

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

ATS-13-438

OCD Hobbs
HOBBS

NOV 26 2013

RECEIVED

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM 129262 2379
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator ENERGEN RESOURCES Contact: ANNA STOTTS E-Mail: astotts@energen.com		7. If Unit or CA Agreement, Name and No.
3a. Address 3300 NORTH A STREET BLDG 4 SUITE 100 MIDLAND, TX 79705		8. Lease Name and Well No. COX FEDERAL 35 2H 40257
3b. Phone No. (include area code) Ph: 505-324-4154 Fx: 505-326-6112		9. API Well No. 33 30-025-41521
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSE 200FSL 2240FEL At proposed prod. zone NWNE 330FNL 2240FEL		10. Field and Pool, or Exploratory 2ND BONE SPRINGS TRISTE DRAW, BS 96603
14. Distance in miles and direction from nearest town or post office* APPROX 35 MI FROM JAL, NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec 35 T23S R32E Mer NMP
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 200	16. No. of Acres in Lease 320.00 1280.000	12. County or Parish LEA
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 4170	19. Proposed Depth 14815 MD 10971 TVD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 3630 GL	22. Approximate date work will start 10/01/2013	17. Spacing Unit dedicated to this well 320.00 160
23. Estimated duration 35 DAYS		20. BLM/BIA Bond No. on file NM2707

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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) NATHAN SMITH Ph: 505-324-4151	Date 05/21/2013
Title SUPV DRILLING ENGINEER		
Approved by (Signature) /s/ STEPHEN J. CAFFEY	Date NOV 22 2013	
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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.

Additional Operator Remarks (see next page)

Carlsbad Controlled Water Basin

Electronic Submission #208200 verified by the BLM Well Information System
For ENERGEN RESOURCES, sent to the Hobbs
Committed to AFMSS for processing by KURT SIMMONS on 06/13/2013 ()

KZ 11/26/13

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

DEC 02 2013

Drilling Plan
Energen Resources Corporation

Cox Federal 35-2H

Surface Location: 200 FSL & 2240 FEL

Section 35-23S-32E, 32° 15' 15.986"/-130° 38' 38.800"

Bottom Hole Location: 330 FNL & 2240 FEL

Section 35-23S-32E, 32° 16' 03.019"/-130° 38' 38.832"

Lea Co., NM

1. The elevation of the unprepared ground is 3649.5 feet above sea level.
2. The geological name of the surface formation is Quaternary Eolian and Piedmont deposits
3. A rotary rig will be utilized to drill the well to a Proposed Total Depth of 10,971' TVD/14,185' MD.
4. Estimated top of important geological markers:

<u>FORMATION</u>	<u>DEPTH (TVD)(ft)</u>	<u>SUBSEA(ft)</u>
Rustler	1,142	2,529
Top of Evaporite	1,282	2,389
Base of Evaporite	4,712	-1,041
Bell Canyon	5,003	-1,332
Cherry Canyon	5,849	-2,178
Brushy Canyon	7,199	-3,528
Bone Springs	8,702	-5,111
Avalon	8,911	-5,240
1st Bone Spring Carbonate	9,829	-6,158
1st Bone Spring Sand	9,962	-6,291
2nd Bone Spring Carbonate	10,296	-6,625
2nd Bone Spring Sand	10,611	-6,940
3rd Bone Spring Carbonate	11,071	-7,400

5. Estimated depth at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

<u>FORMATION</u>	<u>DEPTH (TVD)(ft)</u>	<u>Water/HydroCarbon</u>
Rustler	1,142	Water
Top of Evaporite	1,282	NA
Base of Evaporite	4,712	NA
Bell Canyon	5,003	Oil/Gas
Cherry Canyon	5,849	Oil/Gas
Brushy Canyon	7,199	Oil/Gas
Bone Springs	8,702	NA
Avalon	8,911	Oil/Gas
1st Bone Spring Carbonate	9,829	NA
1st Bone Spring Sand	9,962	Oil/Gas
2nd Bone Spring Carbonate	10,296	NA
2nd Bone Spring Sand	10,611	Oil/Gas
3rd Bone Spring Carbonate	11,071	NA

6. The proposed casing is new and the program is as follows:

1260

Casing	Size	Depth		Grade	Weight	Connection	PSI		x1000 lbs
		MD	TVD				Burst	Collapse	
Surface	13-3/8"	0-1,200'	0-1,200'	J-55	54.50	BTC	1130	2730	909
Intermediate	9-5/8"	0-4,850'	0-4,850'	J-55	40.00	BTC	2570	3970	714
Production (Atch C-1)	5-1/2"	0-14,185'	0-10,971'	P-110	20.00	TCPC	12640	11100	667

7. Cementing Program:

- a. 17-1/2" hole x 13-3/8" casing at 1,200' will have cement circulated to surface with 540 sx of Econocem – HLC with 1 lbm/sk Kol-Seal at 12.8 ppg (1.81 cf/sk) followed by 250 sx HalCem – C with 1 lbm/sk Kol-Seal at 14.8 ppg (1.33 cf/sk). Note: CEMENT MUST BE CIRCULATED TO SURFACE. STANDARD BOW SPRING CENTRALIZERS SHALL BE PLACED ON THE FIRST 3 (BOTTOM 3) JOINTS OF CASING (1 PER JOINT) AND 1 EVERY 3RD JOINT TO SURFACE.
- b. 12-1/4" hole x 9-5/8" casing at 4,850'. A fluid caliper will be run to determine the exact cement volume required. Cement will be circulated to surface with 890 sx of Econo-Cem – C with 2lbm/sk Kol- Seal, 0.25 lbm/sk D-AIR 5000 at 11.9 ppg (2.45 cf/sk) followed by 220 sx of HalCem-C with 1 lbm/sk Kol-Seal at 14.8 ppg (1.33 cf/sk). ONE CENTRALIZER PER JOINT FOR THE FIRST 3 JOINTS, THEN EVERY 3RD JOINT TO SURFACE. TOP AND BOTTOM PLUGS TO BE USED FOR CEMENTING.
- c. 8-3/4" hole x 5-1/2" casing at 14,835'. A fluid caliper will be run to determine the exact cement volume required to have TOC at 4,680'. 2880 sx of VersaCem-H with 0.4% Halad(R)-344, 0.3% Super CBL, 0.4% HR-800 at 14.4 ppg (1.25 cf/sk). DV tool will be utilized at 10,000' if losses are encountered. CENTRALIZERS TO BE USED AT DISCRETION IN LATERAL TO ACHIEVE 70% STAND OFF. CENTRALIZERS TO BE USED TO TIE BACK DEPTH OF 4,680' TO ACHIEVE 70% STAND OFF. TOP AND BOTTOM PLUGS TO BE USED FOR CEMENTING.

