10200.00	0.00	0.00	10200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10300.00	0.00	0.00	10300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10400.00	0.00	0.00	10400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10500.00	0.00	0.00	10500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10600.00	0.00	0.00	10600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10700.00	0.00	0.00	10700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10800.00	0.00	0.00	10800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	10900.00	0.00	0.00	10900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11000.00	0.00	0.00	11000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11100.00	0.00	0.00	11100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11200.00	0.00	0.00	11200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11300.00	0.00	0.00	11300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11400.00	0.00	0.00	11400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11500.00	0.00	0.00	11500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11600.00	0.00	0.00	11600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11700.00	0.00	0.00	11700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11800.00	0.00	0.00	11800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	11900.00	0.00	0.00	11900.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12000.00	0.00	0.00	12000.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12100.00	0.00	0.00	12100.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12200.00	0.00	0.00	12200.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12300.00	0.00	0.00	12300.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12400.00	0.00	0.00	12400.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12500.00	0.00	0.00	12500.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12600.00	0.00	0.00	12600.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12700.00	0.00	0.00	12700.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
	12800.00	0.00	0.00	12800.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37
TD Pilot Hole	12867.00	0.00	0.00	12867.00	0.00	0.00	0.00	0.00	461531.81	720146.60	N 32 16 3.00	W 103 45 17.37

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

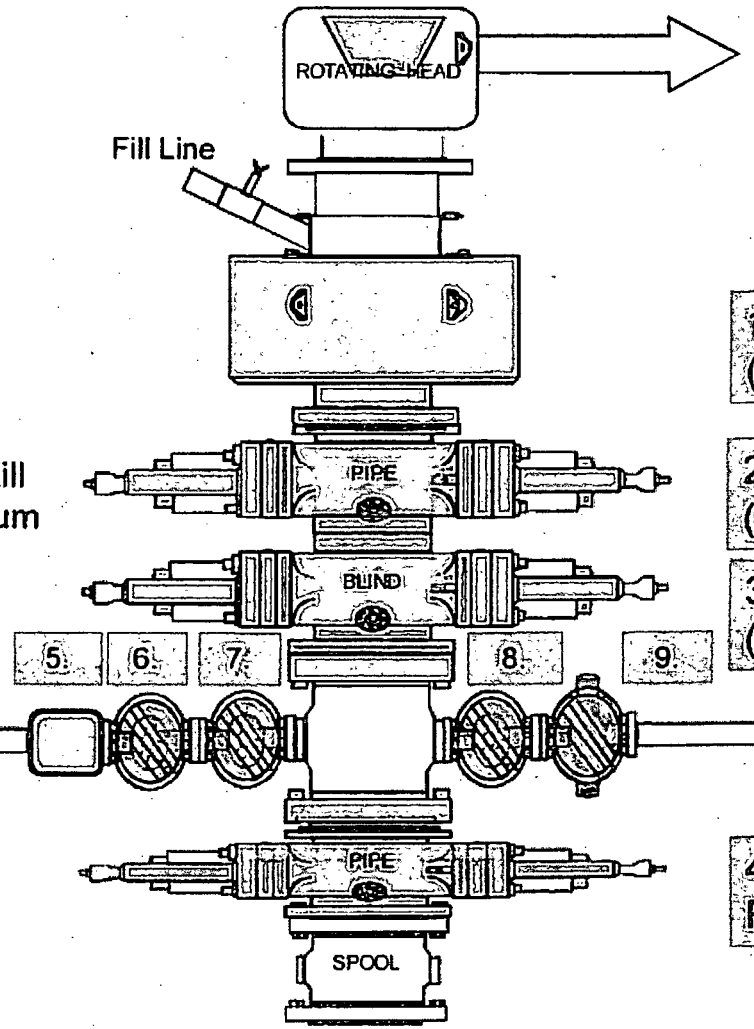
Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG-Depth Only	Pilot Hole / Oxy Cal-Mon 35 Federal 41H Pilot Hole REV2 LBN 15Sep16
	1	26.500	12867.000	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Pilot Hole / Oxy Cal-Mon 35 Federal 41H Pilot Hole REV2

5M BOP Stack

Mud Cross Valves:

