

HOBBES OCD

Form 3160-3
(March 2012)

NOV 26 2013

RECEIVED

OCD Hobbs

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

UNORTHODOX
LOCATION

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. Landreth Federal Com #1H
2. Name of Operator Regeneration Energy Corp. <280240>		9. API Well No. 30-025-41522
3a. Address PO Box 210 Artesia, NM 88211-0210	3b. Phone No. (include area code) (575)736-3535	10. Field and Pool, or Exploratory Antelope Ridge/Bone Spring (2200)
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 330' FSL 280' FWL Unit letter M SHL At proposed prod. zone 330' FNL 380' FWL Unit letter D BHL		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 24 T23S R34E
14. Distance in miles and direction from nearest town or post office* 20 miles from Jal		12. County or Parish Lea County
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 280'		16. No. of acres in lease 80 (VB-145) 160 (NM113416)
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. About 660'		17. Spacing Unit dedicated to this well 160
19. Proposed Depth MD:15766' TVD:11350'		20. BLM/BIA Bond No. on file NMB000764
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3371' GL	22. Approximate date work will start* 07/01/2013	23. Estimated duration 35 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature 	Name (Printed/Typed) William Miller	Date 07/23/2013
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Title

Landman

Approved by (Signature) /s/ James Stovall	Name (Printed/Typed)	Date
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Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	Date NOV 22 2013
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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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

PM.

DEC 02 2013

Regeneration Energy Corp.
DRILLING AND OPERATIONS PROGRAM

Landreth Federal Com #1H
Surf: 330' FSL & 280' FWL,
BHL: 330' FNL & 380' FWL
Section 24, T23S, R34E
Lea County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Regeneration Energy Corp. submits the following ten items of pertinent information in accordance with BLM requirements.

1. Geological surface formation: Permian
2. The estimated tops of geologic markers & estimated depths at which anticipated water, oil or gas formations are expected to be encountered are as follows:

Fresh Water	475'	
Rustler	878'	
Top Salt	1220'	
Bottom Salt	4770'	
Delaware	5088'	Oil
Bone Spring	8618'	Oil
wdfcamp	11540'	
TD	15745'	

No other formations are expected to give up oil, gas, or fresh water in measurable quantities.

3. Proposed Casing Program:

See COA

Hole Size	Interval	OD Casing	New or Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0' - ^{475'} 1500'	13 3/8"	New	54.5#	STC	J-55	1.125	1.125	1.6
12 1/4"	0' - 4500'	9 5/8"	New	40#	LTC	J-55	1.125	1.125	1.6
12 1/4"	4500' - 5000'	9 5/8"	New	40#	LTC	L80	1.125	1.125	1.6
8 3/4"	0' - 15745'	5 1/2"	New	17#	LTC	P110	1.125	1.125	1.6

The Wolfcamp formation is 11,540'

4. Proposed Cement Program:

If lost circulation

- | | |
|-----------------|--|
| a. 13 3/8" Surf | Cement to surface with 640sx 13.5ppg yield 1.73.
Tail 300 sx "C" wt 14.8 ppg yield 1.35. 75 % excess. |
| b. 9 5/8" Int | Cement to surface with 1200 sx "C" 12.9ppg yield 1.88. . Tail
250 sx "C" wt 14.8ppg yield 1.34. 75% excess. |
| c. 5 1/2" Prod | Cement with 450 sx "HLH" 12.5ppg yield 2.04. 10% excess.
Tail 975 sx "H" wt 14.4ppg yield 1.24. 45% excess. |

See COA

If no lost circulation

- | | |
|-----------------|---|
| a. 13 3/8" Surf | Cement to surface with 1 st stage lead with with 100sx
"Thixotropic Cement" 14.2ppg yield 1.67.Tail 210 sx "C" wt 14.8
ppg yield 1.36. 2 nd stage lead with 720 sx "CZ" 13.5ppg yield
1.73. Tail in with 100 sk "C" wt 14.8
yield 1.36. 75% excess. |
| b. 9 5/8" Int | Cement to surface with 1200 sx "C" 12.9ppg yield 1.88. . Tail
250 sx "C" wt 14.8ppg yield 1.34. 75% excess |
| c. 5 1/2" Prod | Cement with with 860 sx "Tunned light" wt 10.5ppg yield 2.77.
50% excess. Tail 1380sx "H" 14.5ppg yield 1.21. 35% excess. |

See COA

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement on the production string is designed to reach approximately 200' above the 9 5/8" casing shoe. The surface casing shoe shall be set in the anhydrite to ensure adequate sealing. **All casing is new and API approved.**

6. Minimum Specifications for Pressure Control:

See COA Nipple up on 13 3/8" casing with a 2M system (Hydril) and test to 50% by independent tester, nipple up on 9 5/8" with 3M system & test to 3000# with independent tester.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2"kill line and a 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

7. Estimated BHP: 5311 psi.

8. Mud Program: The applicable depths and properties of this system are as follows:

Mud	Viscosity	Waterloss
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See
COA

Depth 975'	Type System	Weight	(sec)	(cc)
0' - 1500'	Fresh Water	8.4 - 8.6	29	N.C.
1500' - 5000'	Brine	9.9 - 10.0	29	N.C.
5000' - 15745'	Cut Brine	8.8 - 9.0	29	N.C.

- The necessary mud products for weight addition and fluid loss control will be on location at all times.
- A visual and electronic mud monitoring system will be rigged up prior to spud to detect changes in the volume of mud system. The electronic system consists of a pit volume totalizer, stroke counter and flow sensor at flow line.
- If weight and/or viscosity are introduced to the mud system a daily mud check will be performed by mud contractor, along with tourly check by rig personnel.
- After setting intermediate casing, a third party gas unit detection system will be installed at the flow line.