see COA

see COA
Sundry require
for DV Tool

8. Pressure Control Equipment

- a. 12-1/4" hole section: The blowout preventer equipment (BOP) will consist of a 5,000 psi system double ram type preventer, a bag type (Hydril) preventer and rotating head. Both units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and corresponding pipe rams based on hole section being drilled. A 13-5/8" 5M x SOW will be installed on the 13-3/8" surface casing and utilized until the 9-5/8" casing is set. The BOP and associated equipment will be tested to rated pressure, before drilling out the 13-3/8" casing shoe the casing will be tested to 2,000 psi. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 5,000 psi WP rating.
- b. 8-3/4" hole section: The blowout preventer equipment (BOP) will consist of a 5,000 psi system double ram type preventer, a bag type (Hydril) preventer and rotating head. Both units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and corresponding pipe rams based on hole section being drilled. A 13-3/8" 5M x 11" 10M wellhead will be installed. The BOP and associated equipment will be tested to rated pressure, before drilling out the 9-5/8" casing shoe the casing will be tested to 2,000 psi. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include an Upper and Lower Kelly cock, floor safety valve, choke lines and

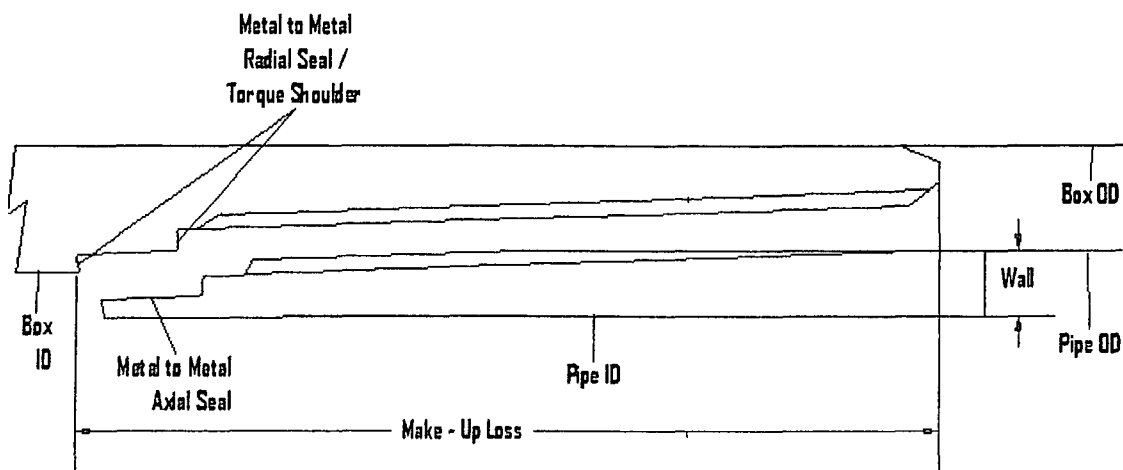
Premium Couplings

ALL SIZES ARE INCH, UNLESS STATED OTHERWISE

Size	Weight	Wall	Grade	Make Up			
5.500	20	0.361	P110	Torque Min (ft-lb)	Torque Opt (ft-lb)	Torque Max (ft-lb)	Loss (in.)
				8000	8500	9250	4.75

Max Allowable Torque 30,000 ft./lbs.

Connection Dimension		Performance Property	
Pipe ID	4.778	Yield (x 1000 lbs.)	641
Pin ID	4.778	Internal Pressure (psi)	12640
Coupling ID	4.778	Collapse (psi)	11100
Coupling OD	6.062	Tension (x 1000 lbs.)	667
Coupling Length	10.125	Compression (x 1000 lbs.)	667
		Drift Diameter	4.653



and choke manifold having 5,000 psi WP rating. All equipment used will meet standards for a Hydrogen Sulfide environment.

- c. Pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drilling logs.

9. Mud Program:

0' - 1,200' <i>1260</i>	Bentonite/Lime mud. Paper for losses and seepage. 8.5 to 9.0 ppg, 32 to 34 vis, PV 3 to 5, YP 5 to 7, WL NC
1,200' - 4,850'	Brine. As needed LCM for losses and seepage. 10.0 to 10.2 ppg, pH 10, 28 to 29 vis, PV 1, YP 1, WL NC
4,850' - 14,835'	Cut Brine. As needed LCM for losses and seepage. 9.0 to 9.5 ppg, pH 10, 28 to 36 vis, PV 4-6, YP 4-6, WL 12-15

****During drilling operations, all necessary products will be sufficiently stored on location for abnormal situations. The characteristics, use, testing of drilling mud and the implementation of related drilling procedures shall be designed to prevent the loss of well control. Sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring well control.**

****A pH of 10 or above in the fresh water base mud system shall be maintained to control the effects H₂S has on metallurgy of equipment used.**

Operating and Maintenance

Energen Resources Corporation will be using all above ground steel pits for fluid and cuttings while drilling. If any tank develops a leak we will have immediate visual discovery, we would then transfer the fluid to another tank then remove any contaminated soil and dispose of it in the cuttings bins for transportation. All leaks should be kept to less than 5 barrels. Rig crews will monitor the tanks at all times. A trip/surge tank will be used to monitor returns for circulation losses/gains.