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

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



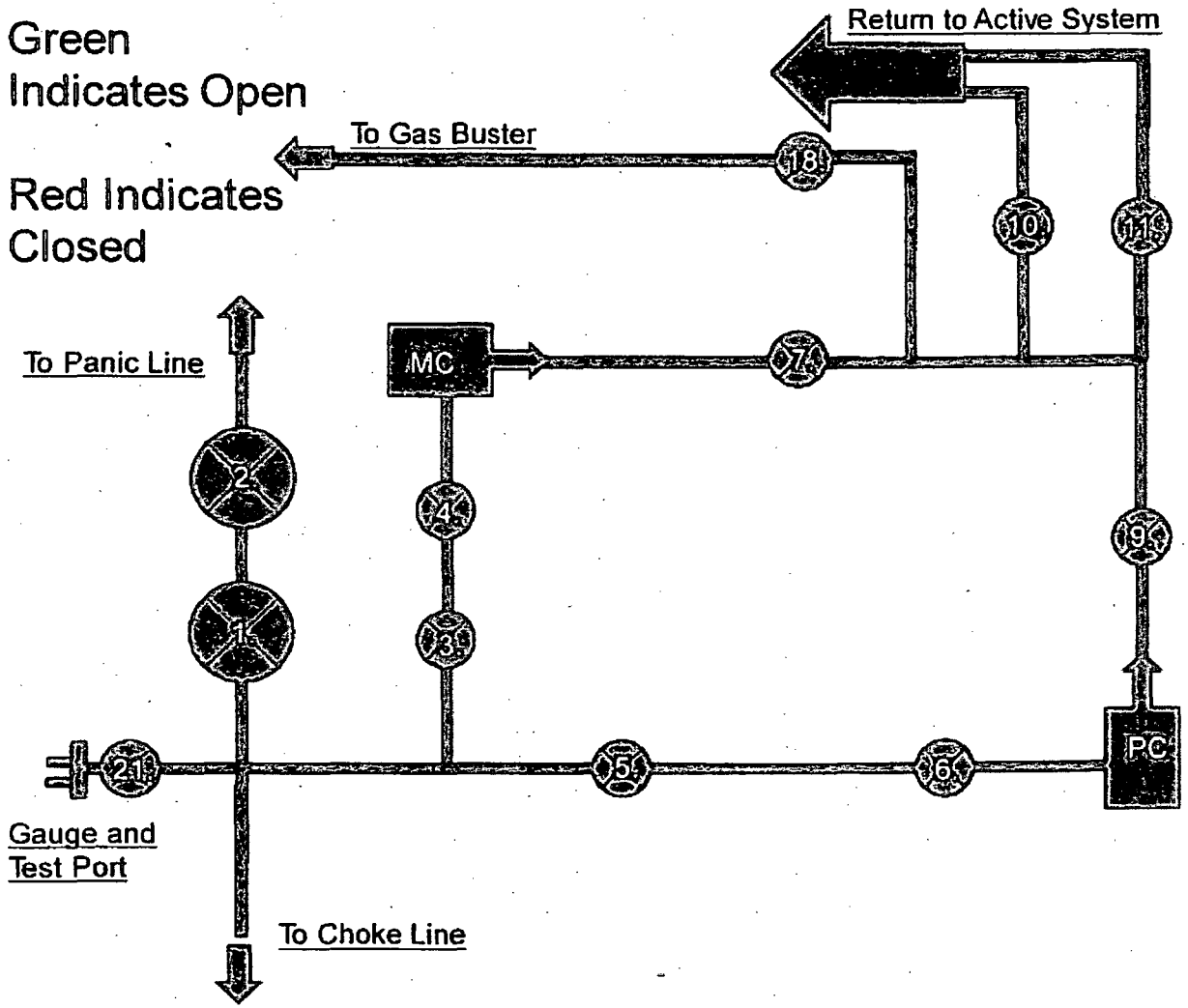
1. 5000 psi Annular (13-5/8" ID)
2. 5,000 psi Upper Pipe Ram (13-5/8" ID)
3. 5,000 psi Blind Ram (13-5/8" ID)
4. 5,000 psi Lower Pipe Ram (13-5/8" ID)

BOP (SW)

5M Choke Panel

Green
Indicates Open

Red Indicates
Closed



1. 4" Choke Manifold Valve
2. 4" Choke Manifold Valve
3. 3" Choke Manifold Valve
4. 3" Choke Manifold Valve
5. 3" Choke Manifold Valve
6. 3" Choke Manifold Valve
7. 3" Choke Manifold Valve
8. PC – Power Choke
9. 3" Choke Manifold Valve
10. 3" Choke Manifold Valve
11. Choke Manifold Valve
12. MC – Manual Choke

