

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NM-100555
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name -----
2. Name of Operator OGX RESOURCES, LLC. (Jeff Birkelbach 432-685-1287)		7. If Unit or CA Agreement, Name and No. -----
3a. Address P. O. BOX 2064 MIDLAND, TEXAS 79702	3b. Phone No. (include area code) 432-685-1287	8. Lease Name and Well No. COOPER "31" FEDERAL COM. #4H
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 730' FEL & 1830' FSL SECTION 31 T25S-R29E At proposed prod. zone 330' FWL & 1830' FSL SECTION 31 T25S-R29E		9. API Well No. 30-015-39343
14. Distance in miles and direction from nearest town or post office* Approximately 12 miles Southeast of Malaga New Mexico		10. Field and Pool, or Exploratory BRUSHY DRAW - Delaware North
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 730'	16. No. of acres in lease 640	11. Sec., T. R. M. or Blk. and Survey or Area SECTION 31 T25S-R29E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2000'	19. Proposed Depth 7190' TVD 11,200' MD	12. County or Parish EDDY CO.
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2959' GL	22. Approximate date work will start* WHEN APPROVED	13. State NM
23. Estimated duration 30 days		
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature <i>Joe T. Janica</i>	Name (Printed/Typed) Joe T. Janica	Date 08/09/11
Title Permit Eng.		
Approved by (Signature) <i>Isi Don Peterson</i>	Name (Printed/Typed)	Date AUG 16 2011
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval 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.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

APPLICATION TO DRILL

OGX RESOURCES, LLC.
 COOPER "31" FEDERAL COM. #4H
 UNIT "1" SECTION 31
 T25S-R29E EDDY CO. NM

In response to questions asked under Section II of Bulletin NTL-6, the following information on the above well will be provided.

1. LOCATION: SURFACE: 2160' FSL & 330' FEL SECTION 31 T25S-R29E EDDY CO. NM
 BOTTOM HOLE: 2310' FSL & 330' FWL SECTION 31 T25S-R29E EDDY CO. NM
2. ELEVATION ABOVE SEA LEVEL: 2949³ GL.
3. GEOLOGICAL NAME OF SURFACE FORMATION: Quaternary Aeolian Deposits;
4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for the removal of solids from hole.
5. PROPOSED DRILLING DEPTH: TVD-~~7065'~~ MD-11,617'
 7165'

6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	950'	Cherry Canyon	3615'
Basal Anhydrite	2610'	Brushy Canyon	4770'
Lamar Lime	2750'	Bone Spring	7050'
Bell Canyon	2795'	TVD Bone Spring SH.	7065'

7. POSSIBLE MINERAL BEARING FORMATIONS:

Bell Canyon	Oil & Gas	Brushy Canyon	Oil & Gas
Cherry Canyon	Oil & Gas	Bone Spring	Oil & Gas

8. CASING PROGRAM:

See COA

HOLE SIZE	INTERVAL	CASING OD	WEIGHT	THREAD	COLLAR	GRADE	CONDITION
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26"	0-40	20"	NA	NA	NA	Conductor	New
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17½"	0- 525' 450'	13 3/8"	48#	8-R	ST&C	H-40	New
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11"	0- 2750' 2430'	8 5/8"	32#	8-R	ST&C	J-55	New
-----	---------------------------	--------	-----	-----	------	------	-----

7 7/8"	0-6600	5½"	17#	8-R	LT&C	P-110	New
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7 7/8"	6600-11,617'	5½"	17#	Butt.	BT&C	P-110	New
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Design Factors:	Collapse	1.125	Burst	1.00	Body Yield	1.5	Joint Strength
							8-R 1.8
							Buttress 1.6

APPLICATION TO DRILL

OGX RESOURCES, LLC.
COOPER "31" FEDERAL COM. #4H
UNIT "I" SECTION 31
T25S-R29E EDDY CO. NM

9. CASING CEMENTING AND SETTING DEPTHS:

20"	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-Mix.
13 3/8"	Surface	Run and set ⁴⁵⁰ 525 ' of 13 3/8" 48# H-40 ST&C casing. Cement with 325 Sx. of 35/65/6 Class "C" Premium Plus POZ cement + 6% Bentonite, + 5% Salt, + 5% MPA-5, + 0.7% Sodium Metasilicate, + 5# LCM/Sx. Yield 2.00, tail in with 200 Sx. of Class "C" Premium Plus cement + 2% CaCl, Yield 1.34, circulate cement to surface.
8 5/8"	Intermediate	Run and set ³⁴⁵⁰ 2750 ' of 8 5/8" 32# J-55 ST&C casing. Cement with 700 Sx. of 35/65 Premium Plus Class "C" POZ cement, + 4% Bentonite, + 5% Salt, + 5% MPA-5, + 0.7% Sodium Metasilicate, + 5# LCM/Sx. Yield 2.02, tail in with 200 Sx. of of Class "C" cement + 2% CaCl, Yield 1.34, circulate cement to surface.
5 1/2"	Production	Run and set 11,617' of 5 1/2" casing as follows: 5017' of 5 1/2" 17# P-110 BT&C, 6600' of 5 1/2" 17# P-110 LT&C casing. Cement with 500 Sx. of 35/65 Premium Plus Class "C" POZ cement + 4% Bentonite, + 5% Salt, + 5% MPA-5, + 0.7% Sodium Metasilicate, + 5# LCM/Sx, Yield 2.02, tail in with 260 Sx. of Class "C" cement + 2% CaCl, Yield 1.34, Estimate top of cement 2220' from surface.

10. PRESSURE CONTROL EQUIPMENT:

Exhibit "E" shows a 900 series 3000 PSI working pressure B. O. P. , consisting of an annular bag type preventor, middle blind rams, and bottom pipe rams. The B. O. P. will be nipped up on the 13 3/8" casing and tested to API specifications. The B. O. P. will be operated at least once in each 24 hour period, and the blind rams will be operated when the drill pipe is out of the hole on trips. Full opening stabbing valve and upper kelly cock with proper threads will be available on the rig floor at all times. Exhibit "E-1" shows a hydraulically operated closing unit and a 5000 PSI working pressure choke manifold with dual adjustable chokes. No abnormal pressures or temperatures are expected while drilling this well.