Equipment:

2-Mongoose Shale Shakers

2-3400 High Speed Centrifuges with stands and pumps

3-Roll off bins with Tracks

2-500 bbl Open top Frac tanks

1-Mud/Gas Separator and Degasser

1-Trip/Surge Tank to monitor returns

Electronic or Visual monitoring system to indicate lost returns

10. Testing, Logging and Coring Program:

- Testing Program: No drillstem tests are anticipated
- Electric Logging Program: No Electric Logs
- LWD Program: MWD and Mud Logs
- Coring Program: None

see CoA

11. Pressure gradient expected to be 5,420psit.

12. Bottom Hole Temperature expected to be 160 deg F

Energen Resources

Delaware Basin

Cox Federal 35-2H

Triste Draw Bone Spring

Preliminary Design

Plan: Design #1

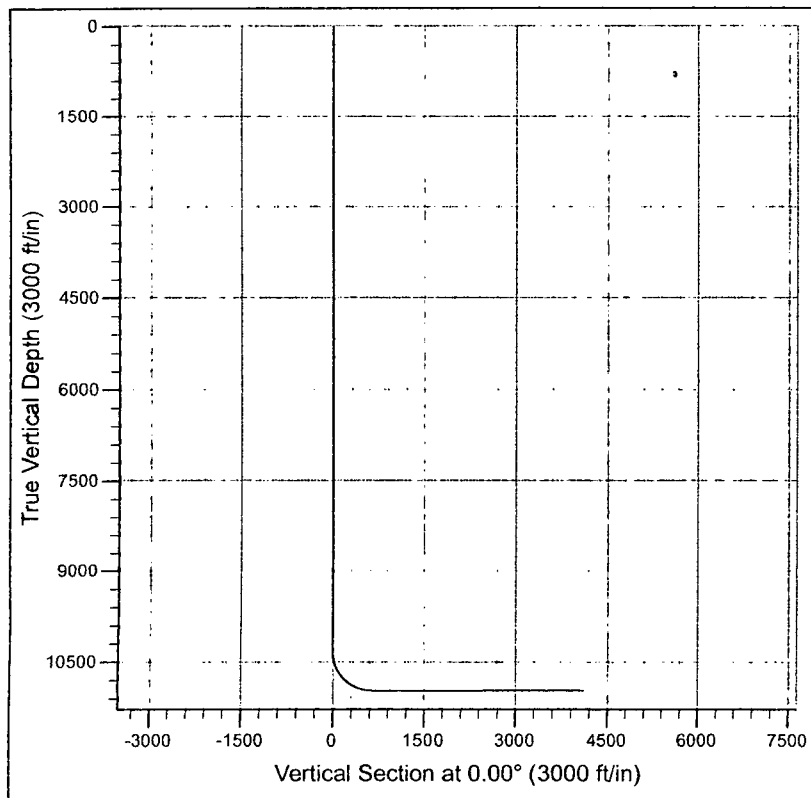
Preliminary Design

02 July, 2013



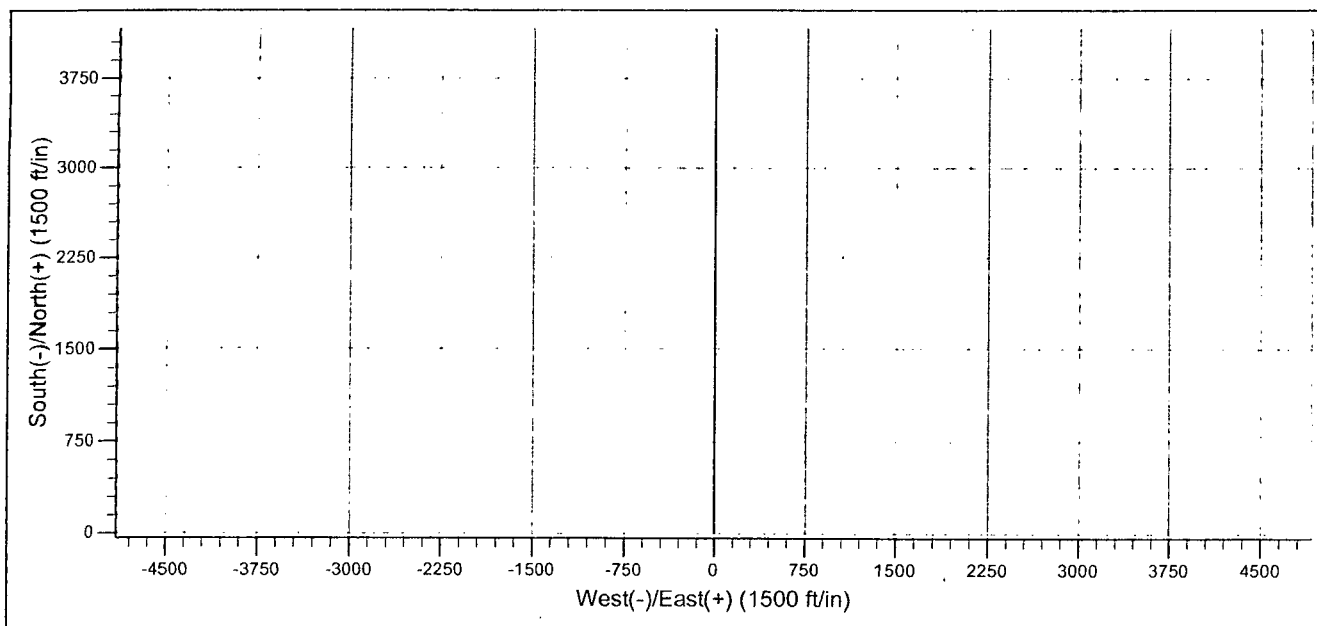
Company Name: Energen Resources

Project: Delaware Basin
 Site: Cox Federal 35-2H
 Well: Triste Draw Bone Spring
 Wellbore: Preliminary Design
 Design: Design #1



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	10335.0	0.00	0.00	10335.0	0.0	0.0	0.00	0.00	0.0
3	11334.0	90.00	0.00	10971.0	636.0	0.0	9.01	0.00	636.0
4	14815.0	90.00	0.00	10971.0	4117.0	0.0	0.00	0.00	4117.0



Energen

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Local Co-ordinate Reference: Site Cox Federal 35-2H
TVD Reference: WELL @ 4525.0ft (Original Well Elev)
MD Reference: WELL @ 4525.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Delaware Basin, Lea County, NM, 2nd Bone Spring Carbonate Sand		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Cox Federal 35-2H		
Site Position:		Northing:	0.00 m
From:	None	Easting:	0.00 m
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in
		Latitude:	0° 0' 0.000 N
		Longitude:	0° 0' 0.000 E
		Grid Convergence:	0.00 °

