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ATS-11-803

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No.
NM-120908

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No. **238997**
REDHEAD "31" FEDERAL # 1H

9. API Well No.
D. -40

10. Field and Pool, or Exp
WILDCAT-BONE SPRING

11. Sec., T. R. M. or Blk. and Survey or Area
40

SECTION 31 T24S-R32E

12. County or Parish
LEA CO.

13. State
NM

1a. Type of work: ☒ DRILL

☐ REENTER

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator
OGX RESOURCES, LLC. (JEFF BIRKELBACH 432-685-1287)

3a. Address
P. O. BOX 2064 MIDLAND, TEXAS 7970

3b. Phone No. (include area code)
432-685-1287

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface **Loc 1** 990' FWL & 330' FNL SECTION 31 T24S-R32E LEA CO. NM

At proposed prod. zone **Loc 4** 990' FWL & 330' FSL SECTION 31 T24S-R32E

14. Distance in miles and direction from nearest town or post office*

Approximately 25 miles East of Carlsbad New Mexico

15. Distance from proposed*
location to nearest
property or lease line, ft
(Also to nearest drig. unit line, if any)

990'

16. No. of acres in lease
1280

17. Spacing Unit dedicated to this well
187 acres

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft

NA

19. Proposed Depth
TVD-9300'
MD-13,715'

20. BLM/BIA Bond No. on file
NMB-000244

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3514' GL

22. Approximate date work will start*
WHEN APPROVED

23. Estimated duration
35 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:

1. Well plat certified by a registered surveyor.

2. A Drilling Plan.

3. A Surface Use Plan (if the location is on National Forest System Lands, the
SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see
Item 20 above).

5. Operator certification

6. Such other site specific information and/or plans as may be required by the
authorized officer.

25. Signature

Joe T. Janica

Name (Printed/Typed)

Joe T. Janica

Date

09/12/11

Title

Permit Eng.

Approved by (Signature)

/s/George MacDonell

Name (Printed/Typed)

Date

DEC 20 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

KZ
12/27/11

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210
DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
DISTRICT IV
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

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

Form C-102
Revised July 16, 2010
Submit to Appropriate
District Office

HOBBS OCD

DEC 21 2011

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT RECEIVED

API Number 30-025-40390	Pool Code 96403	Pool Name WILDCAT-BONE SPRING
Property Code 38997	Property Name REDHEAD 31 FEDERAL	Well Number 1H
OGRID No. 217955	Operator Name OGX RESOURCES	Elevation 3514'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	31	24-S	32-E		330	NORTH	990	WEST	LEA

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
4	31	24-S	32-E		330	SOUTH	990	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
187			

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

LOT 1 990' S.L. SEE DETAIL 330' 3519.0' 3516.0' 600' 600' 3512.6' 3509.2' 46.46 AC LOT 2 46.63 AC LOT 3 46.79 AC LOT 4 46.96 AC GRID AZ -179°38'23" HORIZ. DIST. -4621.4' POE & 472' ENL NM-120908 EXHIBIT "A"	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=429771.2 N X=689979.7 E LAT.=32.180067° N LONG.=103.719287° W BOTTOM HOLE LOCATION Y=425151.0 N X=6900008.6 E SECTION, QUARTER & SIXTEENTH CORNER COORDINATES A - Y=430092.2, X=688987.9 B - Y=430104.1, X=690360.2 C - Y=427451.0, X=689004.3 D - Y=424814.6, X=689020.9 E - Y=424826.5, X=690395.7	OPERATOR CERTIFICATION I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Joe T. Janica</i> Signature Date 09/12/11 Joe T. Janica Printed Name joéjanica@valornet.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. JULY 19, 2011 Date of Survey Signature & Seal of Professional Surveyor: Certificate Number 3239 LA JWSC W.O.: 11.11.1463
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APPLICATION TO DRILL

OGX RESOURCES, LLC.
 REDHEAD "31" FEDERAL # 1H
 UNIT "D" SECTION 31
 T24S-R32E LEA 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: 330' FNL & 990' FWL SECTION 31 T24S-R32E LEA CO. NM
 BHL 330' FSL & 990' FWL SECTION 31 T24S-R32E LEA CO. NM
2. ELEVATION ABOVE SEA LEVEL: 3514' 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 the hole.
5. PROPOSED DRILLING DEPTH: TVD-9300'
 MD-13,715'
6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	730'	Cherry Canyon	5460'
Basal Anhydrite	4410'	Brushy Canyon	6740'
Lamar Lime	4520'	Bone Spring	8480'
Bell Canyon	4540'	TVD	9300'
7. POSSIBLE MINERAL BEARING FORMATIONS: Top of salt 780' Base of salt 4360'

Bell Canyon	Oil/Gas/Form. Water	Brushy Canyon	Oil/Gas/Form. Water
Cherry Canyon	Oil/Gas/Form. Water	Bone Spring	Oil/Gas/Form. Water
Possible Fresh Water 360'			

8. CASING PROGRAM:

HOLE SIZE	INTERVAL	CASING OD	WEIGHT	THREAD	COLLAR	GRADE	CONDITION
26"	0-40'	20"	Conductor	NA	NA	Conductor	New
17½"	0-825'	13 3/8"	48#	8-R	ST&C	H-40	New
11"	0-4500'	8 5/8"	32#	8-R	LT&C	J-55	New
7 7/8"	0-8500'	5½"	17#	8-R	LT&C	P-110	New
7 7/8"	8500-13,715'	5½"	17#	Buttress	BT&C	P-110	New

CASING SAFETY FACTORS: Collapse 1.125 Burst 1.00 Body Yield 1.5

Joint Strength 8-Round 1.8
 Buttress 1.6

APPLICATION TO DRILL

OGX RESOURCES, LLC.
REDHEAD "31" FEDERAL # 1H
UNIT "D" SECTION 31
T24S-R32E LEA 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 825' of 13 3/8" 48# H-40 ST&C casing. Cement with 500 Sx. of Class "C" cement + 4% Gel, + 1% CaCl, + 0.25# celloflakes/Sx. Yield 1.73. 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 4500' of 8 5/8" 32# J-55 LT&C casing. Cement with 900 Sx. of 35/65 Class "C" premium Plus POZ cement + 4% Bentonite, + 5% Salt, + 5% MPA-5, + 0.7% Sodium Metasilicate, + 5# LCM/Sx. Yield 2.19, tail in with 200 Sx. of Class "C" cement + 2% CaCl, Yield 1.34, circulate cement to surface. *
5 1/2"	Production	Run and set 13,715' of 5 1/2" casing as follows: 5215' of 5 1/2" 17# BT&C P-110 casing, 8500' of 5 1/2" 17# LT&C P-110 casing. Cement with 500 Sx. of 35/65 POZ Class "C" Premium Plus cement + 4% Bentonite, + 5% Salt, + 5% MPA-5, + 0.7% Sodium Metasilicate, + 5# LCM/Sx. Yield 2.02, tail in with 600 Sx. of Class "C" + 2% CaCl Yield 1.34, circulate cement to surface. *

* After caliper is run and volumes are calculated an additional 25% will be added to the cement volumes.