APPLICATION TO DRILL

OGX RESOURCES, LLC.
 COOPER "31" FEDERAL COM. #4H
 UNIT "I" SECTION 31
 T25S-R29E EDDY CO. NM

11. PROPOSED MUD CIRCULATING SYSTRM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
0- 525 ' 450'	8.6-8.8	36-38	NC	Fresh water Spud Mud, use paper to control seepage.
450'- 525-2750 ' 2430'	10.0-10.1	29-30	NC	Brine water use paper to control seepage and high viscosity sweeps to clean hole.
2430'- 2750 -6700'	8.4-9.1	28-29	NC	Fresh water use paper to control seepage and high viscosity sweeps to clean hole.
6700-11,617'	8.4-9.1	34-36	12-15 cc or less	Same as above use Dynazan HB-41 and starch to control fluid loss and hole stability.

A closed mud system will be employed during the drilling of this well all cuttings and fluids will be disposed in a State approved disposal facility.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, cut cores and casing, the viscosity, water loss and other properties may have to be altered to meet these requirements.

APPLICATION TO DRILL

OGX RESOURCES, LLC.
COOPER "31" FEDERAL COM. #4H
UNIT "I" SECTION 31
T25S-R29E EDDY CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM: See COA

- A. Open hole logs: Dual Laterolog, Neutron Density, Caliper, Gamma Ray from 6700' back to 8 5/8" casing shoe, run Gamma Ray, Neutron back to surface.
- B. Mud logger will be rigged up on the hole after drilling out the 13 3/8" casing shoe.
- C. No DST's or cores are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H²S in this area. If H²S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 3120 PSI, and Estimated BHT 130°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 30 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The DELAWARE formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as AN OIL WELL.

Cooper "31" Fed No. 4H
Rock Spur (Bone Spring) Field
Eddy County, New Mexico
Drilling Procedure
Sept 2010

General Information

Lease:	Cooper 31 Fed	AFE BCP:	\$
Well No.:	4H	AFE ACP:	
Field:	Brushy Draw North	AFE Total:	
County:	Eddy	AFE NO:	
State:	New Mexico	API No.:	30-015-xxxxx
Section:	31	Permit Date:	00/00/10
Township:	25S	Permit TVD:	7500' 7165'
Range:	29E	Proposed MD:	11,617'
Surface Section Ties:	2160' FSL & 330' FEL	Drilling Days:	23
Ground Level:	2949'	KB:	2966'
Latitude:	32°05'05.58" N	Longitude	104°00'57.84"W

Well Objectives

The primary objective of this well is to drill a horizontal lateral in the Bone Spring Shale (Avalon). A pilot hole will not be necessary.

Directions To Well

Go North on 285, 3.5 miles past state line, turn right or east on Longhorn Road 725, go 3.9 miles turn left or North, go 1.7 miles and turn left or West, go .2 miles turn left, go 1.8 miles stay left for .6 miles, dead end on location.

Special Drilling Considerations

1. No hunting for game is permitted. No fire arms are to be taken to the location. Keep trash picked up on location and road.
2. Do not run hard-banded or hard-faced drill pipe in casing without consulting OGX.
3. Cement must be circulated on surface and intermediate. If cement does not circulate, run a temperature survey and contact the BLM and Operations Engineer for remedial instructions.
4. BOP equipment will be NU on the 13-3/8" surface casing. All safety and well control equipment should be rigged up and operational prior to drilling out the 13-3/8" casing shoe.

DRILLING PROGRAM**Geologic Name of Surface Formation:**

Permian

FORMATION TOPS / ANTICIPATED FRESH WATER, OIL, or GAS / PRESSURES

<u>Formation</u>	<u>Depth</u>	<u>Frm Pres</u>	<u>Remarks</u>
Rustler	950'	8.4 ppge	Water
Basal Anhydrite	2610'	10 ppge	Drig fluid must be saturated salt water
Lamar	2750'	8.4 ppge	Base of Salt
Bell Canyon	2795'	8.4 ppge	Oil / Gas / Formation water / Poss. H ₂ S
Cherry Canyon	3615'	8.4 ppge	Oil / Gas / Formation water
Brushy Canyon	4770'	8.7 ppge	Oil / Gas / Formation water
TVD BS Shale	7165'	9.0 ppge	Oil / Gas / Formation water

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at ~~525'~~^{450'} and circulating cement back to surface. Potash/ fresh water sands will be protected by setting 8 5/8" casing at ~~2750'~~^{2430'} and circulating cement on the 8 5/8" string. The hydrocarbon producing intervals will be isolated by setting a 5 1/2" production string and circulating cement ~~600'~~^{530'} above the 8 5/8" csg. shoe (~~2450'~~).

See COA

CASING PROGRAM:

2220' Per Operator 1-31-11 DW

<u>HOLE SIZE</u>	<u>DEPTH</u>	<u>OD Csg</u>	<u>WEIGHT</u>	<u>COLLAR</u>	<u>GRADE</u>	<u>NEW/USED</u>
	See COA					
17 1/2"	0- 525' 450'	13 3/8"	48	STC	H40	New
11"	0- 2750' 2430'	8 5/8"	32	STC	J55	New
7 7/8"	0-6600'	5 1/2"	17	LTC	P110	New
7 7/8"	6600-11617'	5 1/2"	17	BTC	P110	New

Casing weight and grades are minimum – higher weights & better grades may be substituted

<u>DEPTH</u>	<u>OD Csg</u>	<u>WEIGHT</u>	<u>factors: Burst / Collapse / Tension</u>		
0- 525' 450'	13 3/8"	48	1.65	1.52	12+
0- 2750' 2430'	8 5/8"	32	1.23	1.50	3.58
0-11617'	5 1/2"	17	1.82	1.73	2.24