Well	Triste Draw Bone Spring		
Well Position	+N/-S	0.0 ft	Northing: 0.00 m
	+E/-W	0.0 ft	Easting: 0.00 m
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	30° 59' 18.404 N
		Longitude:	106° 3' 38.987 W
		Ground Level:	4,500.0 ft

Wellbore	Preliminary Design		
Magnetics	Model Name	Sample Date	Declination
	User Defined	3/1/2013	(°)
			0.00
			(°)
			0.00
			(nT)
			0

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction
			(°)
			0.00

Survey Tool Program	Date 4/23/2013		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
0.0	14,815.0	Design #1 (Preliminary Design)	MWD
			Description
			MWD - Standard

Planned Survey								
TVD	MD	Inc	Azi (azimuth)	N/S	E/W	Build	V. Sec	
(ft)	(ft)	(°)	(°)	(ft)	(ft)	(°/100ft)	(ft)	
0.0	0.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
100.0	100.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
200.0	200.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
300.0	300.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
400.0	400.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
500.0	500.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
600.0	600.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
700.0	700.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
800.0	800.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
900.0	900.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
1,000.0	1,000.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0
1,100.0	1,100.0	0.00	0.00	0.0	0.0	0.00	0.0	0.0

Energen

Preliminary Design

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Local Co-ordinate Reference: Site Cox Federal 35-2H
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MD Reference: WELL @ 4525.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

TVD (ft)	MD (ft)	Inc (°)	Azi (azimuth) (°)	N/S (ft)	E/W (ft)	Build (°/100ft)	V. Sec (ft)
1,200.0	1,200.0	0.00	0.00	0.0	0.0	0.00	0.0
1,300.0	1,300.0	0.00	0.00	0.0	0.0	0.00	0.0
1,400.0	1,400.0	0.00	0.00	0.0	0.0	0.00	0.0
1,500.0	1,500.0	0.00	0.00	0.0	0.0	0.00	0.0
1,600.0	1,600.0	0.00	0.00	0.0	0.0	0.00	0.0
1,700.0	1,700.0	0.00	0.00	0.0	0.0	0.00	0.0
1,800.0	1,800.0	0.00	0.00	0.0	0.0	0.00	0.0
1,900.0	1,900.0	0.00	0.00	0.0	0.0	0.00	0.0
2,000.0	2,000.0	0.00	0.00	0.0	0.0	0.00	0.0
2,100.0	2,100.0	0.00	0.00	0.0	0.0	0.00	0.0
2,200.0	2,200.0	0.00	0.00	0.0	0.0	0.00	0.0
2,300.0	2,300.0	0.00	0.00	0.0	0.0	0.00	0.0
2,400.0	2,400.0	0.00	0.00	0.0	0.0	0.00	0.0
2,500.0	2,500.0	0.00	0.00	0.0	0.0	0.00	0.0
2,600.0	2,600.0	0.00	0.00	0.0	0.0	0.00	0.0
2,700.0	2,700.0	0.00	0.00	0.0	0.0	0.00	0.0
2,800.0	2,800.0	0.00	0.00	0.0	0.0	0.00	0.0
2,900.0	2,900.0	0.00	0.00	0.0	0.0	0.00	0.0
3,000.0	3,000.0	0.00	0.00	0.0	0.0	0.00	0.0
3,100.0	3,100.0	0.00	0.00	0.0	0.0	0.00	0.0
3,200.0	3,200.0	0.00	0.00	0.0	0.0	0.00	0.0
3,300.0	3,300.0	0.00	0.00	0.0	0.0	0.00	0.0
3,400.0	3,400.0	0.00	0.00	0.0	0.0	0.00	0.0
3,500.0	3,500.0	0.00	0.00	0.0	0.0	0.00	0.0
3,600.0	3,600.0	0.00	0.00	0.0	0.0	0.00	0.0
3,700.0	3,700.0	0.00	0.00	0.0	0.0	0.00	0.0
3,800.0	3,800.0	0.00	0.00	0.0	0.0	0.00	0.0
3,900.0	3,900.0	0.00	0.00	0.0	0.0	0.00	0.0
4,000.0	4,000.0	0.00	0.00	0.0	0.0	0.00	0.0
4,100.0	4,100.0	0.00	0.00	0.0	0.0	0.00	0.0
4,200.0	4,200.0	0.00	0.00	0.0	0.0	0.00	0.0
4,300.0	4,300.0	0.00	0.00	0.0	0.0	0.00	0.0
4,400.0	4,400.0	0.00	0.00	0.0	0.0	0.00	0.0
4,500.0	4,500.0	0.00	0.00	0.0	0.0	0.00	0.0
4,600.0	4,600.0	0.00	0.00	0.0	0.0	0.00	0.0
4,700.0	4,700.0	0.00	0.00	0.0	0.0	0.00	0.0
4,800.0	4,800.0	0.00	0.00	0.0	0.0	0.00	0.0
4,900.0	4,900.0	0.00	0.00	0.0	0.0	0.00	0.0
5,000.0	5,000.0	0.00	0.00	0.0	0.0	0.00	0.0
5,100.0	5,100.0	0.00	0.00	0.0	0.0	0.00	0.0
5,200.0	5,200.0	0.00	0.00	0.0	0.0	0.00	0.0
5,300.0	5,300.0	0.00	0.00	0.0	0.0	0.00	0.0
5,400.0	5,400.0	0.00	0.00	0.0	0.0	0.00	0.0
5,500.0	5,500.0	0.00	0.00	0.0	0.0	0.00	0.0

Energen

Preliminary Design

Company: Energen Resources
Project: Delaware Basin
Site: Cox Federal 35-2H
Well: Triste Draw Bone Spring
Wellbore: Preliminary Design
Design: Design #1

Local Co-ordinate Reference: Site Cox Federal 35-2H
TVD Reference: WELL @ 4525.0ft (Original Well Elev)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