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. A 13 5/8" ~~API~~ B.O.P. will be used.

APPLICATION TO DRILL

OGX RESOURCES, LLC.
 REDHEAD "31" FEDERAL #11H
 UNIT "D" SECTION 31
 T24S-R32E LEA CO. NM

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40-825'	8.6-8.8	36-38	NC	Fresh water Spud Mud, use paper to control seepage.
825-4500'	10.0-10.1	29-30	NC	Brine water use paper to control seepage and high viscosity sweeps to clean hole.
4500-8500'	8.4-9.1	28-29	NC	Fresh water use paper to control seepage and high viscosity sweeps to clean hole.
8500-13,715'	8.4-9.1	34-36	12-15 cc or less	Same as above use Dynazan HB-411 and starch to contro. 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.
REDHEAD "31" FEDERAL # 1H
UNIT "D" SECTION 31
T24S-R32E LEA CO. NM

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

- A. Open hole logs: Dual Laterolog, Neutron/Density, Gamma Ray, Caliper from KOP back to 8 5/8" casing shoe. Gamma Ray, Neutron from 8 5/8" casing shoe back to surface.
- B. Mud logger will be rigged up on hole below the 13 3/8" casing and remain on the hole to TD.
- C. No cores or DST's 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 bottom hole pressure 4300 PSI and estimated bottom hole temperature 155°.

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 The BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 35 days. If production casing is run then an additional 25 days will be required to complete the well and construct surface production facilities.

15. OTHER FACETS OF OPERATION:

After running casing, cased hole Gamma Ray, Neutron, Collar logs will be run over the productive interval. The BONE SPRING formation will be perforated and stimulated in order to establish production, and potential as an oil well.

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

Permian

FORMATION TOPS

<u>Formation</u>	<u>Depth</u>	<u>Frm Pres</u>	<u>Remarks</u>
Basal Anhydrite	4410'	1910#	Water
Lamar	4520'	1957#	Water
Bell Canyon	4540'	1965#	Oil / Gas / Formation water /Poss.H ₂ S
Cherry Canyon	5460'	2364#	Oil / Gas / Formation water
Brushy Canyon	6740'	2918#	Oil / Gas / Formation water
Bone Spring	8480'	3875#	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 825' and circulating cement back to surface. Potash/ fresh water sands will be protected by setting 8 5/8" casing at 4500' / 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 500' above the 8 5/8" csg. shoe (4000').

CASING PROGRAM:

HOLE SIZE	DEPTH	OD Csg	WEIGHT	COLLAR	GRADE	NEW/USED
17 1/2"	0-825'	13 3/8"	48	STC	H40	New
11"	0-4500'	8 5/8"	32	LTC	J55	New
7 7/8"	0-8500'	5 1/2"	17	LTC	P110	New
7 7/8"	8500-13715'	5 1/2"	17	BTC	P110	New

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

(8 5/8" 32# will be special drift to 7.921)
(5 1/2" BTC will be run thru the curve & Lateral)

DEPTH	OD Csg	WEIGHT	factors: Burst / Collapse / Tension		
0-825'	13 3/8"	48	1.91	1.79	12.9
0-4500'	8 5/8"	32	1.24	1.15*	2.95
0-13715'	5 1/2"	17	1.25	1.76	1.91

**** The Intermediate hole will never be evacuated****

(51/2 Burst & Collapse Calculated @ 9300' TVD)

**Redhead "31" Fed No.1H
Mesa Verde (Bone Spring) Field
Lea County, New Mexico
Drilling Procedure
Aug 2011**

General Information

Lease:	Redhead "31" Fed	AFE BCP:	\$
Well No.:	1H	AFE ACP:	
Field:	Mesa Verde	AFE Total:	
County:	Lea	AFE NO:	
State:	New Mexico	API No.:	30-000-XXXXX
Section:	31	Permit Date:	XX/XX/08
Township:	24S	Permit TVD:	9,300'
Range:	32E	Proposed MD:	13,715'
Surface Section Ties:	330' FNL & 990' FWL	Drilling Days:	30
BHL (target)	330' FSL & 990' FWL		
Ground Level:	3514'	KB:	3531'
Latitude:	32.180067° N	Longitude	103.719287°W

Well Objectives

The primary objective of this well is to drill the Avalon horizontally without a pilot hole. Open hole logging will be accomplished at kick-off pt.

Directions To Well**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.

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

Spacer 50 bbls of fresh water
 Slurry Lead: Class C + 4% gel + 1% CaCl + 1/4 # Celloflake
 Tail: Premium Plus C + 2% CaCl₂ + 56.4% Fresh Water

Cement Properties	Lead	Tail
Est Volume (sacks)	500	200
Density (ppg)	13.50	14.80
Yield (ft ³ /sx)	1.73	1.34
Mix Water, gps		6.36
Thickening Time, hrs:min		~3:30
Free Water, %		0
Fluid Loss, cc's		~850
Top of Cement	surface	

8 5/8" Intermediate

Spacer 30 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
 Tail C + 2% CaCl₂ + 56.4% fresh water

Cement Properties	Lead	Tail
Est Volume (sacks)	900	200
Density (ppg)	12.4	14.8
Yield (ft ³ /sx)	2.19	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	

Above is an estimate, a fluid caliper will be run at Int. TD to determine hole wash-out. A 25% excess will be added to the lead cement.

5 1/2" Production

Spacer 30 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
Tail C + 2% CaCl₂ + 56.4% fresh water

Cement Properties

	<u>Lead</u>	<u>Tail</u>
Est Volume (sacks)	500	600
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	

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

Kick-Off plug in Pilot Hole for Horizontal

No Plug Required

MUD PROPERTIES SUMMARY:

Depth (feet)	Weight (ppg)	Viscosity (sec/1000cc)	Fluid Loss (cc/30min)	PV (cps)	YP (lb/100ft ²)	Mud Type
0' – 825' Set 13-3/8" Casing	8.6 – 8.8	36 – 38	N/C	6 – 10	6 – 20	Spud Mud
825' – 4,500' Set 8-5/8" Casing	10.0 – 10.1	29 – 30	N/C	0 – 1	0 – 1	Brine
4,500' – 8,500'	8.4 – 9.1	28 – 29	N/C	0 – 1	0 – 1	Fresh Water
8,500' – 13715' MD Set 5-1/2"	8.4 – 9.10	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

No logs at surface.

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

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

No DST's or pressure testing is anticipated.

The horizontal lateral will be mud logged and GR via MWD.

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 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 4300 psi. & BHT is 155° 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 35 days with an additional 25 days to complete the well and construct production facilities.