** The Intermediate hole will never be evacuated**

(51/2 Burst & Collapse Calculated @ 7150' TVD)

CEMENT PROGRAM:**13 3/8" Surface**

Spacer50 bbls of fresh water
 SlurryLead: 35:65:6 – Poz: Prem Plus C + 6% Bentonite + 5% salt + 5% MPA-
 5 + .7% Sodium Metasilicate + 5 lbs LCM + 97.9 fresh water
 Tail: Premium Plus C + 2% CaCl₂ + 56.4% Fresh Water

Cement Properties	Lead	Tail
Est Volume (sacks)	325	200
Density (ppg)	12.80	14.80
Yield (ft ³ /sx)	2.00	1.34
Mix Water, gps	10.21	6.36
Thickening Time, hrs:min		~3:30
Free Water, %		0
Fluid Loss, cc's		~850
Top of Cement	surface	

8 5/8" Intermediate

Spacer30 bbls of fresh water
 Lead35:65 – Poz: Prem Plus C + 4% Bentonite + 5% salt + 5% MPA-5 + 7%
 Sodium Metasilicate + 5 lbs LCM + 99.6% fresh water
 TailC + 2% CaCl₂ + 56.4% fresh water

Cement Properties	Lead	Tail
Est Volume (sacks)	700	200
Density (ppg)	12.7	14.8
Yield (ft ³ /sx)	2.02	1.34
Mix Water, gps	10.39	6.36
Thickening Time, hrs:min	4:07	3:32
Free Water, %	2.0	0
Fluid Loss, cc's	~750	~600
Top of Cement	surface	

Run a fluid caliper 100' before TD to determine hole volume and adjust cement volumes accordingly

5 1/2" Production

Spacer30 bbls of fresh water
Lead 35:65 – Poz: Prem Plus C + 4% Bentonite + 5% salt + 5% MPA-5 + .7%
Sodium Metasilicate + 5 lbs LCM + 99.6% fresh water
TailC + 2% CaCl₂ + 56.4% fresh water

Cement Properties

	<u>Lead</u>	<u>Tail</u>
Est Volume (sacks)	500	260
Density (ppg)	12.7	14.8
Yield (ft ³ /sx)	2.02	1.34
Mix Water, gps	10.39	6.36
Thickening Time, hrs:min	4:07	3:32
Free Water, %	2.0	0
Fluid Loss, cc's	~750	~600
Top of Cement	2220	

The above cement volumes will be revised pending fluid and open hole caliper measurements.

MUD PROPERTIES SUMMARY:

Depth (feet)	Weight (ppg)	Viscosity (sec/1000cc)	Fluid Loss (cc/30min)	PV (cps)	YP (lb/100ft ²)	Mud Type
0' - 525' 450' Set 13-3/8" Casing	8.6 - 8.8	36 - 38	N/C	6 - 10	6 - 20	Spud Mud
450' - 2750' 525' 2830' Set 8-5/8" Casing	10.0 - 10.1	29 - 30	N/C	0 - 1	0 - 1	Brine
2750' - 6,700' 2830'	8.4 - 9.1	28 - 29	N/C	0 - 1	0 - 1	Fresh Water
6,700' - 11,617' MD Set 5 1/2"	8.4 - 9.1	34 - 36	12 - 15	4 - 8	4 - 8	Dynazan / Starch HB 411

Auxiliary Well Control & Monitoring Equipment:

A Kelly cock will be in the drill string at all times.

A full opening drill pipe stabbing valve having the appropriate connections will be on the floor at all times.

H₂S detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" csg is cemented.

LOGGING, CORING, AND TESTING

See COA

No logs at surface.

Mud loggers on below 13 3/8" casing shoe - no electric logs at intermediate depth

The Vertical (Production) hole will be logged: Gyro (Thru DP) & GR / Dual Laterolog / Neutron-Density / Caliper

No DST's or pressure testing is anticipated.

Potential Hazards:

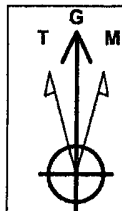
No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. If H₂S is encountered the operator will comply with the provisions of Onshore Oil & Gas Order No 6. No loss of circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP is 3120 psi. & BHT is 130° F.

Anticipated Starting Date & Duration:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be ASAP subsequent to APD approval. Move in and drilling operations will take 30 days with an additional 15 days to complete the well and construct production facilities. The frac pond in Sec.31 will be utilized during completion procedures.



Project: Eddy County (NAD 83)
Site: Cooper "31" Federal
Well: #4H
Wellbore: OH
Plan: Plan #1 (#4H/OH)