9. Auxiliary Well Control and Monitoring Equipment:

- See
COA
- 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 rig floor at all times.
 - Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

10. Testing, Logging and Coring Program:

- Drill stem tests will be based on geological sample shows.
- The open hole electrical logging program will be:
 - Total Depth to Intermediate Casing: Dual Laterolog-Micro Laterolog and Gamma Ray. Compensated Neutron - Z Density log with Gamma Ray and Caliper.
 - Total Depth to Surface: Compensated Neutron with Gamma Ray
 - No coring program is planned
 - Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

11. Potential Hazards:

- See
COA
- 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: 5311 psi. Estimated BHT: 135°. No H2S is anticipated to be encountered.

12. Anticipated starting date and Duration of Operations:

a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 45 days.

Surface Casing

Fluid 1: Pump 20 bbl Gell Spacer w/Red Dye

2.5 lbm/bbl WG-19 (Gelling Agent)

0.1 lbm/bbl Rhodamine Red Dye No. 2 (Misc Additive)

Fluid Volume: 20 bbl

Fluid 2: Lead Cement

EXTENDACEM (TM) SYSTEM

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 13.50 lbm/gal

Slurry Yield: 1.73 ft³/sk

Total Mixing Fluid: 9.14 Gal/sk

Top of Fluid: 0 ft

Calculated Fill: 910 ft

Volume: 195.67 bbl

Calculated Sacks: 634.32 sks

Proposed Sacks: 640 sks

Thickening Time: 03:47

04:40 500 psi

24:00 1027 psi

Estimated Slurry Properties:

Compressive Strengths @ 91 °F

Fluid 3: Tail Cement

HALCEM (TM) SYSTEM

2 % Calcium Chloride - Flake (Accelerator)

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 14.80 lbm/gal

Slurry Yield: 1.35 ft³/sk

Total Mixing Fluid: 6.37 Gal/sk

Top of Fluid: 910 ft

Calculated Fill: 300 ft

Volume: 71.14 bbl

Calculated Sacks: 296.73 sks

Proposed Sacks: 300 sks

Thickening Time: 02:20

04:13 500 psi

24:00 1745 psi

Estimated Slurry Properties:

Compressive Strengths @ 91 °F

Contingency 2 Stage Surface Casing

Stage 1

Fluid 1: Pump 20 bbl Gel Spacer With Red Dye

2.5 lbm/bbl WG-19 (Gelling Agent)

0.1 lbm/bbl Rhodamine Red Dye

Fluid Volume: 20 bbl

Fluid 2: Optional Lead Cement

SWIFCEM THIXOTROPIC (TM) SYSTEM

Fluid Weight 14.20 lbm/gal

Slurry Yield: 1.67 ft³/sk

Total Mixing Fluid: 7.46 Gal/sk

Volume: 29.71 bbl

Proposed Sacks: 100 sks

Thickening Time: 03:00

Estimated Slurry Properties:

Compressive Strengths @ 83 °F

09:50 500 psi

24:00 977 psi

Fluid 3: Tail Cement

HALCEM (TM) SYSTEM

2 % Calcium Chloride - Flake (Accelerator)

Fluid Weight 14.80 lbm/gal

Slurry Yield: 1.36 ft³/sk

Total Mixing Fluid: 6.54 Gal/sk

Top of Fluid: 1140 ft

Calculated Fill: 200 ft

Volume: 49.49 bbl

Calculated Sacks: 204.60 sks

Proposed Sacks: 210 sks

Thickening Time: 02:20

Estimated Slurry Properties:

Compressive Strengths @ 91 °F

04:13 500 psi

24:00 1745 psi

Contingency 2 Stage Surface Casing

Stage 2

Fluid 1: Pump 20 bbl Gel Spacer With Red Dye

2.5 lbm/bbl WG-19 (Gelling Agent)

0.1 lbm/bbl Rhodamine Red Dye

Fluid Volume: 20 bbl

Fluid 2: Lead Cement

EXTENDACEM (TM) SYSTEM

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 13.50 lbm/gal

Slurry Yield: 1.73 ft³/sk

Total Mixing Fluid: 9.14 Gal/sk

Top of Fluid: 0 ft

Calculated Fill: 1028.29 ft

Volume: 221.29 bbl

Calculated Sacks: 717.34 sks

Proposed Sacks: 720 sks

Estimated Slurry Properties:

Compressive Strengths @ 91 °F

Thickening Time: 03:47

04:40 500 psi

24:00 1027 psi

Fluid 3: Tail Cement

Premium Cement

94 lbm/sk Premium Cement (Cement)

2 % Calcium Chloride - Flake (Accelerator)

Fluid Weight 14.80 lbm/gal

Slurry Yield: 1.36 ft³/sk

Total Mixing Fluid: 6.54 Gal/sk

Top of Fluid: 1028.29 ft

Calculated Fill: 111.71 ft

Volume: 24.19 bbl

Calculated Sacks: 100 sks

Proposed Sacks: 100 sks

Estimated Slurry Properties:

Compressive Strengths @ 91 °F

Thickening Time: 02:20

04:13 500 psi

24:00 1745 psi

Intermediate Casing

Fluid 1: Pump 20 bbl Gell Spacer w/Red Dye
2.5 lbm/bbl WG-19 (Gelling Agent)
0.1 lbm/bbl Rhodamine Red Dye

Fluid Volume: 20 bbl

Fluid 2: Lead Cement
ECONOCHEM (TM) SYSTEM
5 % Salt (Salt)
5 lbm/sk Kol-Seal (Lost Circulation Additive)
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 12.90 lbm/gal
Slurry Yield: 1.88 ft³/sk
Total Mixing Fluid: 9.59 Gal/sk
Top of Fluid: 0 ft
Calculated Fill: 4426.23 ft
Volume: 399.94 bbl
Calculated Sacks: 1195.68 sks
Proposed Sacks: 1200 sks
Thickening Time: 04:17
10:19 500 psi
24:00 897 psi