TVD (ft)	MD (ft)	Inc (°)	Azi (azimuth) (°)	N/S (ft)	E/W (ft)	Build (°/100ft)	V. Sec (ft)
5,600.0	5,600.0	0.00	0.00	0.0	0.0	0.00	0.0
5,700.0	5,700.0	0.00	0.00	0.0	0.0	0.00	0.0
5,800.0	5,800.0	0.00	0.00	0.0	0.0	0.00	0.0
5,900.0	5,900.0	0.00	0.00	0.0	0.0	0.00	0.0
6,000.0	6,000.0	0.00	0.00	0.0	0.0	0.00	0.0
6,100.0	6,100.0	0.00	0.00	0.0	0.0	0.00	0.0
6,200.0	6,200.0	0.00	0.00	0.0	0.0	0.00	0.0
6,300.0	6,300.0	0.00	0.00	0.0	0.0	0.00	0.0
6,400.0	6,400.0	0.00	0.00	0.0	0.0	0.00	0.0
6,500.0	6,500.0	0.00	0.00	0.0	0.0	0.00	0.0
6,600.0	6,600.0	0.00	0.00	0.0	0.0	0.00	0.0
6,700.0	6,700.0	0.00	0.00	0.0	0.0	0.00	0.0
6,800.0	6,800.0	0.00	0.00	0.0	0.0	0.00	0.0
6,900.0	6,900.0	0.00	0.00	0.0	0.0	0.00	0.0
7,000.0	7,000.0	0.00	0.00	0.0	0.0	0.00	0.0
7,100.0	7,100.0	0.00	0.00	0.0	0.0	0.00	0.0
7,200.0	7,200.0	0.00	0.00	0.0	0.0	0.00	0.0
7,300.0	7,300.0	0.00	0.00	0.0	0.0	0.00	0.0
7,400.0	7,400.0	0.00	0.00	0.0	0.0	0.00	0.0
7,500.0	7,500.0	0.00	0.00	0.0	0.0	0.00	0.0
7,600.0	7,600.0	0.00	0.00	0.0	0.0	0.00	0.0
7,700.0	7,700.0	0.00	0.00	0.0	0.0	0.00	0.0
7,800.0	7,800.0	0.00	0.00	0.0	0.0	0.00	0.0
7,900.0	7,900.0	0.00	0.00	0.0	0.0	0.00	0.0
8,000.0	8,000.0	0.00	0.00	0.0	0.0	0.00	0.0
8,100.0	8,100.0	0.00	0.00	0.0	0.0	0.00	0.0
8,200.0	8,200.0	0.00	0.00	0.0	0.0	0.00	0.0
8,300.0	8,300.0	0.00	0.00	0.0	0.0	0.00	0.0
8,400.0	8,400.0	0.00	0.00	0.0	0.0	0.00	0.0
8,500.0	8,500.0	0.00	0.00	0.0	0.0	0.00	0.0
8,600.0	8,600.0	0.00	0.00	0.0	0.0	0.00	0.0
8,700.0	8,700.0	0.00	0.00	0.0	0.0	0.00	0.0
8,800.0	8,800.0	0.00	0.00	0.0	0.0	0.00	0.0
8,900.0	8,900.0	0.00	0.00	0.0	0.0	0.00	0.0
9,000.0	9,000.0	0.00	0.00	0.0	0.0	0.00	0.0
9,100.0	9,100.0	0.00	0.00	0.0	0.0	0.00	0.0
9,200.0	9,200.0	0.00	0.00	0.0	0.0	0.00	0.0
9,300.0	9,300.0	0.00	0.00	0.0	0.0	0.00	0.0
9,400.0	9,400.0	0.00	0.00	0.0	0.0	0.00	0.0
9,500.0	9,500.0	0.00	0.00	0.0	0.0	0.00	0.0
9,600.0	9,600.0	0.00	0.00	0.0	0.0	0.00	0.0
9,700.0	9,700.0	0.00	0.00	0.0	0.0	0.00	0.0
9,800.0	9,800.0	0.00	0.00	0.0	0.0	0.00	0.0
9,900.0	9,900.0	0.00	0.00	0.0	0.0	0.00	0.0

Energen

Preliminary Design

Company: Energen Resources
Project: Delaware Basin
Site: Cox Federal 35-2H
Well: Triste Draw Bone Spring
Wellbore: Preliminary Design
Design: Design #1

Local Co-ordinate Reference: Site Cox Federal 35-2H
TVD Reference: WELL @ 4525.0ft (Original Well Elev)
MD Reference: WELL @ 4525.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

TVD (ft)	MD (ft)	Inc (°)	Azi (azimuth) (°)	N/S (ft)	E/W (ft)	Build (°/100ft)	V. Sec (ft)
10,000.0	10,000.0	0.00	0.00	0.0	0.0	0.00	0.0
10,100.0	10,100.0	0.00	0.00	0.0	0.0	0.00	0.0
10,200.0	10,200.0	0.00	0.00	0.0	0.0	0.00	0.0
10,300.0	10,300.0	0.00	0.00	0.0	0.0	0.00	0.0
10,335.0	10,335.0	0.00	0.00	0.0	0.0	0.00	0.0
10,350.0	10,350.0	1.35	0.00	0.2	0.0	9.01	0.2
10,399.9	10,400.0	5.86	0.00	3.3	0.0	9.01	3.3
10,449.4	10,450.0	10.36	0.00	10.4	0.0	9.01	10.4
10,498.2	10,500.0	14.86	0.00	21.3	0.0	9.01	21.3
10,545.9	10,550.0	19.37	0.00	36.0	0.0	9.01	36.0
10,592.4	10,600.0	23.87	0.00	54.4	0.0	9.01	54.4
10,637.3	10,650.0	28.38	0.00	76.4	0.0	9.01	76.4
10,680.3	10,700.0	32.88	0.00	101.9	0.0	9.01	101.9
10,721.2	10,750.0	37.39	0.00	130.7	0.0	9.01	130.7
10,759.7	10,800.0	41.89	0.00	162.5	0.0	9.01	162.5
10,795.5	10,850.0	46.40	0.00	197.4	0.0	9.01	197.4
10,828.6	10,900.0	50.90	0.00	234.9	0.0	9.01	234.9
10,858.5	10,950.0	55.40	0.00	274.9	0.0	9.01	274.9
10,885.3	11,000.0	59.91	0.00	317.1	0.0	9.01	317.1
10,908.6	11,050.0	64.41	0.00	361.3	0.0	9.01	361.3
10,928.4	11,100.0	68.92	0.00	407.2	0.0	9.01	407.2
10,944.6	11,150.0	73.42	0.00	454.5	0.0	9.01	454.5
10,956.9	11,200.0	77.93	0.00	503.0	0.0	9.01	503.0
10,965.5	11,250.0	82.43	0.00	552.2	0.0	9.01	552.2
10,970.1	11,300.0	86.93	0.00	602.0	0.0	9.01	602.0
10,971.0	11,334.0	90.00	0.00	636.0	0.0	9.01	636.0
10,971.0	11,400.0	90.00	0.00	702.0	0.0	0.00	702.0
10,971.0	11,500.0	90.00	0.00	802.0	0.0	0.00	802.0
10,971.0	11,600.0	90.00	0.00	902.0	0.0	0.00	902.0
10,971.0	11,700.0	90.00	0.00	1,002.0	0.0	0.00	1,002.0
10,971.0	11,800.0	90.00	0.00	1,102.0	0.0	0.00	1,102.0
10,971.0	11,900.0	90.00	0.00	1,202.0	0.0	0.00	1,202.0
10,971.0	12,000.0	90.00	0.00	1,302.0	0.0	0.00	1,302.0
10,971.0	12,100.0	90.00	0.00	1,402.0	0.0	0.00	1,402.0
10,971.0	12,200.0	90.00	0.00	1,502.0	0.0	0.00	1,502.0
10,971.0	12,300.0	90.00	0.00	1,602.0	0.0	0.00	1,602.0
10,971.0	12,400.0	90.00	0.00	1,702.0	0.0	0.00	1,702.0
10,971.0	12,500.0	90.00	0.00	1,802.0	0.0	0.00	1,802.0
10,971.0	12,600.0	90.00	0.00	1,902.0	0.0	0.00	1,902.0
10,971.0	12,700.0	90.00	0.00	2,002.0	0.0	0.00	2,002.0
10,971.0	12,800.0	90.00	0.00	2,102.0	0.0	0.00	2,102.0
10,971.0	12,900.0	90.00	0.00	2,202.0	0.0	0.00	2,202.0
10,971.0	13,000.0	90.00	0.00	2,302.0	0.0	0.00	2,302.0
10,971.0	13,100.0	90.00	0.00	2,402.0	0.0	0.00	2,402.0
10,971.0	13,200.0	90.00	0.00	2,502.0	0.0	0.00	2,502.0