Azimuths to Grid North
True North: -0.17°
Magnetic North: 7.69°

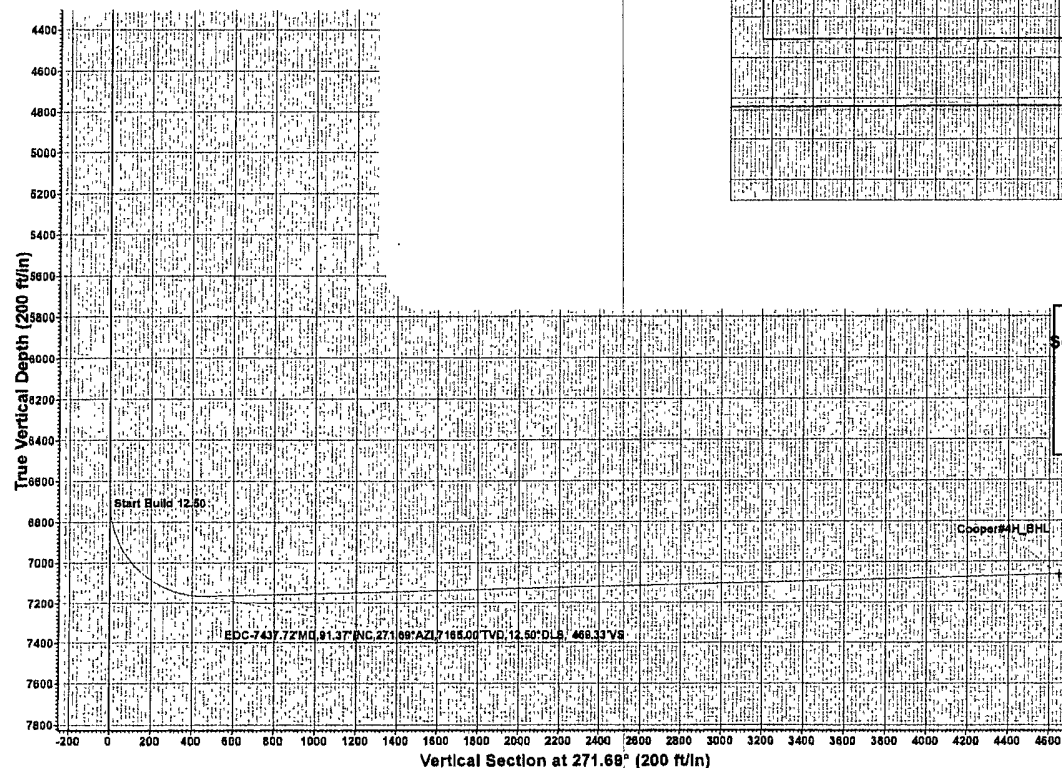
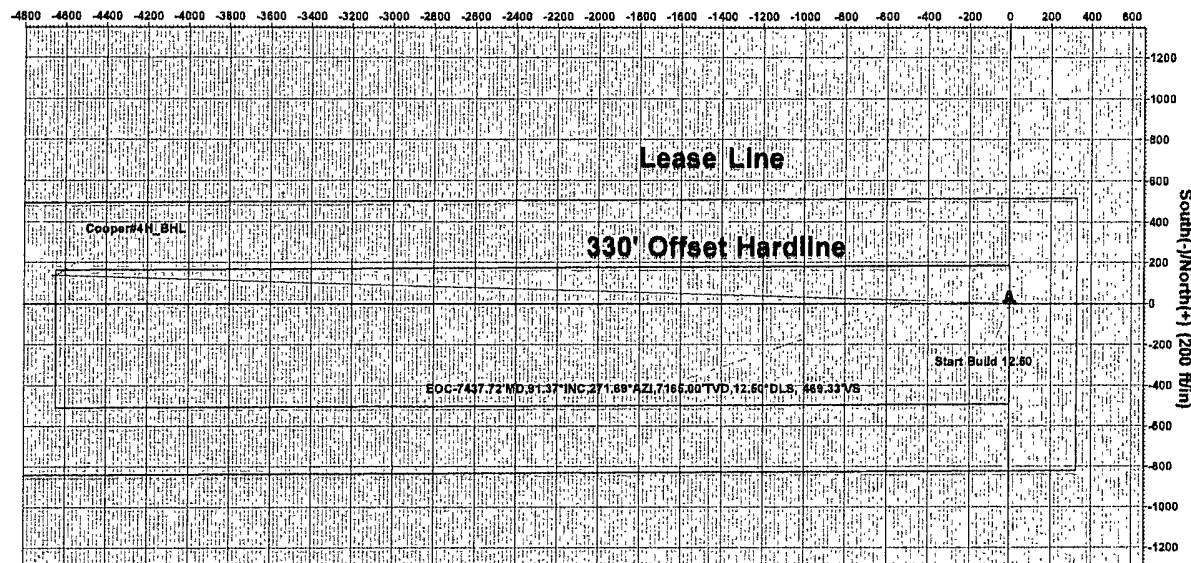
Magnetic Field
Strength: 48596.2anT
Dip Angle: 60.02°
Date: 09/10/2010
Model: IGRF200510

PATHFINDER
A Schlumberger Company

WELL DETAILS: #4H					
Ground Elevation: 3949.00					
RKB Elevation: RKBtoGL-17' @ 2968.00ft (Original Well Elev)					
Rig Name: Original Well Elev					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	394761.657	639596.189	32° 5' 5.576 N	104° 0' 57.637 W
					Slot

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape
Cooper#4H_BHL 7085.00		136.81	-4646.87	394898.465	634950.322	Point

West(-)/East(+) (200 ft/in)



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	6706.76	0.00	0.00	6706.76	0.00	0.00	0.00	0.00	0.00	
3	7437.72	91.37	271.69	7165.00	13.84	-469.12	12.50	271.69	469.33	
4	11617.47	91.37	271.69	7065.06	137.07	-4646.86	0.00	0.00	4647.88	Cooper#4H_BHL

PROJECT DETAILS: Eddy County (NAD 83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

Plan: Plan #1 (#4H/OH)
Created By: Nate Bingham Date: 17.05, September 10 2010
Checked: _____ Date: _____

OGX Resources

Eddy County, New Mexico

Cooper 31 Federal

Cooper 31 Fed 4H

Wellbore #1

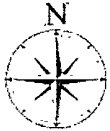
Plan: Plan #1 080811

OGX Resources

08 August, 2011



Plan: Plan #1 080811 (Cooper 31 Fed 4H/Wellbore #1)