Project: Eddy County, New Mexico
Site: Redhead 31 Federal
Well: Redhead 31 Fed 1H
Wellbore: Wellbore #1
Plan: Plan #1 080311
Rig: Silver Oak 11

WELL DETAILS: Redhead 31 Fed 1H

Ground Level: 3514.00
 Northing: 429771.20 Easting: 689979.70 Latitude: 32° 10' 48.24" N Longitude: 103° 43' 9.43" W

SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSoc
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8822.53	0.00	0.00	8822.53	0.00	0.00	0.00	0.00	0.00
9572.54	90.00	179.64	9300.00	-477.46	2.99	12.00	179.64	477.47
13715.37	90.00	179.64	9300.00	-4620.21	28.90	0.00	0.00	4620.30

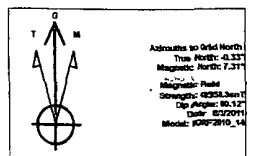
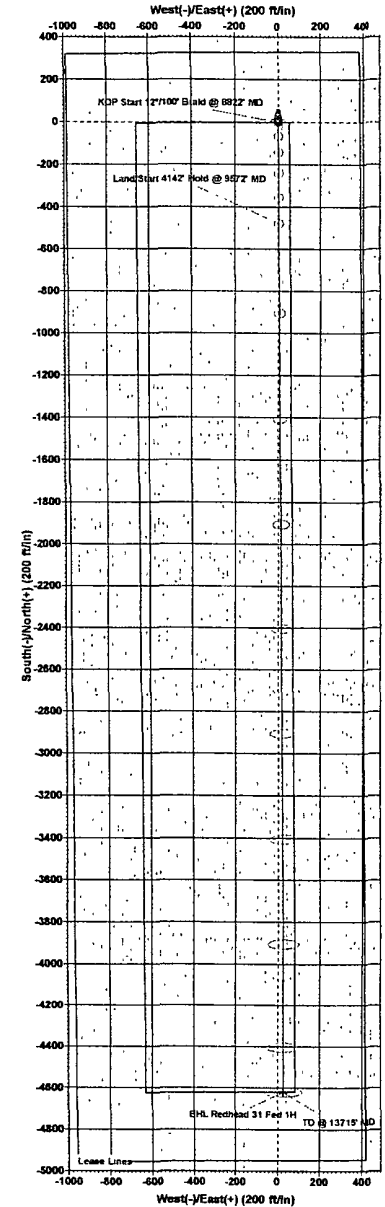
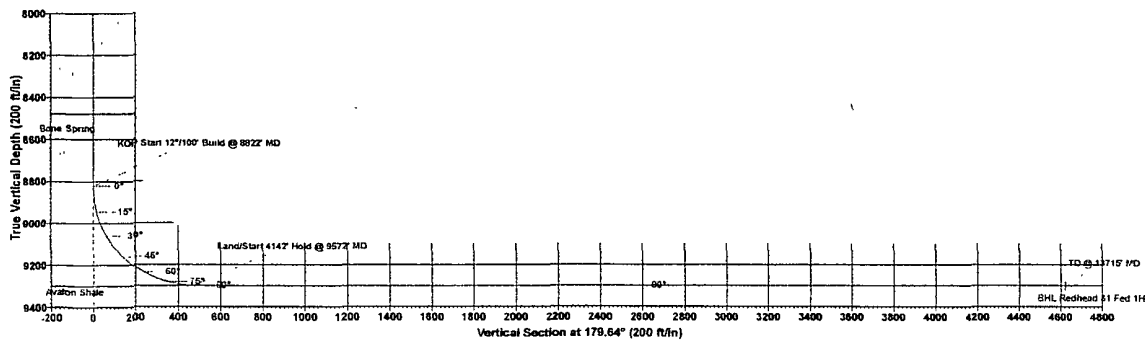
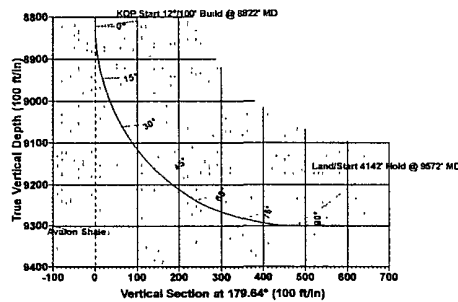
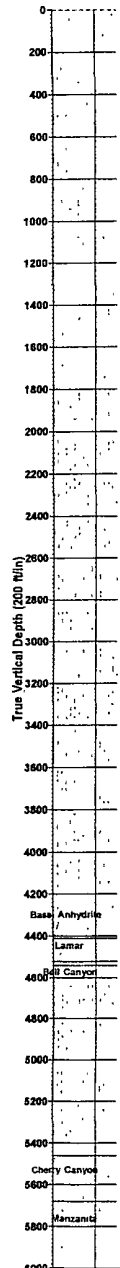
BHL Redhead 31 Fed 1H

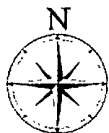
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4410.00	4410.00	Basal Anhydrite
4520.00	4520.00	Lamar
4540.00	4540.00	Bell Canyon
5460.00	5460.00	Cherry Canyon
5680.00	5680.00	Manzanita
6740.00	6740.00	Brushy Canyon
6480.00	6480.00	Bone Spring
9300.00	9572.54	Avellan Shale

ANNOTATIONS

TVD	MD	Annotation
8822.53	8822.53	KOP Start 127°100' Build @ 8822' MD
9300.00	9572.54	LandStart 4142' Hold @ 9572' MD
9300.00	13715.37	TD @ 13715' MD