Estimated Slurry Properties:
Compressive Strengths @ 109 °F

Fluid 3: Tail Cement
HALCEM (TM) SYSTEM

Fluid Weight 14.80 lbm/gal
Slurry Yield: 1.33 ft³/sk
Total Mixing Fluid: 6.34 Gal/sk
Top of Fluid: 4426.23 ft
Calculated Fill: 573.77 ft
Volume: 59.04 bbl
Calculated Sacks: 250 sks
Proposed Sacks: 250 sks
Thickening Time: 03:22
07:45 500 psi
24:00 1895 psi

Estimated Slurry Properties:
Compressive Strengths @ 97 °F

Production Casing

Fluid Instructions

Fluid 1: Pump 20 bbl Gell Spacer w/Red Dye

2.5 lbm/bbl WG-19 (Gelling Agent)

0.1 lbm/bbl Rhodamine Red Dye

Fluid Volume: 20 bbl

Fluid 2: Lead Cement

TUNED LIGHT (TM) SYSTEM

3 lbm/sk Kol-Seal (Lost Circulation Additive)

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

0.2 lbm/sk HR-800 (Retarder)

Fluid Weight 10.50 lbm/gal

Slurry Yield: 2.77 ft³/sk

Total Mixing Fluid: 14.07 Gal/sk

Top of Fluid: 4500 ft

Calculated Fill: 6376 ft

Volume: 422.08 bbl

Calculated Sacks: 854.29 sks

Proposed Sacks: 860 sks

Thickening Time: 05:55

Estimated Slurry Properties:

Compressive Strengths @ 145 °F

14:50 500 psi

24:00 900 psi

Fluid 3: Tail Cement

VERSACEM H (TM) SYSTEM

0.7 % LAP-1 (Low Fluid Loss Control)

0.4 % CFR-3 (Dispersant)

0.3 lbm/sk D-AIR 5000 (Defoamer)

Fluid Weight 14.50 lbm/gal

Slurry Yield: 1.21 ft³/sk

Total Mixing Fluid: 5.30 Gal/sk

Top of Fluid: 10876 ft

Calculated Fill: 4869 ft

Volume: 296.65 bbl

Calculated Sacks: 1378.78 sks

Proposed Sacks: 1380 sks

Thickening Time: 05:00

Estimated Slurry Properties:

Compressive Strengths @ 140 °F

14:30 500 psi

24:00 1000 psi

Regeneration Energy Corporation

Lea County NM

Landreth Federal Com

#1

Lateral

Plan: Design #2

Standard Planning Report

18 June, 2013



Planning Report



Database:	test	Local Co-ordinate Reference:	Well #1
Company:	Regeneration Energy Corporation	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Project:	Lea County NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Landreth Federal Com	North Reference:	Grid
Well:	#1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Design #2		

Project:	Lea County NM		
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 Landreth Federal Com					
Site Position:		Northing:	468,073.40 usft	Latitude:	32° 17' 1.052 N
From:	Map	Easting:	778,890.20 usft	Longitude:	103° 25' 51.238 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.48

Well:	#1					
Well Position	+N/-S	0.0 usft	Northing:	468,073.40 usft	Latitude:	32° 17' 1.052 N
	+E/-W	0.0 usft	Easting:	778,890.20 usft	Longitude:	103° 25' 51.238 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	0.0 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	5/6/2013	7.29	60.22	48,504

Design:	Design #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	0.72

Plan-Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,575.0	1.50	90.00	1,575.0	0.0	1.0	2.00	2.00	0.00	90.00	
3,409.0	1.50	90.00	3,408.4	0.0	49.0	0.00	0.00	0.00	0.00	
3,484.0	0.00	0.00	3,483.4	0.0	50.0	2.00	-2.00	0.00	180.00	
10,873.0	0.00	0.00	10,872.4	0.0	50.0	0.00	0.00	0.00	0.00	
11,623.3	90.00	0.10	11,350.0	477.6	50.8	12.00	12.00	0.00	0.10	
15,766.7	90.00	0.10	11,350.0	4,621.1	58.0	0.00	0.00	0.00	0.00	PBHL(LFC#1)

Planning Report



Database: test
 Company: Regeneration Energy Corporation
 Project: Lea County NM
 Site: Landreth Federal Com
 Well: #1
 Wellbore: Lateral
 Design: Design #2