SECTION DETAILS

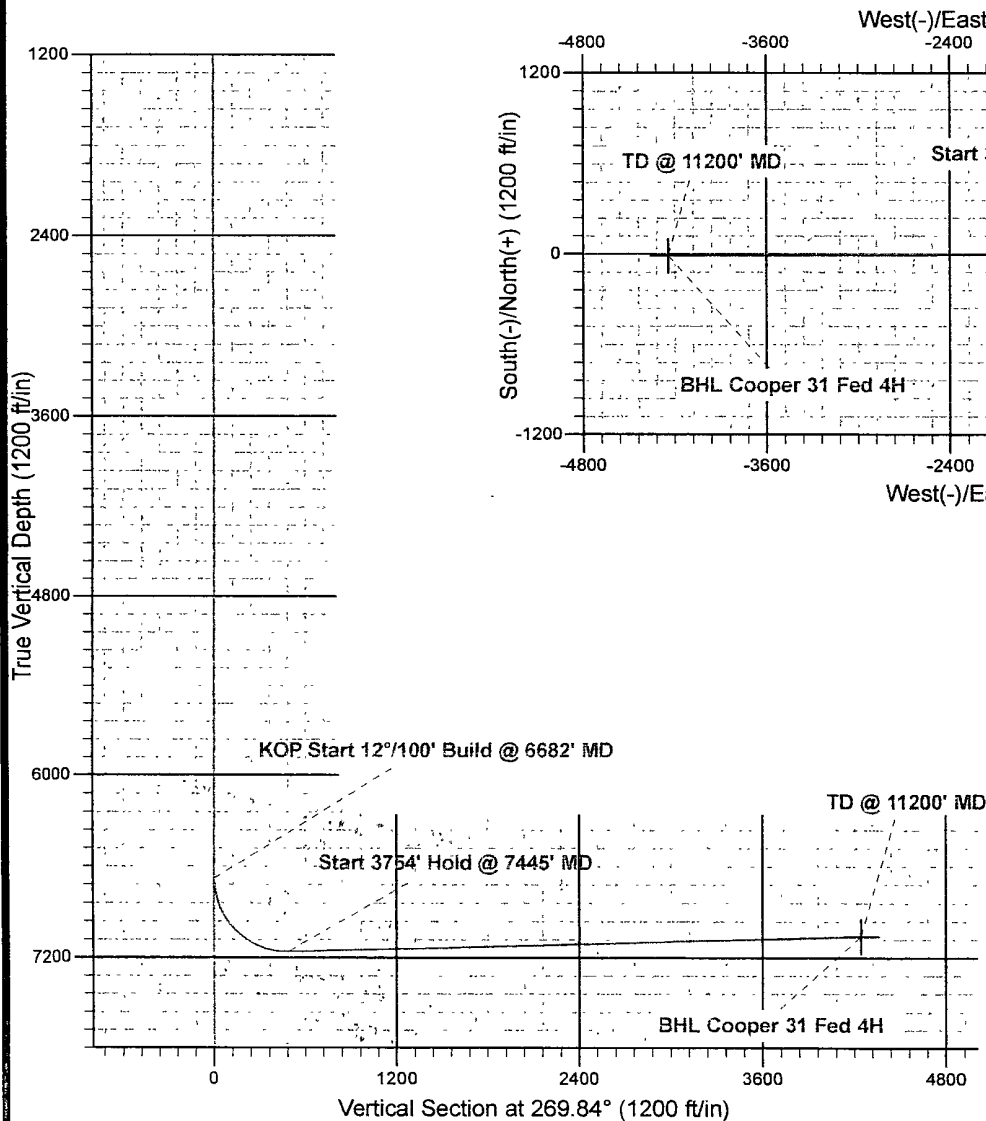
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6682.95	0.00	0.00	6682.95	0.00	0.00	0.00	0.00	0.00	
7445.70	91.53	269.84	7160.24	-1.34	-490.21	12.00	269.84	490.21	
11200.01	91.53	269.84	7060.00	-11.61	-4243.17	0.00	0.00	4243.19	BHL Cooper 31 Fed 4H

WELL DETAILS: Cooper 31 Fed 4H

Ground Level: 2959.00
 Northing 394372.77 Easting 598010.42 Latitude 32° 5' 1.86 N Longitude 104° 1' 0.76 W

WELLBORE TARGET DETAILS

Name BHL Cooper 31 Fed 4H TVD 7060.00 +N/-S -11.61 +E/-W -4243.17 Shape Point



Phoenix Technology Services
OGX Resources



Company:	OGX Resources	Local Co-ordinate Reference:	Well Cooper 31 Fed 4H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 2977.00ft (Original Well Elev + 18' KB)
Site:	Cooper 31 Federal	MD Reference:	WELL @ 2977.00ft (Original Well Elev + 18' KB)
Well:	Cooper 31 Fed 4H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 080811	Database:	GCR3

Project:	Eddy County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Cooper 31 Federal			
Site Position:	Northing:	394,372.77 ft	Latitude:	32° 5' 1.86 N
From:	Easting:	598,010.42 ft	Longitude:	104° 1' 0.76 W
Position Uncertainty:	Slot Radius:	"	Grid Convergence:	0.17 °

Well:	Cooper 31 Fed 4H					
Well Position	+N/-S	0.00 ft	Northing:	394,372.77 ft	Latitude:	32° 5' 1.86 N
	+E/-W	0.00 ft	Easting:	598,010.42 ft	Longitude:	104° 1' 0.76 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	2,959.00 ft

Wellbore	Wellbore #1				
Magnetics:	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010_14	8/8/2011	7.76	59.97	48,469

Design	Plan #1 080811				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	269.84	

Survey Tool Program	Date	8/8/2011		
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
0.00	11,199.33	Plan #1 080811 (Wellbore #1)	MWD	MWD - Standard

Phoenix Technology Services

OGX Resources



Company: OGX Resources
Project: Eddy County, New Mexico
Site: Cooper 31 Federal
Well: Cooper 31 Fed 4H
Wellbore: Wellbore #1
Design: Plan #1 080811

Local Co-ordinate Reference: Well Cooper 31 Fed 4H
TVD Reference: WELL @ 2977.00ft (Original Well Elev + 18' KB)
MD Reference: WELL @ 2977.00ft (Original Well Elev + 18' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR3