SECTION DETAILS

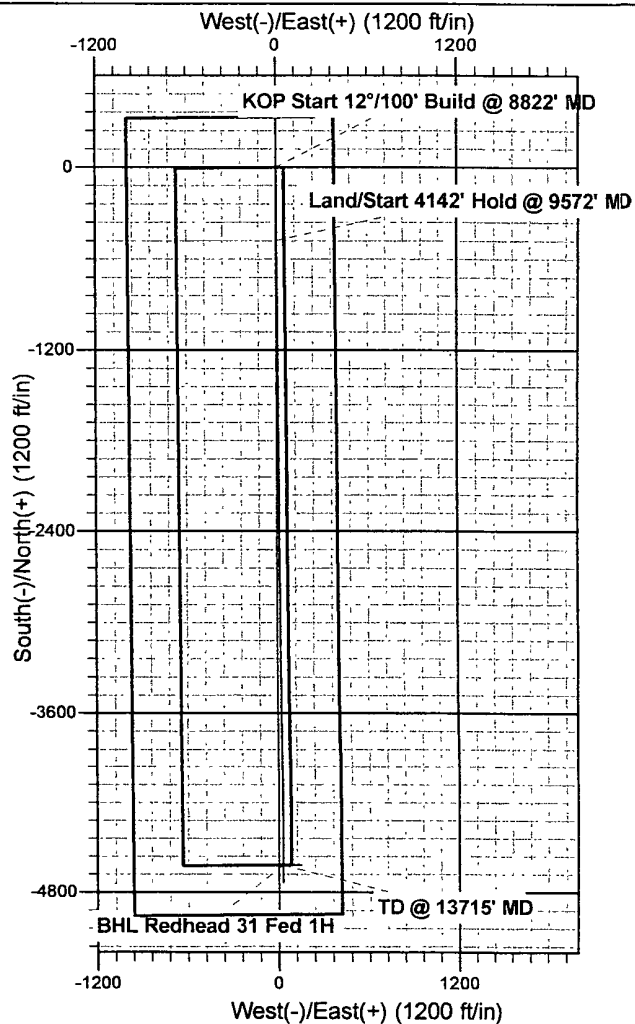
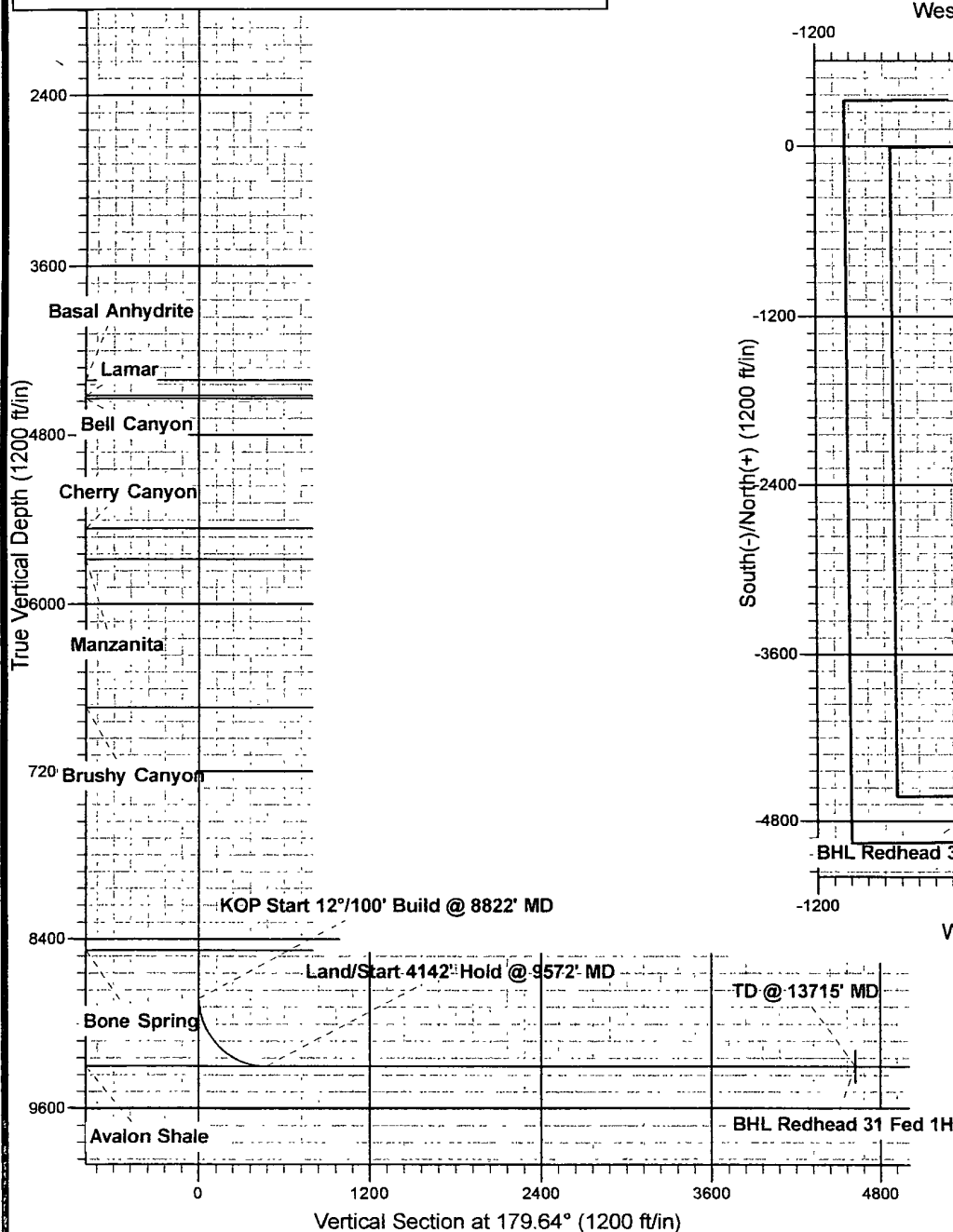
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8822.53	0.00	0.00	8822.53	0.00	0.00	0.00	0.00	0.00	
9572.54	90.00	179.64	9300.00	-477.46	2.99	12.00	179.64	477.47	
13715.37	90.00	179.64	9300.00	-4620.21	28.90	0.00	0.00	4620.30	BHL Redhead 31 Fed 1H

WELL DETAILS: Redhead 31 Fed 1H

Ground Level: 3514.00			
Northing	Easting	Latitude	Longitude
429771.20	689979.70	32° 10' 48.24 N	103° 43' 9.43 W

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL Redhead 31 Fed 1H	9300.00	-4620.21	28.90	Point



OGX Resources

Eddy County, New Mexico

Redhead 31 Federal

Redhead 31 Fed 1H

Wellbore #1

Plan: Plan #1 080311

OGX Resources

03 August, 2011



Phoenix Technology Services OGX Resources



Company: OGX Resources
Project: Eddy County, New Mexico
Site: Redhead 31 Federal
Well: Redhead 31 Fed 1H
Wellbore: Wellbore #1
Design: Plan #1 080311

Local Co-ordinate Reference:
TVD Reference: Well Redhead 31 Fed 1H
MD Reference: WELL @ 3532.00ft (Original Well Elev + 18' KB)
North Reference: WELL @ 3532.00ft (Original Well Elev + 18' KB)
Survey Calculation Method: Grid
Database: Minimum Curvature
GCR3

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

System Datum: Mean Sea Level

Site: Redhead 31 Federal

Site Position: Northing: 429,771.20 ft
From: Easting: 689,979.70 ft
Position Uncertainty: Slot Radius: 0.00 ft

Latitude: 32° 10' 48.24 N
Longitude: 103° 43' 9.43 W
Grid Convergence: 0.33 °

Well: Redhead 31 Fed 1H

Well Position: +N-S 0.00 ft
+E-W 0.00 ft
Position Uncertainty: 0.00 ft

Latitude: 32° 10' 48.24 N
Longitude: 103° 43' 9.43 W
Ground Level: 3,514.00 ft

Wellbore: Wellbore #1

Magnetics: Model Name: IGRF2010_14
Sample Date: 8/3/2011

Dip Angle: 60.12
Declination: 7.63
Field Strength: 48,558

Design: Plan #1 080311

Audit Notes:

Version: Phase: PLAN

Vertical Section: Depth From (TVD) (ft): 0.00

Tie On Depth: 0.00
+N-S: 0.00
+E-W: 0.00
Direction: 179.64

Survey Tool Program: Date: 8/3/2011

From (ft): 0.00
To (ft): 13,715.37
Survey (Wellbore): Plan #1 080311 (Wellbore #1)
Tool Name: MWD
Description: MWD - Standard

Phoenix Technology Services OGX Resources



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Survey Calculation Method: Grid
Database: Minimum Curvature
GCR3