18. Choke Manifold Valve

21. Vertical Choke Manifold Valve

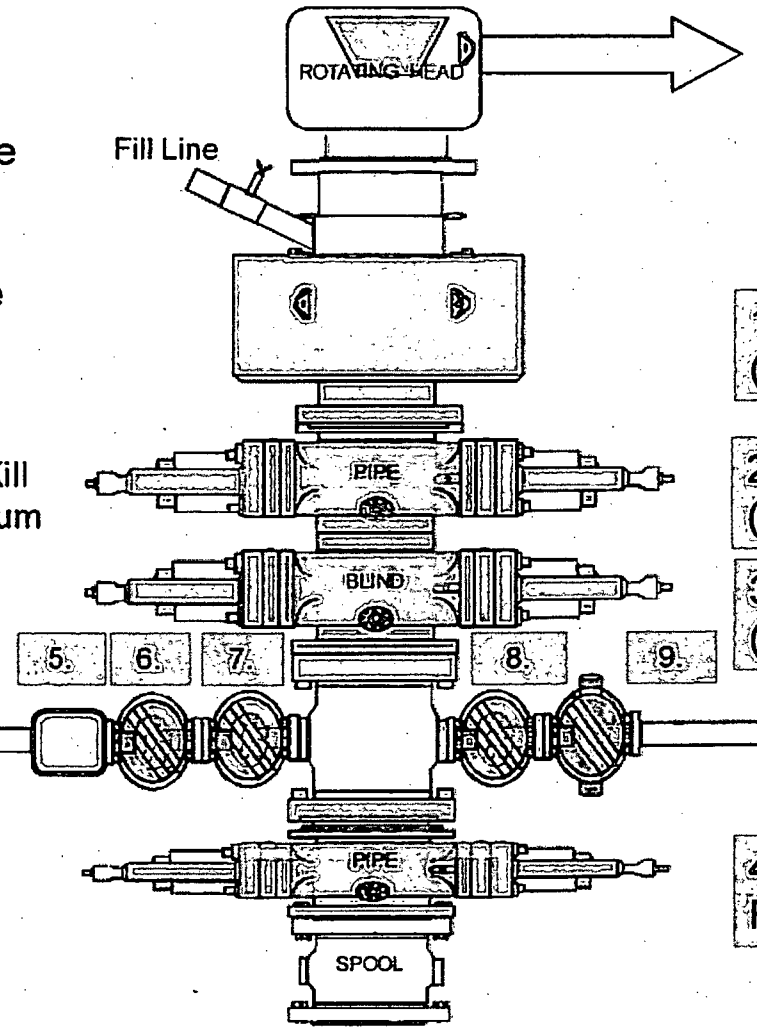
***All Valves 3" minimum**

10M BOP Stack

Mud Cross Valves:

5. 10M Check Valve
6. Outside 10M Kill Line Valve
7. Inside 10M Kill Line
8. Outside10M Kill Line Valve
9. 10M HCR Valve