Planned Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	-2,977.00	0.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
100.00	0.00	0.00	-2,877.00	100.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
200.00	0.00	0.00	-2,777.00	200.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
300.00	0.00	0.00	-2,677.00	300.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
400.00	0.00	0.00	-2,577.00	400.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
500.00	0.00	0.00	-2,477.00	500.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
600.00	0.00	0.00	-2,377.00	600.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
700.00	0.00	0.00	-2,277.00	700.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
800.00	0.00	0.00	-2,177.00	800.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
900.00	0.00	0.00	-2,077.00	900.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,000.00	0.00	0.00	-1,977.00	1,000.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,100.00	0.00	0.00	-1,877.00	1,100.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,200.00	0.00	0.00	-1,777.00	1,200.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,300.00	0.00	0.00	-1,677.00	1,300.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,400.00	0.00	0.00	-1,577.00	1,400.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,500.00	0.00	0.00	-1,477.00	1,500.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,600.00	0.00	0.00	-1,377.00	1,600.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,700.00	0.00	0.00	-1,277.00	1,700.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,800.00	0.00	0.00	-1,177.00	1,800.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
1,900.00	0.00	0.00	-1,077.00	1,900.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,000.00	0.00	0.00	-977.00	2,000.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,100.00	0.00	0.00	-877.00	2,100.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,200.00	0.00	0.00	-777.00	2,200.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,300.00	0.00	0.00	-677.00	2,300.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,400.00	0.00	0.00	-577.00	2,400.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,500.00	0.00	0.00	-477.00	2,500.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,600.00	0.00	0.00	-377.00	2,600.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42

Phoenix Technology Services

OGX Resources



Company: OGX Resources
 Project: Eddy County, New Mexico
 Site: Cooper 31 Federal
 Well: Cooper 31 Fed 4H
 Wellbore: Wellbore #1
 Design: Plan #1 080811

Local Co-ordinate Reference: Well Cooper 31 Fed 4H.
 TVD Reference: WELL @ 2977.00ft (Original Well Elev + 18' KB)
 MD Reference: WELL @ 2977.00ft (Original Well Elev + 18' KB)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: GCR3

Planned Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,700.00	0.00	0.00	-277.00	2,700.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,800.00	0.00	0.00	-177.00	2,800.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
2,900.00	0.00	0.00	-77.00	2,900.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,000.00	0.00	0.00	23.00	3,000.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,100.00	0.00	0.00	123.00	3,100.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,200.00	0.00	0.00	223.00	3,200.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,300.00	0.00	0.00	323.00	3,300.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,400.00	0.00	0.00	423.00	3,400.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,500.00	0.00	0.00	523.00	3,500.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,600.00	0.00	0.00	623.00	3,600.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,700.00	0.00	0.00	723.00	3,700.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,800.00	0.00	0.00	823.00	3,800.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
3,900.00	0.00	0.00	923.00	3,900.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,000.00	0.00	0.00	1,023.00	4,000.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,100.00	0.00	0.00	1,123.00	4,100.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,200.00	0.00	0.00	1,223.00	4,200.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,300.00	0.00	0.00	1,323.00	4,300.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,400.00	0.00	0.00	1,423.00	4,400.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,500.00	0.00	0.00	1,523.00	4,500.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,600.00	0.00	0.00	1,623.00	4,600.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,700.00	0.00	0.00	1,723.00	4,700.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,800.00	0.00	0.00	1,823.00	4,800.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
4,900.00	0.00	0.00	1,923.00	4,900.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,000.00	0.00	0.00	2,023.00	5,000.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,100.00	0.00	0.00	2,123.00	5,100.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,200.00	0.00	0.00	2,223.00	5,200.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,300.00	0.00	0.00	2,323.00	5,300.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42

Phoenix Technology Services
OGX Resources



Company: OGX Resources
Project: Eddy County, New Mexico
Site: Cooper 31 Federal
Well: Cooper 31 Fed 4H
Wellbore: Wellbore #1
Design: Plan #1 080811

Local Co-ordinate Reference: Well Cooper.31 Fed 4H
TVD Reference: WELL @ 2977.00ft (Original Well Elev + 18' KB)
MD Reference: WELL @ 2977.00ft (Original Well Elev + 18' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR3

Planned Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	-DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,400.00	0.00	0.00	2,423.00	5,400.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,500.00	0.00	0.00	2,523.00	5,500.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,600.00	0.00	0.00	2,623.00	5,600.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,700.00	0.00	0.00	2,723.00	5,700.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,800.00	0.00	0.00	2,823.00	5,800.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
5,900.00	0.00	0.00	2,923.00	5,900.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
6,000.00	0.00	0.00	3,023.00	6,000.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
6,100.00	0.00	0.00	3,123.00	6,100.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
6,200.00	0.00	0.00	3,223.00	6,200.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
6,300.00	0.00	0.00	3,323.00	6,300.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
6,400.00	0.00	0.00	3,423.00	6,400.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
6,500.00	0.00	0.00	3,523.00	6,500.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
6,600.00	0.00	0.00	3,623.00	6,600.00	0.00	0.00	0.00	0.00	394,372.77	598,010.42
6,682.95	0.00	0.00	3,705.95	6,682.95	0.00	0.00	0.00	0.00	394,372.77	598,010.42
KOP Start 12°/100' Build @ 6682' MD										
6,700.00	2.05	269.84	3,723.00	6,700.00	0.00	-0.30	0.30	12.00	394,372.77	598,010.11
6,800.00	14.05	269.84	3,821.83	6,798.83	-0.04	-14.28	14.28	12.00	394,372.73	597,996.14
6,900.00	26.05	269.84	3,915.60	6,892.60	-0.13	-48.49	48.49	12.00	394,372.63	597,961.93
7,000.00	38.05	269.84	4,000.21	6,977.21	-0.28	-101.46	101.46	12.00	394,372.49	597,908.96
7,100.00	50.05	269.84	4,071.95	7,048.95	-0.47	-170.85	170.85	12.00	394,372.30	597,839.57
7,200.00	62.05	269.84	4,127.70	7,104.70	-0.69	-253.65	253.65	12.00	394,372.07	597,756.77
7,300.00	74.05	269.84	4,165.02	7,142.02	-0.95	-346.23	346.23	12.00	394,371.82	597,664.19
7,400.00	86.05	269.84	4,182.28	7,159.28	-1.22	-444.54	444.54	12.00	394,371.55	597,565.88
7,445.70	91.53	269.84	4,183.24	7,160.24	-1.34	-490.21	490.21	12.00	394,371.43	597,520.21
Start 3754' Hold @ 7445' MD										
7,500.00	91.53	269.84	4,181.79	7,158.79	-1.49	-544.50	544.50	0.00	394,371.28	597,465.92
7,600.00	91.53	269.84	4,179.12	7,156.12	-1.76	-644.46	644.46	0.00	394,371.00	597,365.96