Energen

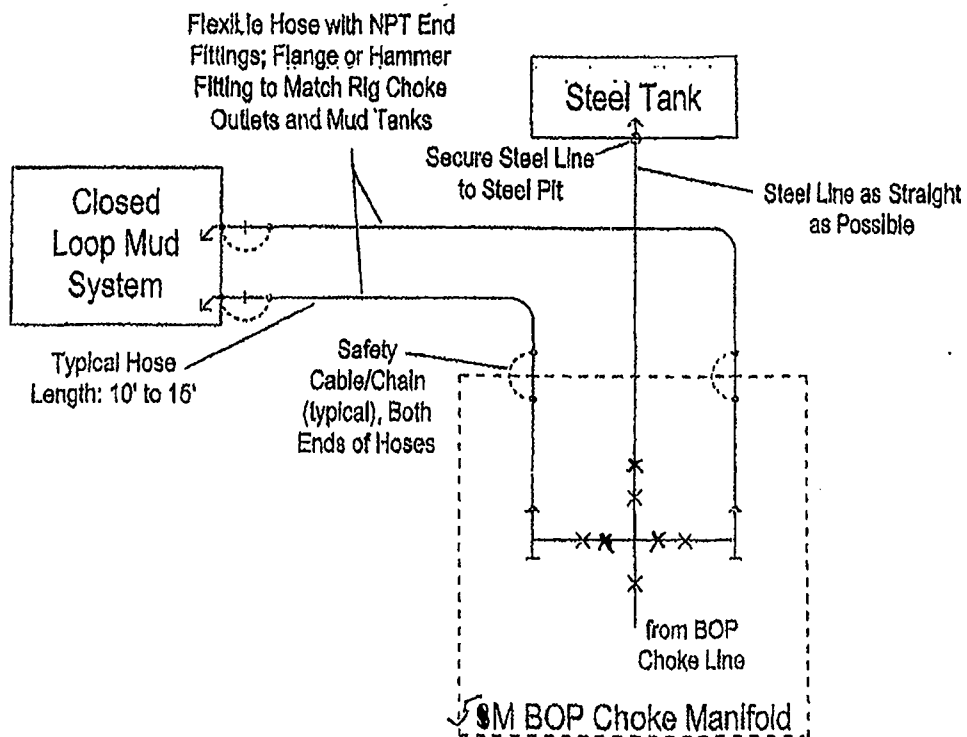
Preliminary Design

Company: Energen Resources
Project: Delaware Basin
Site: Cox Federal 35-2H
Well: Triste Draw Bone Spring
Wellbore: Preliminary Design
Design: Design #1