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	-3,532.00	0.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
100.00	0.00	0.00	-3,432.00	100.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
200.00	0.00	0.00	-3,332.00	200.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
300.00	0.00	0.00	-3,232.00	300.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
400.00	0.00	0.00	-3,132.00	400.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
500.00	0.00	0.00	-3,032.00	500.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
600.00	0.00	0.00	-2,932.00	600.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
700.00	0.00	0.00	-2,832.00	700.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
800.00	0.00	0.00	-2,732.00	800.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
900.00	0.00	0.00	-2,632.00	900.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,000.00	0.00	0.00	-2,532.00	1,000.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,100.00	0.00	0.00	-2,432.00	1,100.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,200.00	0.00	0.00	-2,332.00	1,200.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,300.00	0.00	0.00	-2,232.00	1,300.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,400.00	0.00	0.00	-2,132.00	1,400.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,500.00	0.00	0.00	-2,032.00	1,500.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,600.00	0.00	0.00	-1,932.00	1,600.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,700.00	0.00	0.00	-1,832.00	1,700.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,800.00	0.00	0.00	-1,732.00	1,800.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
1,900.00	0.00	0.00	-1,632.00	1,900.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,000.00	0.00	0.00	-1,532.00	2,000.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,100.00	0.00	0.00	-1,432.00	2,100.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,200.00	0.00	0.00	-1,332.00	2,200.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,300.00	0.00	0.00	-1,232.00	2,300.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,400.00	0.00	0.00	-1,132.00	2,400.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,500.00	0.00	0.00	-1,032.00	2,500.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,600.00	0.00	0.00	-932.00	2,600.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70

Phoenix Technology Services OGX Resources



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Design: Plan #1 080311

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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)	DLog (°/100ft)	Northing (ft)	Easting (ft)
2,700.00	0.00	0.00	-832.00	2,700.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,800.00	0.00	0.00	-732.00	2,800.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
2,900.00	0.00	0.00	-632.00	2,900.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,000.00	0.00	0.00	-532.00	3,000.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,100.00	0.00	0.00	-432.00	3,100.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,200.00	0.00	0.00	-332.00	3,200.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,300.00	0.00	0.00	-232.00	3,300.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,400.00	0.00	0.00	-132.00	3,400.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,500.00	0.00	0.00	-32.00	3,500.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,600.00	0.00	0.00	68.00	3,600.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,700.00	0.00	0.00	168.00	3,700.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,800.00	0.00	0.00	268.00	3,800.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
3,900.00	0.00	0.00	368.00	3,900.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
4,000.00	0.00	0.00	468.00	4,000.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
4,100.00	0.00	0.00	568.00	4,100.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
4,200.00	0.00	0.00	668.00	4,200.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
4,300.00	0.00	0.00	768.00	4,300.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
4,400.00	0.00	0.00	868.00	4,400.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
4,410.00	0.00	0.00	878.00	4,410.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
Basal Anhydrite										
4,500.00	0.00	0.00	968.00	4,500.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
4,520.00	0.00	0.00	988.00	4,520.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
Lamar										
4,540.00	0.00	0.00	1,008.00	4,540.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
Bell Canyon										
4,600.00	0.00	0.00	1,068.00	4,600.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
4,700.00	0.00	0.00	1,168.00	4,700.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70

Phoenix Technology Services OGX Resources



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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)
4,800.00	0.00	0.00	1,268.00	4,800.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
4,900.00	0.00	0.00	1,368.00	4,900.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,000.00	0.00	0.00	1,468.00	5,000.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,100.00	0.00	0.00	1,568.00	5,100.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,200.00	0.00	0.00	1,668.00	5,200.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,300.00	0.00	0.00	1,768.00	5,300.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,400.00	0.00	0.00	1,868.00	5,400.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,460.00	0.00	0.00	1,928.00	5,460.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
Cherry Canyon										
5,500.00	0.00	0.00	1,968.00	5,500.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,600.00	0.00	0.00	2,068.00	5,600.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,680.00	0.00	0.00	2,148.00	5,680.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
Manzanita										
5,700.00	0.00	0.00	2,168.00	5,700.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,800.00	0.00	0.00	2,268.00	5,800.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
5,900.00	0.00	0.00	2,368.00	5,900.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,000.00	0.00	0.00	2,468.00	6,000.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,100.00	0.00	0.00	2,568.00	6,100.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,200.00	0.00	0.00	2,668.00	6,200.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,300.00	0.00	0.00	2,768.00	6,300.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,400.00	0.00	0.00	2,868.00	6,400.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,500.00	0.00	0.00	2,968.00	6,500.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,600.00	0.00	0.00	3,068.00	6,600.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,700.00	0.00	0.00	3,168.00	6,700.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
6,740.00	0.00	0.00	3,208.00	6,740.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70
Brushy Canyon										
6,800.00	0.00	0.00	3,288.00	6,800.00	0.00	0.00	0.00	0.00	429,771.20	689,978.70

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MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	D/Leg (°/100ft)	Northing (ft)	Easting (ft)
6,900.00	0.00	0.00	3,368.00	6,900.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,000.00	0.00	0.00	3,468.00	7,000.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,100.00	0.00	0.00	3,568.00	7,100.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,200.00	0.00	0.00	3,668.00	7,200.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,300.00	0.00	0.00	3,768.00	7,300.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,400.00	0.00	0.00	3,868.00	7,400.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,500.00	0.00	0.00	3,968.00	7,500.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,600.00	0.00	0.00	4,068.00	7,600.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,700.00	0.00	0.00	4,168.00	7,700.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,800.00	0.00	0.00	4,268.00	7,800.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
7,900.00	0.00	0.00	4,368.00	7,900.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,000.00	0.00	0.00	4,468.00	8,000.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,100.00	0.00	0.00	4,568.00	8,100.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,200.00	0.00	0.00	4,668.00	8,200.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,300.00	0.00	0.00	4,768.00	8,300.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,400.00	0.00	0.00	4,868.00	8,400.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,480.00	0.00	0.00	4,948.00	8,480.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
Bone Spring										
8,500.00	0.00	0.00	4,968.00	8,500.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,600.00	0.00	0.00	5,068.00	8,600.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,700.00	0.00	0.00	5,168.00	8,700.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,800.00	0.00	0.00	5,268.00	8,800.00	0.00	0.00	0.00	0.00	429,771.20	689,979.70
8,822.53	0.00	0.00	5,290.53	8,822.53	0.00	0.00	0.00	0.00	429,771.20	689,979.70
KOP Start 12°/100' Build @ 8822' MD										
8,900.00	9.30	178.64	5,367.66	8,999.66	-6.27	0.04	6.27	12.00	429,764.93	689,979.74
9,000.00	21.30	179.64	5,463.94	8,995.94	-32.60	0.20	32.60	12.00	429,738.60	689,979.90
9,100.00	33.30	179.64	5,552.64	9,084.64	-78.38	0.49	78.38	12.00	429,692.82	689,980.19