Phoenix Technology Services
OGX Resources



Company: OGX Resources
Project: Eddy County, New Mexico
Site: Cooper 31 Federal
Well: Cooper 31 Fed 4H
Wellbore: Wellbore #1
Design: Plan #1 080811

Local Co-ordinate Reference: Well Cooper 31 Fed 4H
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MD Reference: WELL @ 2977.00ft (Original Well Elev + 18' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR3

Planned Survey

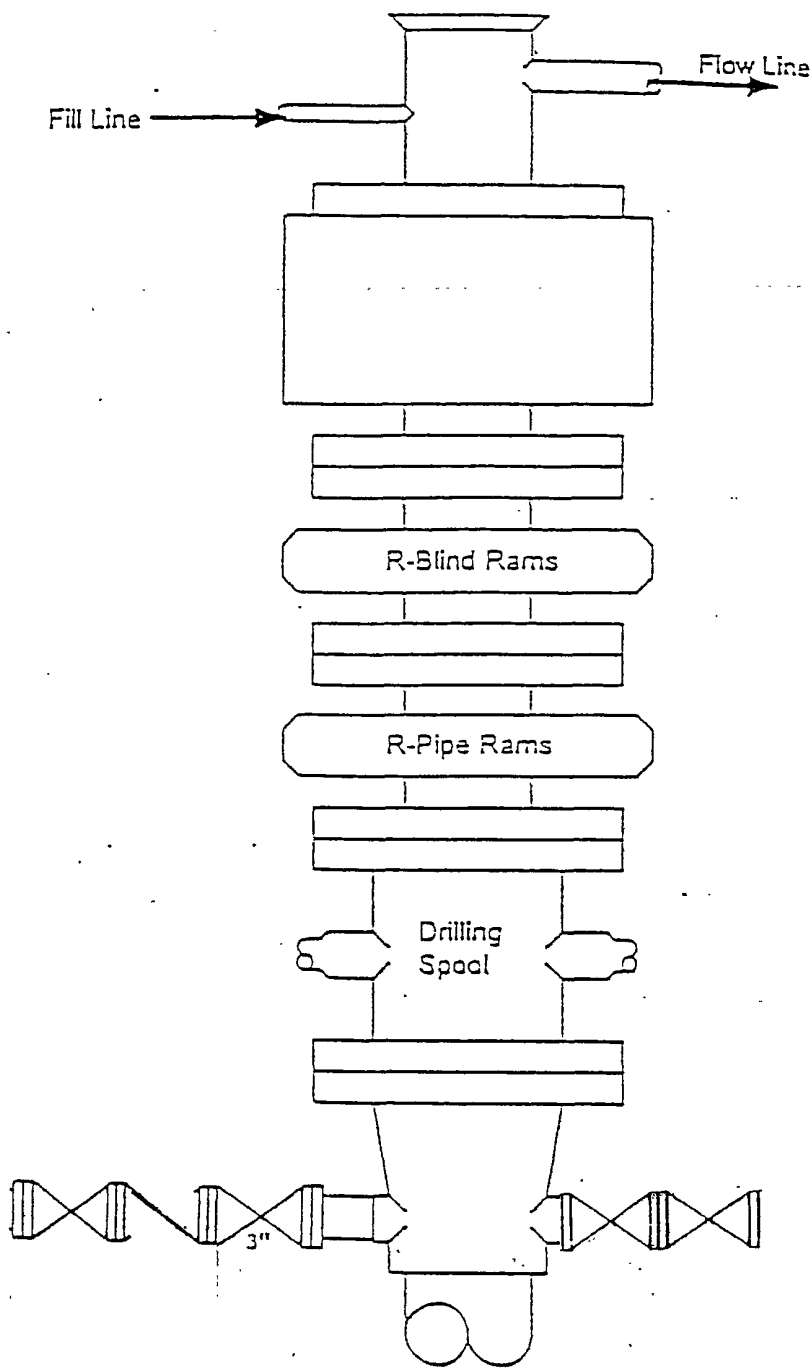
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
10,400.00	91.53	269.84	4,104.36	7,081.36	-9.42	-3,443.45	3,443.46	0.00	394,363.35	594,566.97
10,500.00	91.53	269.84	4,101.69	7,078.69	-9.69	-3,543.41	3,543.43	0.00	394,363.07	594,467.01
10,600.00	91.53	269.84	4,099.02	7,076.02	-9.97	-3,643.38	3,643.39	0.00	394,362.80	594,367.05
10,700.00	91.53	269.84	4,096.35	7,073.35	-10.24	-3,743.34	3,743.36	0.00	394,362.53	594,267.08
10,800.00	91.53	269.84	4,093.68	7,070.68	-10.51	-3,843.31	3,843.32	0.00	394,362.25	594,167.12
10,900.00	91.53	269.84	4,091.01	7,068.01	-10.79	-3,943.27	3,943.29	0.00	394,361.98	594,067.16
11,000.00	91.53	269.84	4,088.34	7,065.34	-11.06	-4,043.23	4,043.25	0.00	394,361.71	593,967.19
11,100.00	91.53	269.84	4,085.67	7,062.67	-11.33	-4,143.20	4,143.21	0.00	394,361.43	593,867.23
11,200.00	91.53	269.84	4,083.00	7,060.00	-11.61	-4,243.16	4,243.18	0.00	394,361.16	593,767.26
11,200.01	91.53	269.84	4,083.00	7,060.00	-11.61	-4,243.17	4,243.19	0.00	394,361.16	593,767.26