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



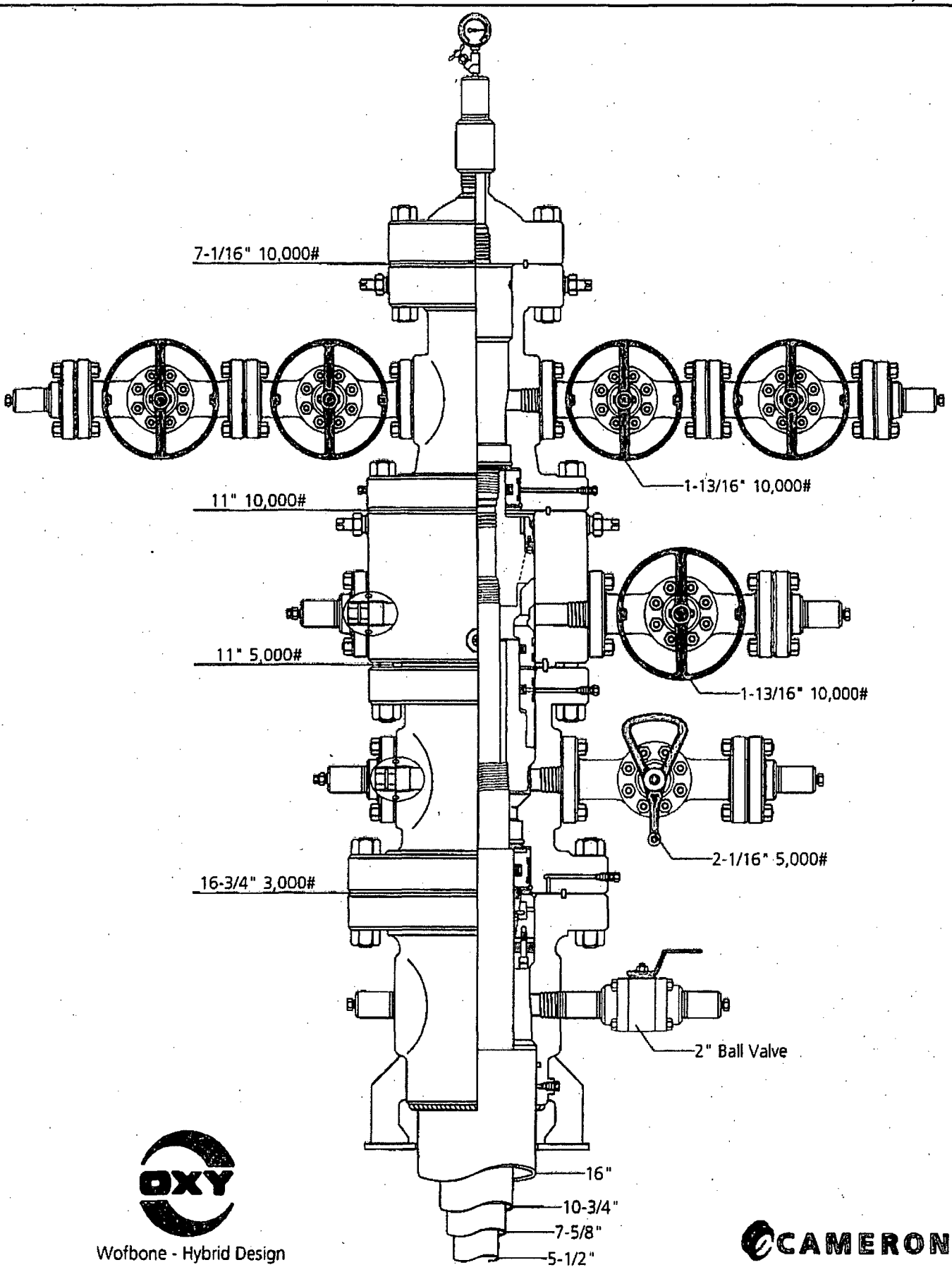
1. 10,000 psi Annular (13-5/8" ID)
2. 10,000 psi Upper Pipe Ram (13-5/8" ID)
3. 10,000 psi Blind Ram (13-5/8" ID)
4. 10,000 psi Lower Pipe Ram (13-5/8" ID)

To Kill Line

To Co-Flex and Choke Manifold

BOP (low)

WH (10M)