Local Co-ordinate Reference:
 TVD Reference: WELL @ 0.0usft (Original Well Elev)
 MD Reference: WELL @ 0.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.0	0.00	0.00	0.00
Surface									
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
1,575.0	1.50	90.00	1,575.0	0.0	1.0	0.0	2.00	2.00	0.00
Start 1834.0 hold at 1575.0 MD									
1,600.0	1.50	90.00	1,600.0	0.0	1.6	0.0	0.00	0.00	0.00
1,700.0	1.50	90.00	1,699.9	0.0	4.3	0.1	0.00	0.00	0.00
1,800.0	1.50	90.00	1,799.9	0.0	6.9	0.1	0.00	0.00	0.00
1,900.0	1.50	90.00	1,899.9	0.0	9.5	0.1	0.00	0.00	0.00
2,000.0	1.50	90.00	1,999.8	0.0	12.1	0.2	0.00	0.00	0.00
2,100.0	1.50	90.00	2,099.8	0.0	14.7	0.2	0.00	0.00	0.00
2,200.0	1.50	90.00	2,199.8	0.0	17.3	0.2	0.00	0.00	0.00
2,300.0	1.50	90.00	2,299.7	0.0	20.0	0.3	0.00	0.00	0.00
2,400.0	1.50	90.00	2,399.7	0.0	22.6	0.3	0.00	0.00	0.00
2,500.0	1.50	90.00	2,499.7	0.0	25.2	0.3	0.00	0.00	0.00
2,600.0	1.50	90.00	2,599.6	0.0	27.8	0.3	0.00	0.00	0.00
2,700.0	1.50	90.00	2,699.6	0.0	30.4	0.4	0.00	0.00	0.00
2,800.0	1.50	90.00	2,799.6	0.0	33.0	0.4	0.00	0.00	0.00
2,900.0	1.50	90.00	2,899.5	0.0	35.7	0.4	0.00	0.00	0.00
3,000.0	1.50	90.00	2,999.5	0.0	38.3	0.5	0.00	0.00	0.00
3,100.0	1.50	90.00	3,099.5	0.0	40.9	0.5	0.00	0.00	0.00
3,200.0	1.50	90.00	3,199.4	0.0	43.5	0.5	0.00	0.00	0.00
3,300.0	1.50	90.00	3,299.4	0.0	46.1	0.6	0.00	0.00	0.00
3,409.0	1.50	90.00	3,408.4	0.0	49.0	0.6	0.00	0.00	0.00
Start Drop -2.00									
3,484.0	0.00	0.00	3,483.4	0.0	50.0	0.6	2.00	-2.00	0.00
Start 7389.0 hold at 3484.0 MD									
3,500.0	0.00	0.00	3,499.4	0.0	50.0	0.6	0.00	0.00	0.00
3,600.0	0.00	0.00	3,599.4	0.0	50.0	0.6	0.00	0.00	0.00
3,700.0	0.00	0.00	3,699.4	0.0	50.0	0.6	0.00	0.00	0.00
3,800.0	0.00	0.00	3,799.4	0.0	50.0	0.6	0.00	0.00	0.00
3,900.0	0.00	0.00	3,899.4	0.0	50.0	0.6	0.00	0.00	0.00
4,000.0	0.00	0.00	3,999.4	0.0	50.0	0.6	0.00	0.00	0.00
4,100.0	0.00	0.00	4,099.4	0.0	50.0	0.6	0.00	0.00	0.00
4,200.0	0.00	0.00	4,199.4	0.0	50.0	0.6	0.00	0.00	0.00
4,300.0	0.00	0.00	4,299.4	0.0	50.0	0.6	0.00	0.00	0.00
4,400.0	0.00	0.00	4,399.4	0.0	50.0	0.6	0.00	0.00	0.00
4,500.0	0.00	0.00	4,499.4	0.0	50.0	0.6	0.00	0.00	0.00

Planning Report



Database:	test	Local Co-ordinate Reference:	Well #1
Company:	Regeneration Energy Corporation	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Project:	Lea County NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Landreth Federal Com	North Reference:	Grid
Well:	#1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Design #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.0	0.00	0.00	4,599.4	0.0	50.0	0.6	0.00	0.00	0.00
4,700.0	0.00	0.00	4,699.4	0.0	50.0	0.6	0.00	0.00	0.00
4,800.0	0.00	0.00	4,799.4	0.0	50.0	0.6	0.00	0.00	0.00
4,900.0	0.00	0.00	4,899.4	0.0	50.0	0.6	0.00	0.00	0.00
5,000.0	0.00	0.00	4,999.4	0.0	50.0	0.6	0.00	0.00	0.00
5,000.6	0.00	0.00	5,000.0	0.0	50.0	0.6	0.00	0.00	0.00
Intermediate									
5,100.0	0.00	0.00	5,099.4	0.0	50.0	0.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,199.4	0.0	50.0	0.6	0.00	0.00	0.00
5,300.0	0.00	0.00	5,299.4	0.0	50.0	0.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,399.4	0.0	50.0	0.6	0.00	0.00	0.00
5,500.0	0.00	0.00	5,499.4	0.0	50.0	0.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,599.4	0.0	50.0	0.6	0.00	0.00	0.00
5,700.0	0.00	0.00	5,699.4	0.0	50.0	0.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,799.4	0.0	50.0	0.6	0.00	0.00	0.00
5,900.0	0.00	0.00	5,899.4	0.0	50.0	0.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,999.4	0.0	50.0	0.6	0.00	0.00	0.00
6,100.0	0.00	0.00	6,099.4	0.0	50.0	0.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,199.4	0.0	50.0	0.6	0.00	0.00	0.00
6,300.0	0.00	0.00	6,299.4	0.0	50.0	0.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,399.4	0.0	50.0	0.6	0.00	0.00	0.00
6,500.0	0.00	0.00	6,499.4	0.0	50.0	0.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,599.4	0.0	50.0	0.6	0.00	0.00	0.00
6,700.0	0.00	0.00	6,699.4	0.0	50.0	0.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,799.4	0.0	50.0	0.6	0.00	0.00	0.00
6,900.0	0.00	0.00	6,899.4	0.0	50.0	0.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,999.4	0.0	50.0	0.6	0.00	0.00	0.00
7,100.0	0.00	0.00	7,099.4	0.0	50.0	0.6	0.00	0.00	0.00
7,200.0	0.00	0.00	7,199.4	0.0	50.0	0.6	0.00	0.00	0.00
7,300.0	0.00	0.00	7,299.4	0.0	50.0	0.6	0.00	0.00	0.00
7,400.0	0.00	0.00	7,399.4	0.0	50.0	0.6	0.00	0.00	0.00
7,500.0	0.00	0.00	7,499.4	0.0	50.0	0.6	0.00	0.00	0.00
7,600.0	0.00	0.00	7,599.4	0.0	50.0	0.6	0.00	0.00	0.00
7,700.0	0.00	0.00	7,699.4	0.0	50.0	0.6	0.00	0.00	0.00
7,800.0	0.00	0.00	7,799.4	0.0	50.0	0.6	0.00	0.00	0.00
7,900.0	0.00	0.00	7,899.4	0.0	50.0	0.6	0.00	0.00	0.00
8,000.0	0.00	0.00	7,999.4	0.0	50.0	0.6	0.00	0.00	0.00
8,100.0	0.00	0.00	8,099.4	0.0	50.0	0.6	0.00	0.00	0.00
8,200.0	0.00	0.00	8,199.4	0.0	50.0	0.6	0.00	0.00	0.00
8,300.0	0.00	0.00	8,299.4	0.0	50.0	0.6	0.00	0.00	0.00
8,400.0	0.00	0.00	8,399.4	0.0	50.0	0.6	0.00	0.00	0.00
8,500.0	0.00	0.00	8,499.4	0.0	50.0	0.6	0.00	0.00	0.00
8,600.0	0.00	0.00	8,599.4	0.0	50.0	0.6	0.00	0.00	0.00
8,700.0	0.00	0.00	8,699.4	0.0	50.0	0.6	0.00	0.00	0.00
8,800.0	0.00	0.00	8,799.4	0.0	50.0	0.6	0.00	0.00	0.00
8,900.0	0.00	0.00	8,899.4	0.0	50.0	0.6	0.00	0.00	0.00
9,000.0	0.00	0.00	8,999.4	0.0	50.0	0.6	0.00	0.00	0.00
9,100.0	0.00	0.00	9,099.4	0.0	50.0	0.6	0.00	0.00	0.00
9,200.0	0.00	0.00	9,199.4	0.0	50.0	0.6	0.00	0.00	0.00
9,300.0	0.00	0.00	9,299.4	0.0	50.0	0.6	0.00	0.00	0.00
9,400.0	0.00	0.00	9,399.4	0.0	50.0	0.6	0.00	0.00	0.00
9,500.0	0.00	0.00	9,499.4	0.0	50.0	0.6	0.00	0.00	0.00
9,600.0	0.00	0.00	9,599.4	0.0	50.0	0.6	0.00	0.00	0.00