TD @ 11200' MD

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,682.95	6,682.95	0.00	0.00	KOP Start 12°/100' Build @ 6682' MD
7,445.70	7,160.24	-1.34	-490.21	Start 3754' Hold @ 7445' MD
11,200.01	7,060.00	-11.61	-4,243.17	TD @ 11200' MD

Checked By: _____ Approved By: _____ Date: _____



Type 900 Series
3000 psi WP

EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

OGX RESOURCES, LLC.
COOPER "31" FEDERAL COM. #4H
UNIT "I" SECTION 31
T25S-R29E EDDY CO. NM

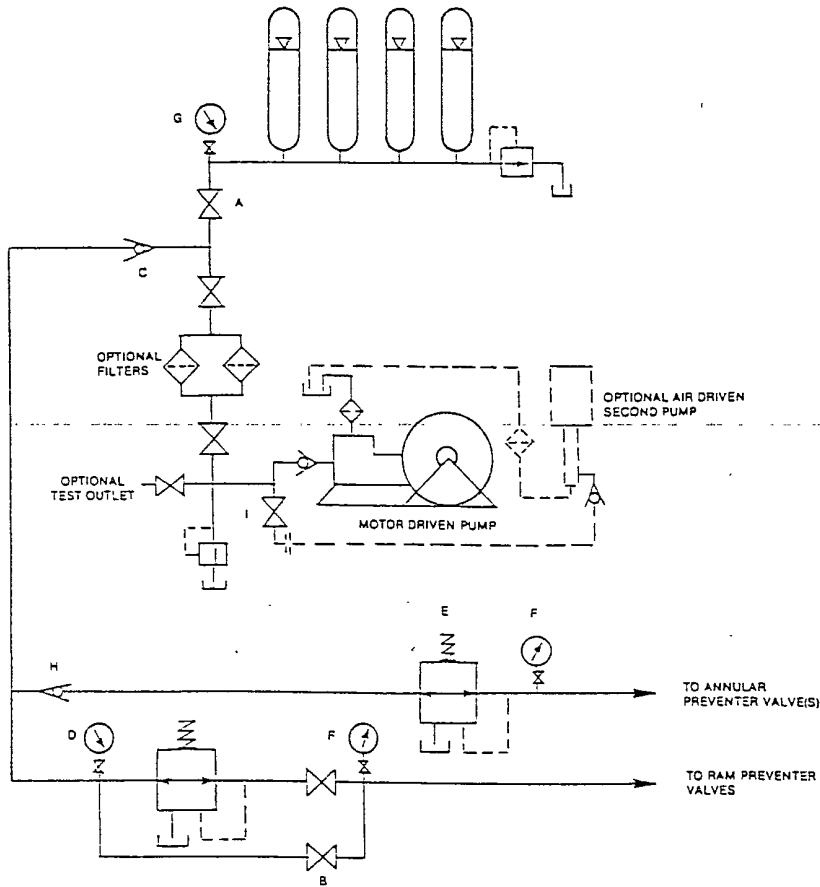


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

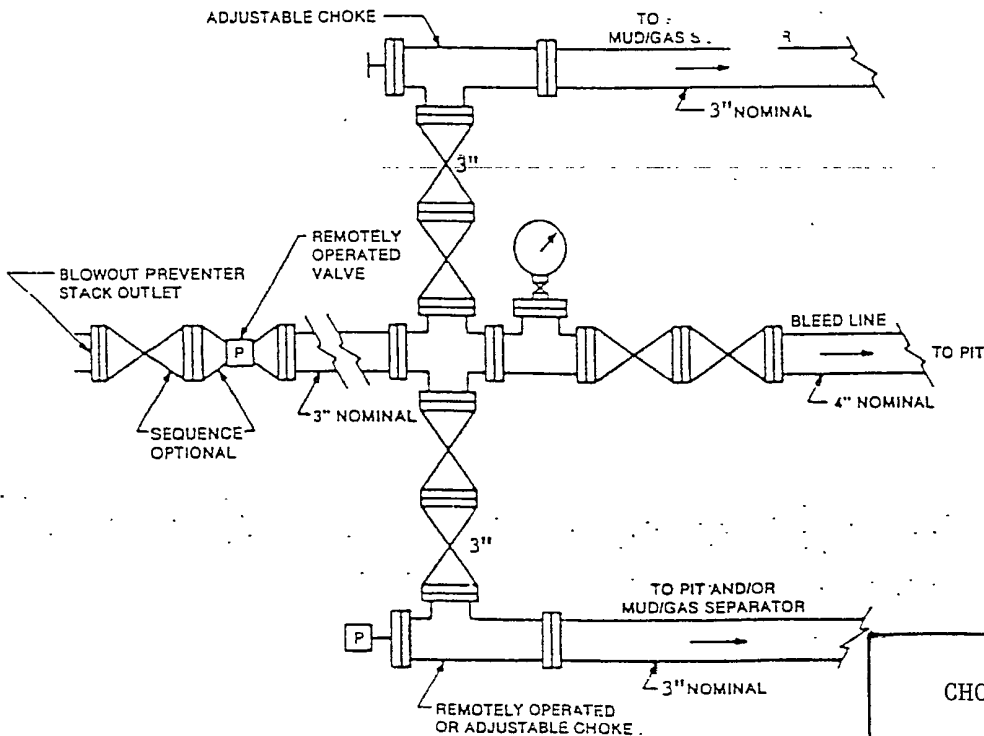


FIGURE K4-2. Typical choke manifold assembly for SM rated working pressure service — surface installation.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

OGX RESOURCES, LLC.
COOPER "31" FEDERAL COM. #4H
UNIT "I" SECTION 31
T25S-R29E EDDY CO. NM