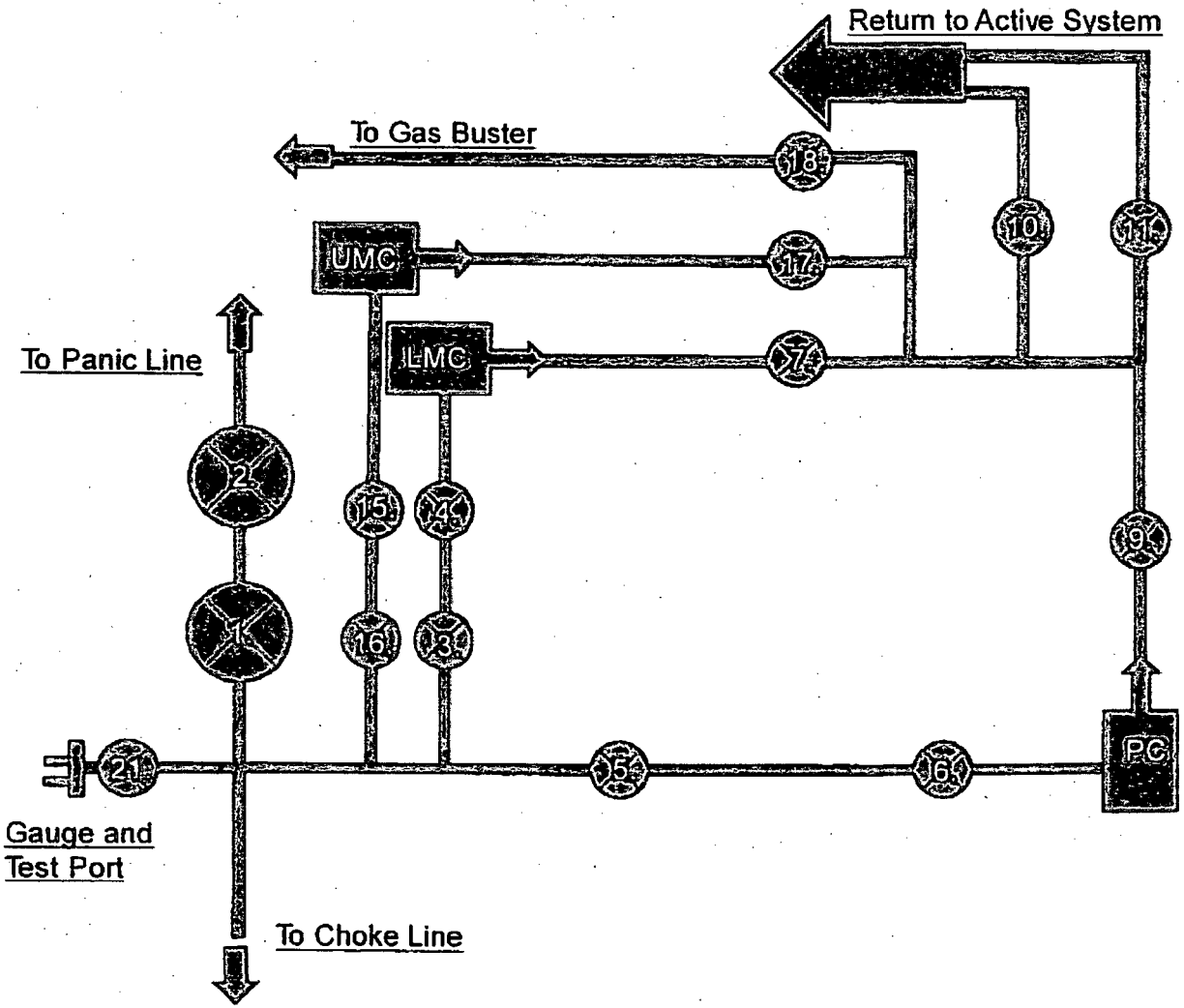
OXY

Wofbone - Hybrid Design

CAMERON

Jeanette	9-19 -14	#	1175306

10M Choke Panel



1. Choke Manifold Valve
2. Choke Manifold Valve
3. Choke Manifold Valve
4. Choke Manifold Valve
5. Choke Manifold Valve
6. Choke Manifold Valve
7. Choke Manifold Valve
8. PC – Power Choke
9. Choke Manifold Valve
10. Choke Manifold Valve
11. Choke Manifold Valve
12. LMC – Lower Manual Choke
13. UMC – Upper manual choke