Planning Report



Database:	test	Local Co-ordinate Reference:	Well #1
Company:	Regeneration Energy Corporation	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Project:	Lea County NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Landreth Federal Com	North Reference:	Grid
Well:	#1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Design #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,700.0	0.00	0.00	9,699.4	0.0	50.0	0.6	0.00	0.00	0.00
9,800.0	0.00	0.00	9,799.4	0.0	50.0	0.6	0.00	0.00	0.00
9,900.0	0.00	0.00	9,899.4	0.0	50.0	0.6	0.00	0.00	0.00
10,000.0	0.00	0.00	9,999.4	0.0	50.0	0.6	0.00	0.00	0.00
10,100.0	0.00	0.00	10,099.4	0.0	50.0	0.6	0.00	0.00	0.00
10,200.0	0.00	0.00	10,199.4	0.0	50.0	0.6	0.00	0.00	0.00
10,300.0	0.00	0.00	10,299.4	0.0	50.0	0.6	0.00	0.00	0.00
10,400.0	0.00	0.00	10,399.4	0.0	50.0	0.6	0.00	0.00	0.00
10,500.0	0.00	0.00	10,499.4	0.0	50.0	0.6	0.00	0.00	0.00
10,600.0	0.00	0.00	10,599.4	0.0	50.0	0.6	0.00	0.00	0.00
10,700.0	0.00	0.00	10,699.4	0.0	50.0	0.6	0.00	0.00	0.00
10,800.0	0.00	0.00	10,799.4	0.0	50.0	0.6	0.00	0.00	0.00
10,873.0	0.00	0.00	10,872.4	0.0	50.0	0.6	0.00	0.00	0.00
KOP @ 10873.0' MD									
10,875.0	0.24	0.10	10,874.4	0.0	50.0	0.6	12.00	12.00	0.00
10,900.0	3.24	0.10	10,899.3	0.8	50.0	1.4	12.00	12.00	0.00
10,925.0	6.24	0.10	10,924.3	2.8	50.0	3.5	12.00	12.00	0.00
10,950.0	9.24	0.10	10,949.0	6.2	50.0	6.8	12.00	12.00	0.00
10,975.0	12.24	0.10	10,973.6	10.8	50.0	11.5	12.00	12.00	0.00
11,000.0	15.23	0.10	10,997.9	16.8	50.0	17.4	12.00	12.00	0.00
11,025.0	18.23	0.10	11,021.8	24.0	50.0	24.6	12.00	12.00	0.00
11,050.0	21.23	0.10	11,045.3	32.4	50.0	33.0	12.00	12.00	0.00
11,075.0	24.23	0.10	11,068.4	42.1	50.0	42.7	12.00	12.00	0.00
11,100.0	27.23	0.10	11,090.9	52.9	50.1	53.6	12.00	12.00	0.00
11,125.0	30.23	0.10	11,112.8	64.9	50.1	65.6	12.00	12.00	0.00
11,150.0	33.23	0.10	11,134.1	78.1	50.1	78.7	12.00	12.00	0.00
11,175.0	36.23	0.10	11,154.6	92.3	50.1	93.0	12.00	12.00	0.00
11,200.0	39.23	0.10	11,174.4	107.6	50.2	108.3	12.00	12.00	0.00
11,225.0	42.22	0.10	11,193.3	123.9	50.2	124.6	12.00	12.00	0.00
11,250.0	45.22	0.10	11,211.4	141.2	50.2	141.8	12.00	12.00	0.00
11,275.0	48.22	0.10	11,228.5	159.4	50.3	160.0	12.00	12.00	0.00
11,300.0	51.22	0.10	11,244.7	178.5	50.3	179.1	12.00	12.00	0.00
11,325.0	54.22	0.10	11,259.9	198.4	50.3	199.0	12.00	12.00	0.00
11,350.0	57.22	0.10	11,273.9	219.0	50.4	219.6	12.00	12.00	0.00
11,375.0	60.22	0.10	11,286.9	240.4	50.4	241.0	12.00	12.00	0.00
11,400.0	63.22	0.10	11,298.8	262.4	50.4	263.0	12.00	12.00	0.00
11,425.0	66.21	0.10	11,309.4	285.0	50.5	285.6	12.00	12.00	0.00
11,450.0	69.21	0.10	11,318.9	308.1	50.5	308.7	12.00	12.00	0.00
11,475.0	72.21	0.10	11,327.2	331.7	50.6	332.3	12.00	12.00	0.00
11,500.0	75.21	0.10	11,334.2	355.7	50.6	356.3	12.00	12.00	0.00
11,525.0	78.21	0.10	11,339.9	380.1	50.6	380.7	12.00	12.00	0.00
11,550.0	81.21	0.10	11,344.4	404.6	50.7	405.3	12.00	12.00	0.00
11,575.0	84.21	0.10	11,347.6	429.4	50.7	430.0	12.00	12.00	0.00
11,600.0	87.21	0.10	11,349.4	454.4	50.8	455.0	12.00	12.00	0.00
11,623.3	90.00	0.10	11,350.0	477.6	50.8	478.2	12.00	12.00	0.00
EOC @ 11623.3' MD, 90.00° INC, 0.10° AZI									
11,700.0	90.00	0.10	11,350.0	554.4	50.9	555.0	0.00	0.00	0.00
11,800.0	90.00	0.10	11,350.0	654.4	51.1	655.0	0.00	0.00	0.00
11,900.0	90.00	0.10	11,350.0	754.4	51.3	754.9	0.00	0.00	0.00
12,000.0	90.00	0.10	11,350.0	854.4	51.5	854.9	0.00	0.00	0.00
12,100.0	90.00	0.10	11,350.0	954.4	51.6	954.9	0.00	0.00	0.00
12,200.0	90.00	0.10	11,350.0	1,054.4	51.8	1,054.9	0.00	0.00	0.00
12,300.0	90.00	0.10	11,350.0	1,154.4	52.0	1,154.9	0.00	0.00	0.00
12,400.0	90.00	0.10	11,350.0	1,254.4	52.2	1,254.9	0.00	0.00	0.00