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Planned Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	D/Leg (°/100ft)	North (ft)	Easting (ft)
9,200.00	45.30	178.64	5,629.89	9,161.89	-141.59	0.89	141.59	12.00	429,629.61	889,980.59
9,300.00	57.30	178.64	5,692.31	9,224.31	-218.49	1.37	218.49	12.00	429,551.71	889,981.07
9,400.00	69.30	178.64	5,737.16	9,269.16	-308.65	1.93	308.66	12.00	429,462.55	889,981.63
9,500.00	81.30	178.64	5,762.50	9,294.50	-405.20	2.53	405.21	12.00	429,366.00	889,982.23
9,572.54	90.00	178.64	5,768.00	9,300.00	-477.46	2.99	477.47	12.00	429,293.74	889,982.69
Land/Start 4142' Hold @ 9672' MD - Avalon Shale										
9,600.00	90.00	179.64	5,768.00	9,300.00	-504.92	3.16	504.93	0.00	429,266.28	889,982.86
9,700.00	90.00	179.64	5,768.00	9,300.00	-604.92	3.78	604.93	0.00	429,166.28	889,983.48
9,800.00	90.00	179.64	5,768.00	9,300.00	-704.92	4.41	704.93	0.00	429,066.29	889,984.11
9,900.00	90.00	179.64	5,768.00	9,300.00	-804.91	5.03	804.93	0.00	428,966.29	889,984.73
10,000.00	90.00	179.64	5,768.00	9,300.00	-904.91	5.66	904.93	0.00	428,866.29	889,985.36
10,100.00	90.00	179.64	5,768.00	9,300.00	-1,004.91	6.29	1,004.93	0.00	428,766.29	889,985.99
10,200.00	90.00	179.64	5,768.00	9,300.00	-1,104.91	6.91	1,104.93	0.00	428,666.29	889,986.61
10,300.00	90.00	179.64	5,768.00	9,300.00	-1,204.91	7.54	1,204.93	0.00	428,566.30	889,987.24
10,400.00	90.00	179.64	5,768.00	9,300.00	-1,304.90	8.16	1,304.93	0.00	428,466.30	889,987.86
10,500.00	90.00	179.64	5,768.00	9,300.00	-1,404.90	8.79	1,404.93	0.00	428,366.30	889,988.49
10,600.00	90.00	179.64	5,768.00	9,300.00	-1,504.90	9.41	1,504.93	0.00	428,266.30	889,988.11
10,700.00	90.00	179.64	5,768.00	9,300.00	-1,604.90	10.04	1,604.93	0.00	428,166.30	889,989.74
10,800.00	90.00	179.64	5,768.00	9,300.00	-1,704.90	10.66	1,704.93	0.00	428,066.31	889,990.36
10,900.00	90.00	179.64	5,768.00	9,300.00	-1,804.89	11.29	1,804.93	0.00	427,966.31	889,990.99
11,000.00	90.00	179.64	5,768.00	9,300.00	-1,904.89	11.92	1,904.93	0.00	427,866.31	889,991.62
11,100.00	90.00	179.64	5,768.00	9,300.00	-2,004.89	12.54	2,004.93	0.00	427,766.31	889,992.24
11,200.00	90.00	179.64	5,768.00	9,300.00	-2,104.89	13.17	2,104.93	0.00	427,666.32	889,992.87
11,300.00	90.00	179.64	5,768.00	9,300.00	-2,204.89	13.79	2,204.93	0.00	427,566.32	889,993.49
11,400.00	90.00	179.64	5,768.00	9,300.00	-2,304.88	14.42	2,304.93	0.00	427,466.32	889,994.12
11,500.00	90.00	179.64	5,768.00	9,300.00	-2,404.88	15.04	2,404.93	0.00	427,366.32	889,994.74
11,600.00	90.00	179.64	5,768.00	9,300.00	-2,504.88	15.67	2,504.93	0.00	427,266.32	889,995.37

Phoenix Technology Services OGX Resources



Company: OGX Resources
Project: Eddy County, New Mexico
Site: Redhead 31 Federal
Well: Redhead 31 Fed 1H
Wellbore: Wellbore #1
Design: Plan #1 080311

Local Co-ordinate Reference:
TVD Reference: WELL @ 3532.00ft (Original Well Elev + 18' KB)
MD Reference: WELL @ 3532.00ft (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)	D Leg (°/100ft)	Northing (ft)	Easting (ft)
11,700.00	90.00	179.64	5,768.00	9,300.00	-2,604.88	16.29	2,604.93	0.00	427,166.33	689,995.99
11,800.00	90.00	179.64	5,768.00	9,300.00	-2,704.88	16.92	2,704.93	0.00	427,066.33	689,996.62
11,900.00	90.00	179.64	5,768.00	9,300.00	-2,804.88	17.54	2,804.93	0.00	426,966.33	689,997.24
12,000.00	90.00	179.64	5,768.00	9,300.00	-2,904.87	18.17	2,904.93	0.00	426,866.33	689,997.87
12,100.00	90.00	179.64	5,768.00	9,300.00	-3,004.87	18.80	3,004.93	0.00	426,766.33	689,998.50
12,200.00	90.00	179.64	5,768.00	9,300.00	-3,104.87	18.42	3,104.93	0.00	426,666.34	689,999.12
12,300.00	90.00	179.64	5,768.00	9,300.00	-3,204.87	20.05	3,204.93	0.00	426,566.34	689,999.75
12,400.00	90.00	179.64	5,768.00	9,300.00	-3,304.87	20.67	3,304.93	0.00	426,466.34	690,000.37
12,500.00	90.00	179.64	5,768.00	9,300.00	-3,404.86	21.30	3,404.93	0.00	426,366.34	690,001.00
12,600.00	90.00	179.64	5,768.00	9,300.00	-3,504.86	21.82	3,504.93	0.00	426,266.35	690,001.62
12,700.00	90.00	179.64	5,768.00	9,300.00	-3,604.86	22.55	3,604.93	0.00	426,166.35	690,002.25
12,800.00	90.00	179.64	5,768.00	9,300.00	-3,704.86	23.17	3,704.93	0.00	426,066.35	690,002.87
12,900.00	90.00	179.64	5,768.00	9,300.00	-3,804.86	23.80	3,804.93	0.00	425,966.35	690,003.50
13,000.00	90.00	179.64	5,768.00	9,300.00	-3,904.85	24.43	3,904.93	0.00	425,866.35	690,004.13
13,100.00	90.00	179.64	5,768.00	9,300.00	-4,004.85	25.05	4,004.93	0.00	425,766.36	690,004.75
13,200.00	90.00	179.64	5,768.00	9,300.00	-4,104.85	25.68	4,104.93	0.00	425,666.36	690,005.38
13,300.00	90.00	179.64	5,768.00	9,300.00	-4,204.85	26.30	4,204.93	0.00	425,566.36	690,006.00
13,400.00	90.00	179.64	5,768.00	9,300.00	-4,304.85	26.93	4,304.93	0.00	425,466.36	690,006.63
13,500.00	90.00	179.64	5,768.00	9,300.00	-4,404.84	27.55	4,404.93	0.00	425,366.36	690,007.25
13,600.00	90.00	179.64	5,768.00	9,300.00	-4,504.84	28.18	4,504.93	0.00	425,266.37	690,007.88
13,700.00	90.00	179.64	5,768.00	9,300.00	-4,604.84	28.80	4,604.93	0.00	425,166.37	690,008.50
13,715.37	90.00	179.64	5,768.00	9,300.00	-4,620.21	28.90	4,620.30	0.00	425,151.00	690,008.60