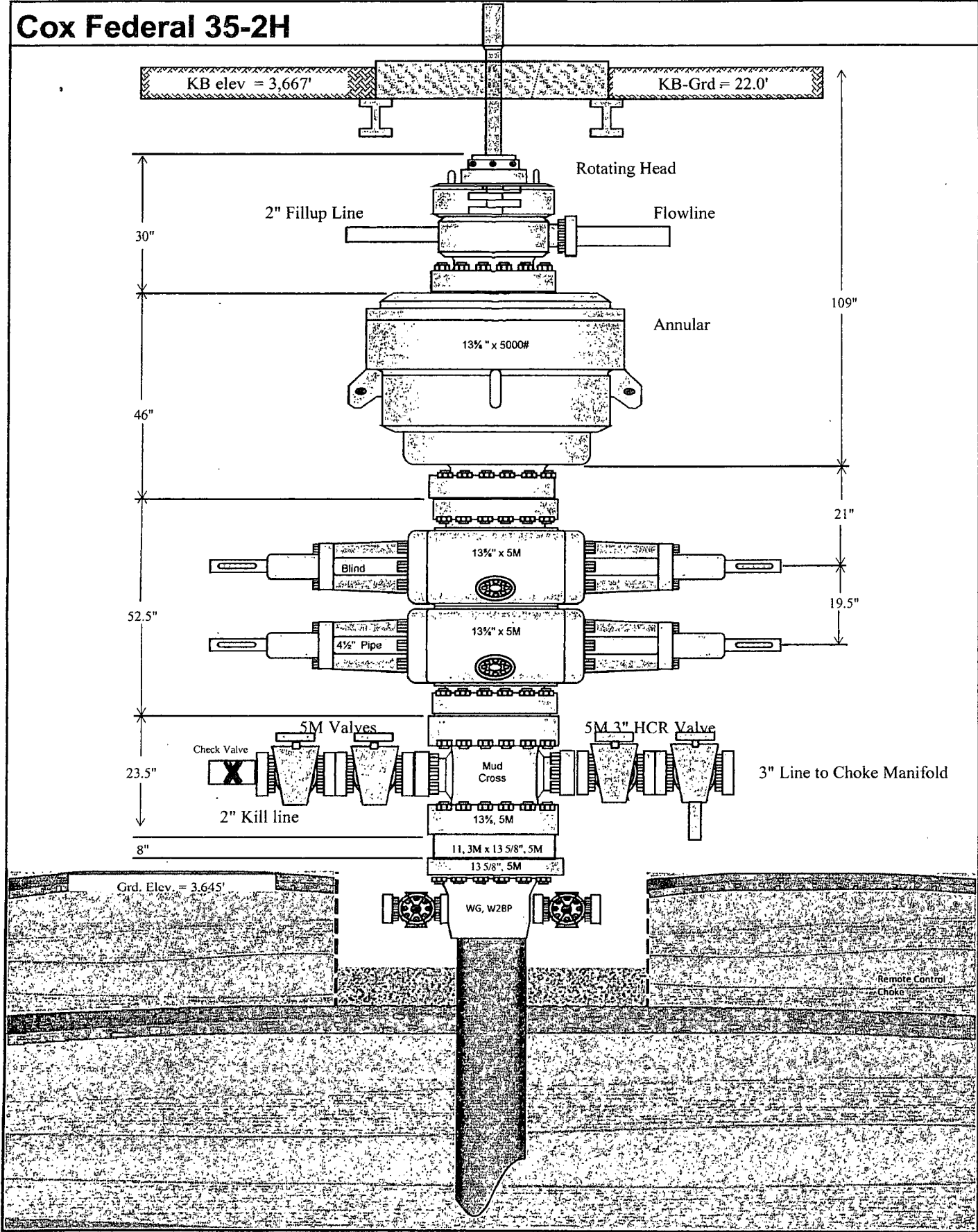
Local Co-ordinate Reference: Site Cox Federal 35-2H
TVD Reference: WELL @ 4525.0ft (Original Well Elev)
MD Reference: WELL @ 4525.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

TVD (ft)	MD (ft)	Inc (°)	Azi (azimuth) (°)	N/S (ft)	E/W (ft)	Build (°/100ft)	V. Sec (ft)
10,971.0	13,300.0	90.00	0.00	2,602.0	0.0	0.00	2,602.0
10,971.0	13,400.0	90.00	0.00	2,702.0	0.0	0.00	2,702.0
10,971.0	13,500.0	90.00	0.00	2,802.0	0.0	0.00	2,802.0
10,971.0	13,600.0	90.00	0.00	2,902.0	0.0	0.00	2,902.0
10,971.0	13,700.0	90.00	0.00	3,002.0	0.0	0.00	3,002.0
10,971.0	13,800.0	90.00	0.00	3,102.0	0.0	0.00	3,102.0
10,971.0	13,900.0	90.00	0.00	3,202.0	0.0	0.00	3,202.0
10,971.0	14,000.0	90.00	0.00	3,302.0	0.0	0.00	3,302.0
10,971.0	14,100.0	90.00	0.00	3,402.0	0.0	0.00	3,402.0
10,971.0	14,200.0	90.00	0.00	3,502.0	0.0	0.00	3,502.0
10,971.0	14,300.0	90.00	0.00	3,602.0	0.0	0.00	3,602.0
10,971.0	14,400.0	90.00	0.00	3,702.0	0.0	0.00	3,702.0
10,971.0	14,500.0	90.00	0.00	3,802.0	0.0	0.00	3,802.0
10,971.0	14,600.0	90.00	0.00	3,902.0	0.0	0.00	3,902.0
10,971.0	14,700.0	90.00	0.00	4,002.0	0.0	0.00	4,002.0
10,971.0	14,800.0	90.00	0.00	4,102.0	0.0	0.00	4,102.0
10,971.0	14,815.0	90.00	0.00	4,117.0	0.0	0.00	4,117.0