Planning Report



Database: test
 Company: Regeneration Energy Corporation
 Project: Lea County NM
 Site: Landreth Federal Com
 Well: #1
 Wellbore: Lateral
 Design: Design #2

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Well #1
 WELL @ 0.0usft (Original Well Elev)
 WELL @ 0.0usft (Original Well Elev)
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,500.0	90.00	0.10	11,350.0	1,354.4	52.3	1,354.9	0.00	0.00	0.00
12,600.0	90.00	0.10	11,350.0	1,454.4	52.5	1,454.9	0.00	0.00	0.00
12,700.0	90.00	0.10	11,350.0	1,554.4	52.7	1,554.9	0.00	0.00	0.00
12,800.0	90.00	0.10	11,350.0	1,654.4	52.9	1,654.9	0.00	0.00	0.00
12,900.0	90.00	0.10	11,350.0	1,754.4	53.0	1,754.9	0.00	0.00	0.00
13,000.0	90.00	0.10	11,350.0	1,854.4	53.2	1,854.9	0.00	0.00	0.00
13,100.0	90.00	0.10	11,350.0	1,954.4	53.4	1,954.9	0.00	0.00	0.00
13,200.0	90.00	0.10	11,350.0	2,054.4	53.6	2,054.9	0.00	0.00	0.00
13,300.0	90.00	0.10	11,350.0	2,154.4	53.7	2,154.9	0.00	0.00	0.00
13,400.0	90.00	0.10	11,350.0	2,254.4	53.9	2,254.9	0.00	0.00	0.00
13,500.0	90.00	0.10	11,350.0	2,354.4	54.1	2,354.9	0.00	0.00	0.00
13,600.0	90.00	0.10	11,350.0	2,454.4	54.3	2,454.8	0.00	0.00	0.00
13,700.0	90.00	0.10	11,350.0	2,554.4	54.4	2,554.8	0.00	0.00	0.00
13,800.0	90.00	0.10	11,350.0	2,654.4	54.6	2,654.8	0.00	0.00	0.00
13,900.0	90.00	0.10	11,350.0	2,754.4	54.8	2,754.8	0.00	0.00	0.00
14,000.0	90.00	0.10	11,350.0	2,854.4	55.0	2,854.8	0.00	0.00	0.00
14,100.0	90.00	0.10	11,350.0	2,954.4	55.1	2,954.8	0.00	0.00	0.00
14,200.0	90.00	0.10	11,350.0	3,054.4	55.3	3,054.8	0.00	0.00	0.00
14,300.0	90.00	0.10	11,350.0	3,154.4	55.5	3,154.8	0.00	0.00	0.00
14,400.0	90.00	0.10	11,350.0	3,254.4	55.7	3,254.8	0.00	0.00	0.00
14,500.0	90.00	0.10	11,350.0	3,354.4	55.8	3,354.8	0.00	0.00	0.00
14,600.0	90.00	0.10	11,350.0	3,454.4	56.0	3,454.8	0.00	0.00	0.00
14,700.0	90.00	0.10	11,350.0	3,554.4	56.2	3,554.8	0.00	0.00	0.00
14,800.0	90.00	0.10	11,350.0	3,654.4	56.3	3,654.8	0.00	0.00	0.00
14,900.0	90.00	0.10	11,350.0	3,754.4	56.5	3,754.8	0.00	0.00	0.00
15,000.0	90.00	0.10	11,350.0	3,854.4	56.7	3,854.8	0.00	0.00	0.00
15,100.0	90.00	0.10	11,350.0	3,954.4	56.9	3,954.8	0.00	0.00	0.00
15,200.0	90.00	0.10	11,350.0	4,054.4	57.0	4,054.8	0.00	0.00	0.00
15,300.0	90.00	0.10	11,350.0	4,154.4	57.2	4,154.7	0.00	0.00	0.00
15,400.0	90.00	0.10	11,350.0	4,254.4	57.4	4,254.7	0.00	0.00	0.00
15,500.0	90.00	0.10	11,350.0	4,354.4	57.6	4,354.7	0.00	0.00	0.00
15,600.0	90.00	0.10	11,350.0	4,454.4	57.7	4,454.7	0.00	0.00	0.00
15,700.0	90.00	0.10	11,350.0	4,554.4	57.9	4,554.7	0.00	0.00	0.00
15,766.7	90.00	0.10	11,350.0	4,621.1	58.0	4,621.5	0.00	0.00	0.00