Phoenix Technology Services

OGX Resources



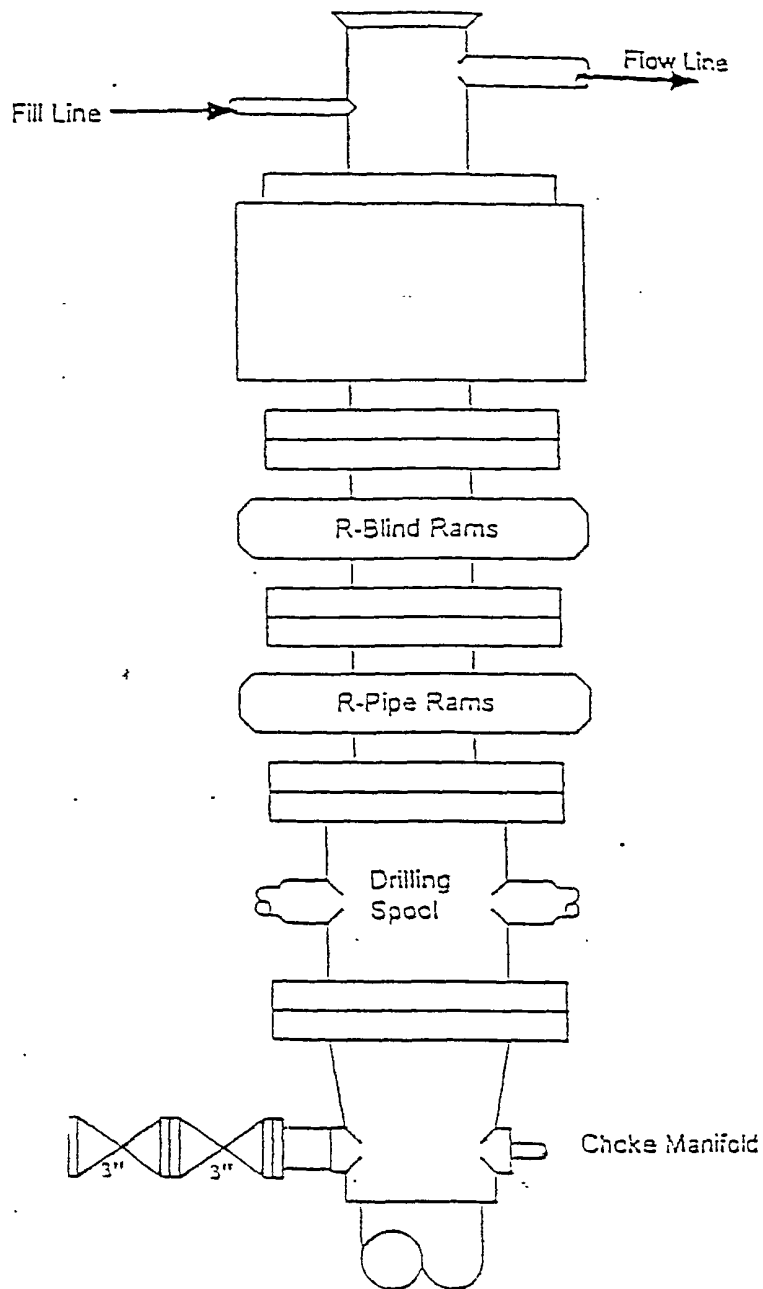
Company: OGX Resources
 Project: Eddy County, New Mexico
 Site: Redhead 31 Federal
 Well: Redhead 31 Fed 1H
 Wellbore: Wellbore #1
 Design: Plan #1 080311

Local Co-ordinate Reference:
 TVD Reference: WELL @ 3532.00ft (Original Well Elev + 18' KB)
 MD Reference: WELL @ 3532.00ft (Original Well Elev + 18' KB)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: GCR3

Formations	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	4,410.00	4,410.00	Basal Anhydrite		0.00	
	6,740.00	6,740.00	Brushy Canyon		0.00	
	8,480.00	8,480.00	Bone Spring		0.00	
	5,460.00	5,460.00	Cherry Canyon		0.00	
	4,520.00	4,520.00	Lamar		0.00	
	9,572.54	9,300.00	Avalon Shale		0.00	
	4,540.00	4,540.00	Bell Canyon		0.00	
	5,680.00	5,680.00	Manzanita		0.00	

Plan Annotations	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
	8,822.53	8,822.53	0.00	0.00	KOP Start 12°/100' Build @ 8822' MD
	9,572.54	9,300.00	-477.46	2.99	Land/Start 4142' Hold @ 8572' MD
	13,715.37	9,300.00	-4,620.21	28.90	TD @ 13715' MD