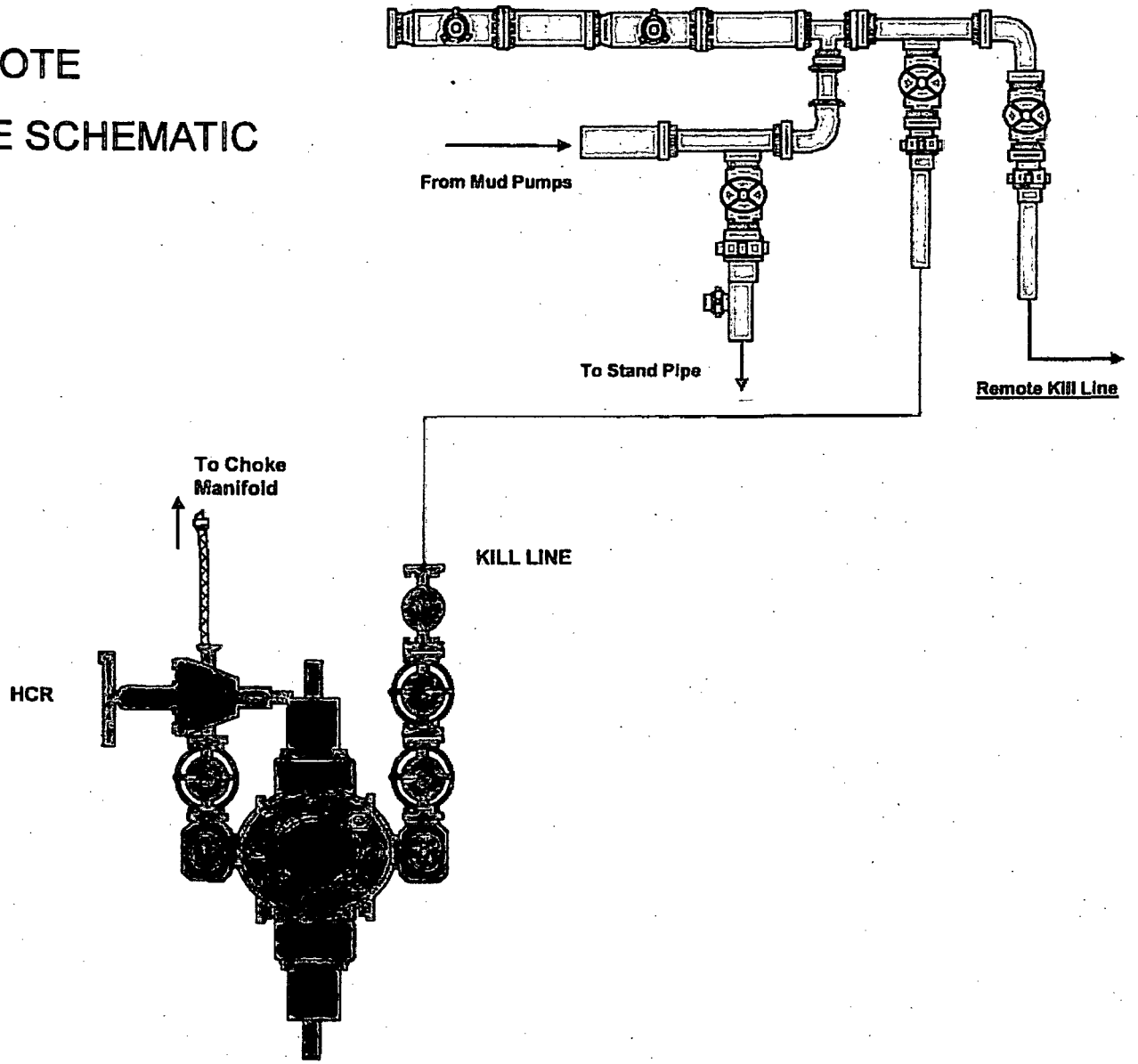
15. Choke Manifold Valve
16. Choke Manifold Valve
17. Choke Manifold Valve
18. Choke Manifold Valve

21. Vertical Choke Manifold Valve

***All Valves 3" minimum**

CM (10M)

10M REMOTE KILL LINE SCHEMATIC



CM (10M)

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Oxy USA, Inc.
LEASE NO.:	NMNM19199
WELL NAME & NO.:	41H-Cal-Mon 35 Federal
SURFACE HOLE FOOTAGE:	250'/N & 710'/W
BOTTOM HOLE FOOTAGE	330'/S & 710'/W
LOCATION:	Section 35, T.23 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

A. CASING

All previous COAs still apply except following:

1. The **16** inch surface casing shall be set at approximately **758** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt. Excess calculates 20% - Additional cement may be required.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **10 ¾** inch intermediate is:

    ☒ Cement to surface. Operator shall provide method of verification.

3. The minimum required fill of cement behind the **7-5/8** inch production casing is:

    ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

Formation below the 7-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the

pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Pilot hole is required to have a plug at the bottom of the hole. Iftwo plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be a minimum of 200 feet in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Top of Wolfcamp plug is required, tagged and witness. Proposed plug is approved as written.

4. The minimum required fill of cement behind the **4-1/2** inch production liner is:

   ☒ Cement should tie-back at least 100 feet into previous casing string. Operator shall provide method of verification. **Excess calculates 16% - Additional cement may be required.**

CLN 11082016