TD at 15766.7 - PBHL(LFC#1)

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
hit/miss target									
Shape									
PBHL(LFC#1)	0.00	0.00	11,350.0	4,621.1	58.3	472,694.50	778,948.50	32° 17' 46.773 N	103° 25' 50.105 W
- plan misses target center by 0.3usft at 15766.7usft MD (11350.0 TVD, 4621.1 N, 58.0 E)									
- Point									

Planning Report



Database:	test	Local Co-ordinate Reference:	Well #1
Company:	Regeneration Energy Corporation	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Project:	Lea County NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Landreth Federal Com	North Reference:	Grid
Well:	#1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Design #2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,150.0	1,150.0	Surface	13-3/8	17-1/2	
5,000.6	5,000.0	Intermediate	9-5/8	12-1/4	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,500.0	1,500.0	0.0	0.0	Start Build 2.00	
1,575.0	1,575.0	0.0	1.0	Start 1834.0 hold at 1575.0 MD	
3,409.0	3,408.4	0.0	49.0	Start Drop -2.00	
3,484.0	3,483.4	0.0	50.0	Start 7389.0 hold at 3484.0 MD	
10,873.0	10,872.4	0.0	50.0	KOP @ 10873.0' MD	
11,623.3	11,350.0	477.6	50.8	EOC @ 11623.3'MD, 90.00°INC, 0.10°AZI	
15,766.7	11,350.0	4,621.1	58.0	TD at 15766.7	

Section Details									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0
3	1575.0	1.50	90.00	1575.0	0.0	1.0	2.00	90.00	0.0
4	3409.0	1.50	90.00	3408.4	0.0	49.0	0.00	0.00	0.6
5	3484.0	0.00	0.00	3483.4	0.0	50.0	2.00	180.00	0.6
6	10873.0	0.00	0.00	10872.4	0.0	50.0	0.00	0.00	0.6
7	11623.3	90.00	0.10	11350.0	477.6	50.8	12.00	0.10	478.2
8	15766.7	90.00	0.10	11350.0	4621.1	58.0	0.00	0.00	4621.5

Regeneration Energy Corporation
Project: Lea County NM
Site: Landreth Federal Com
Well: #1
Wellbore: Lateral
Plan: Design #2 (#1/Lateral)

WELL DETAILS: #1

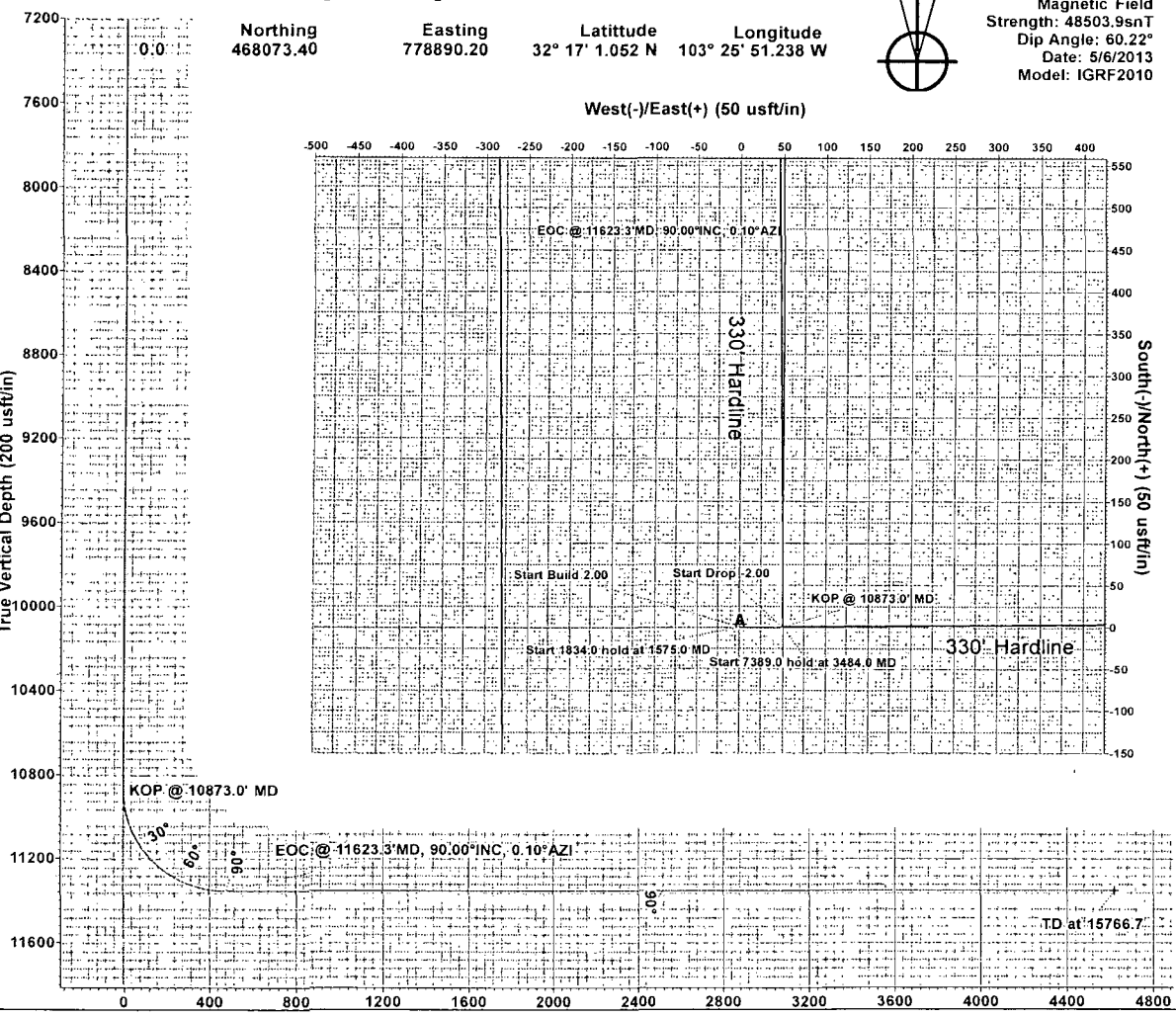
Ground Elevation:
RKB Elevation: WELL @ 0.0usft (Original Well Elev)
Rig Name: Original Well Elev