Checked By: _____ Approved By: _____ Date: _____



Type 900 Series
3000 psi WF

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

OGX RESOURCES, LLC.
REDHEAD "31" FEDERAL #1H
UNIT "D" SECTION 31
T24S-R32E LEA CO. NM

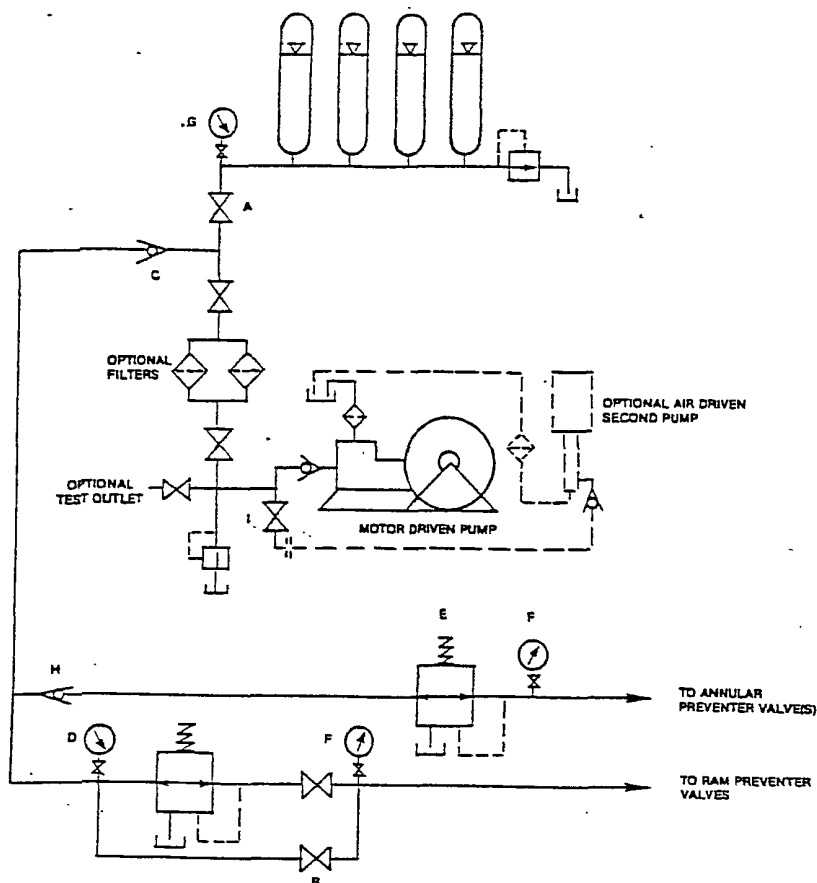


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

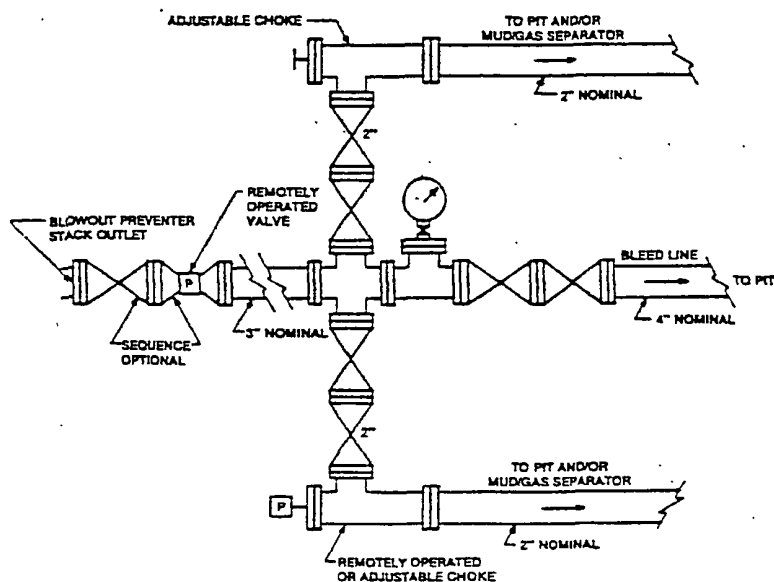
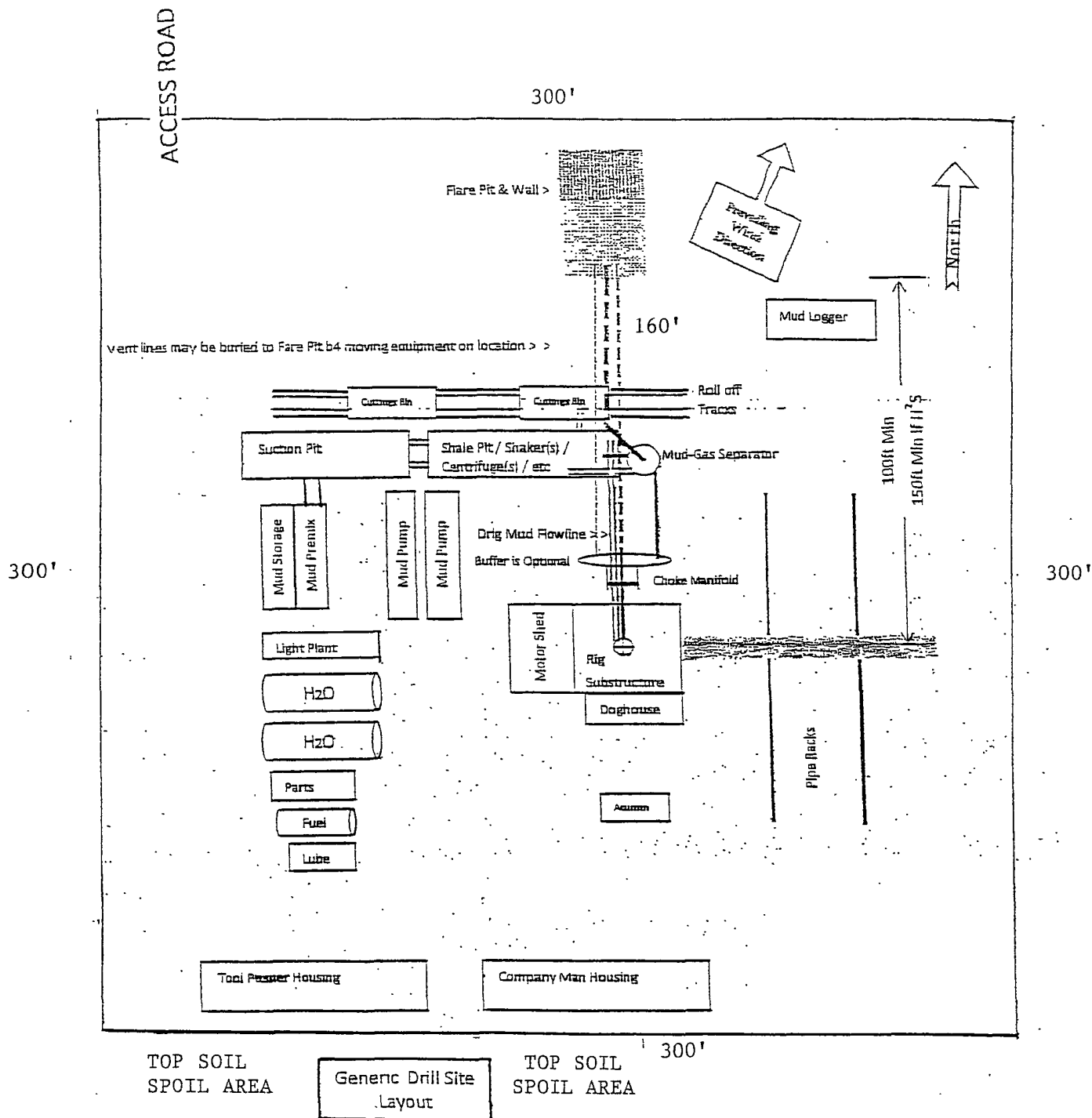


FIGURE K4-2. Typical choke manifold assembly for SM rated working pressure service — surface installation.

EXHIBIT "E 1"
CHOKE MANIFOLD & CLOSING UNIT

OGX RESOURCES, LLC.
REDHEAD "31" FEDERAL #1H
UNIT "D" SECTION 31
T24S-R32E LEA CO. NM



Preplanning reasonable spacing accommodations for a useable "Closed Loop" drillsite layout is challenging. Particular site specific conflicts need to be resolved. This generic APD plat was prepared to demonstrate several necessary elements. The plat should include: a north arrow, prevailing wind direction, spacing access for truck removal of cutting bins, flare pit location, and piping provision to vent all combustible gas to the flare pit. Include the choke manifold and mud-gas separator location and their connection routing.

EXHIBIT "D"
RIG LAY OUT PLAT

OGX RESOURCES, LLC.
REDHEAD "31" FEDERAL #1H
UNIT "D" SECTION 31
T24S-R32E LEA CO. NM