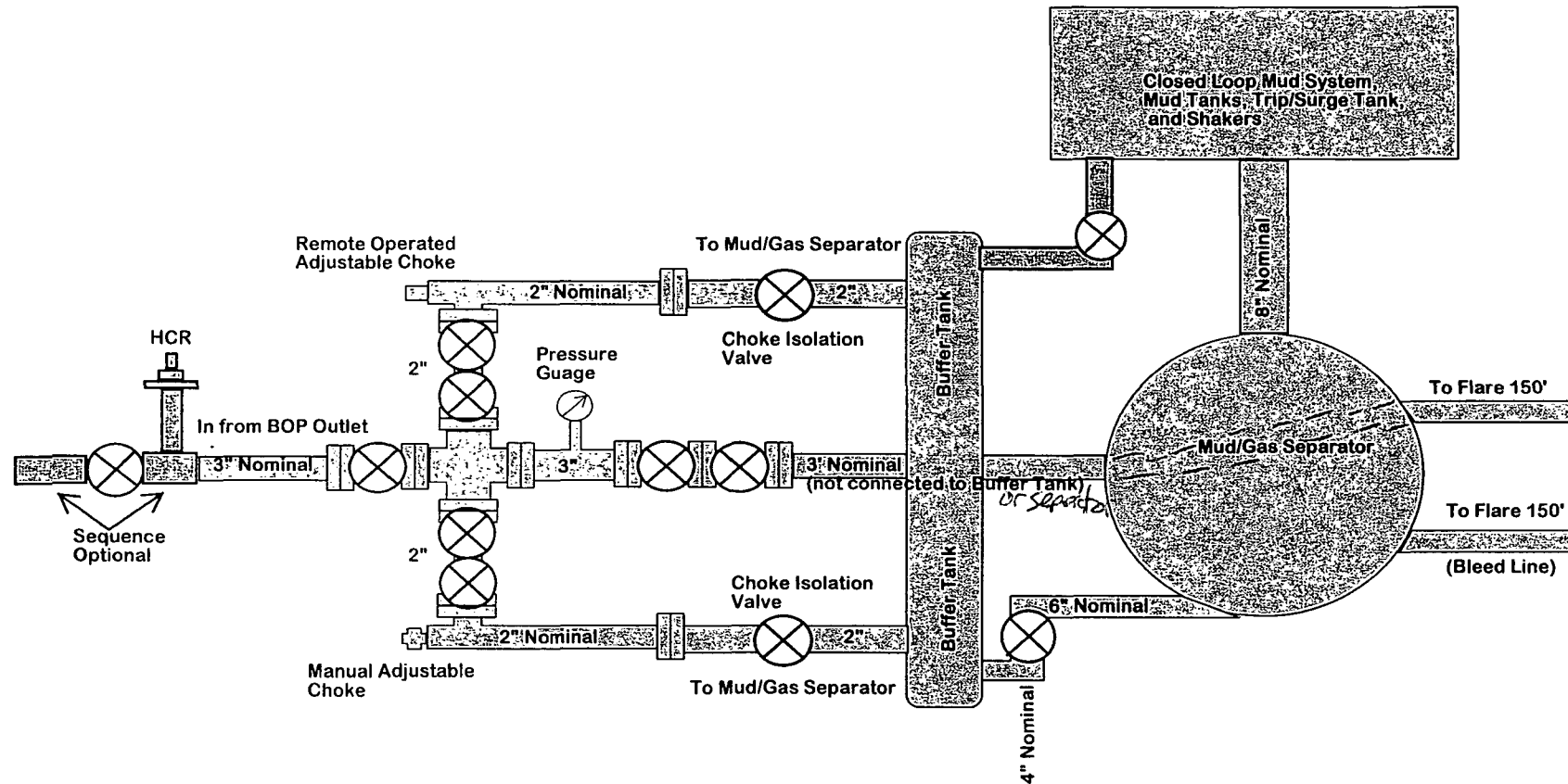
Cox Federal 35-2H

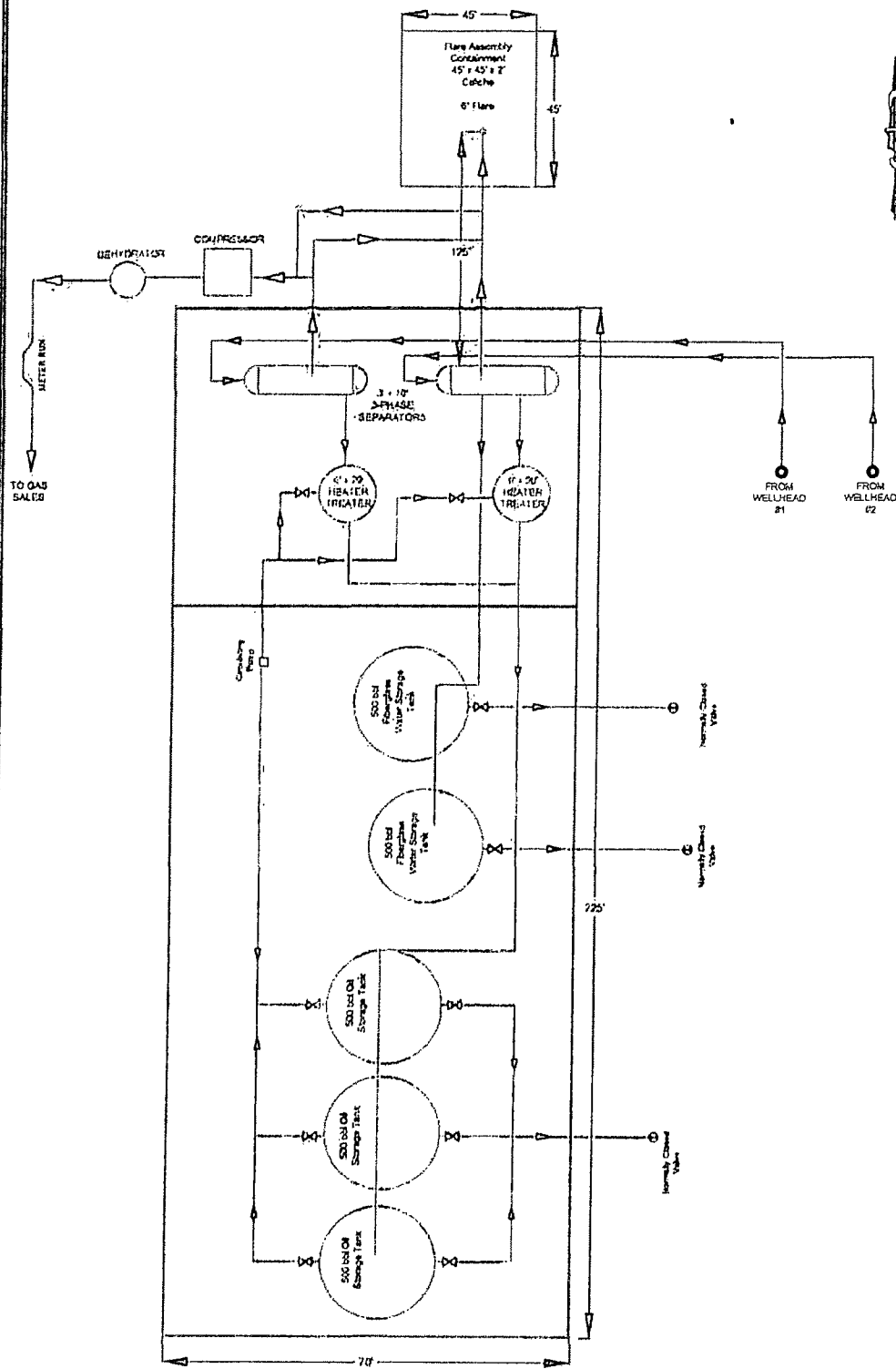


Drilling Operations

Choke Manifold System

5M Service





COX FEDERAL TANK BATTERY

Engineer

NOT TO
SCALE

Date: 1/1/61
4017911

Prepared By:

Checked By:
C. L. ADAMS

Anticipated Rig Layout

Cox Federal 35-2H