Northing 468073.40 Easting 778890.20 Latitude 32° 17' 1.052 N Longitude 103° 25' 51.238 W

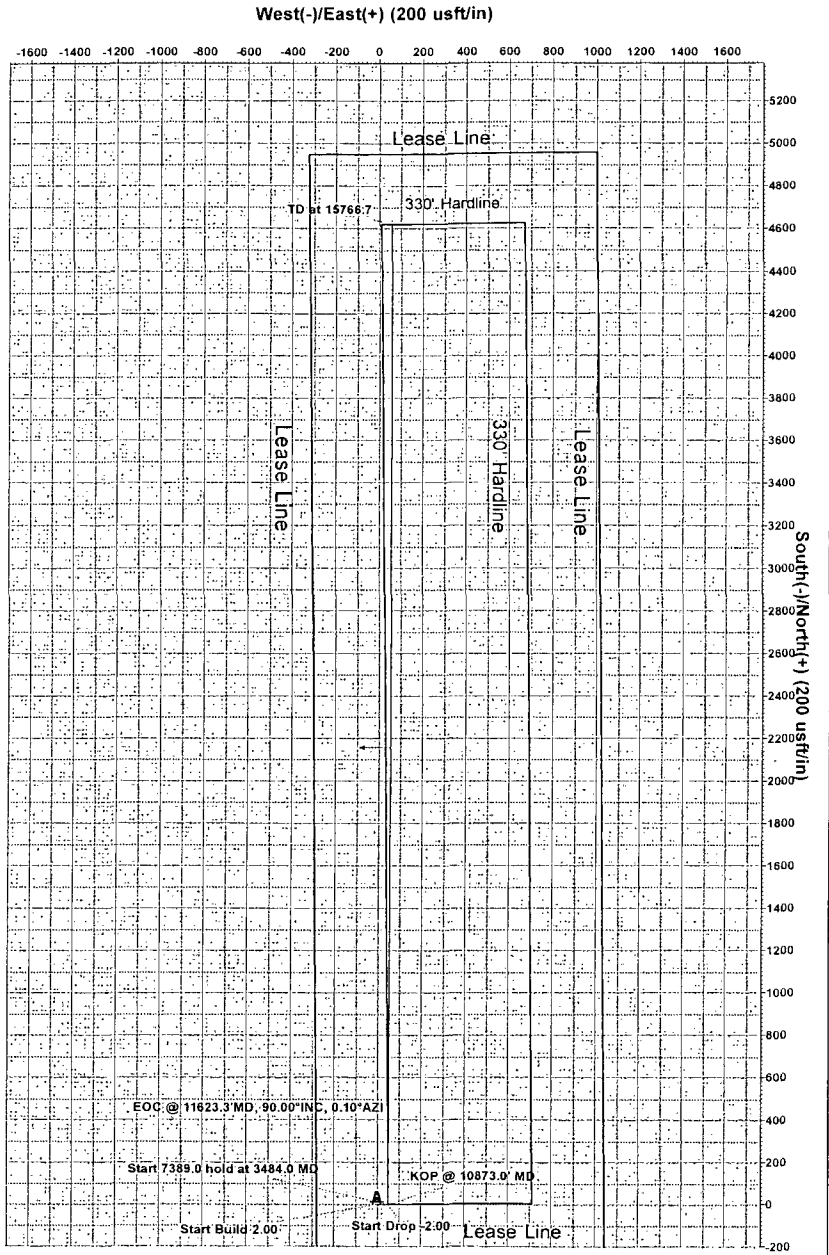


Azimuths to Grid North
True North: -0.48°
Magnetic North: 6.81°

Magnetic Field
Strength: 48503.9snT
Dip Angle: 60.22°
Date: 5/6/2013
Model: IGRF2010



Vertical Section at 0.72° (200 usft/in)



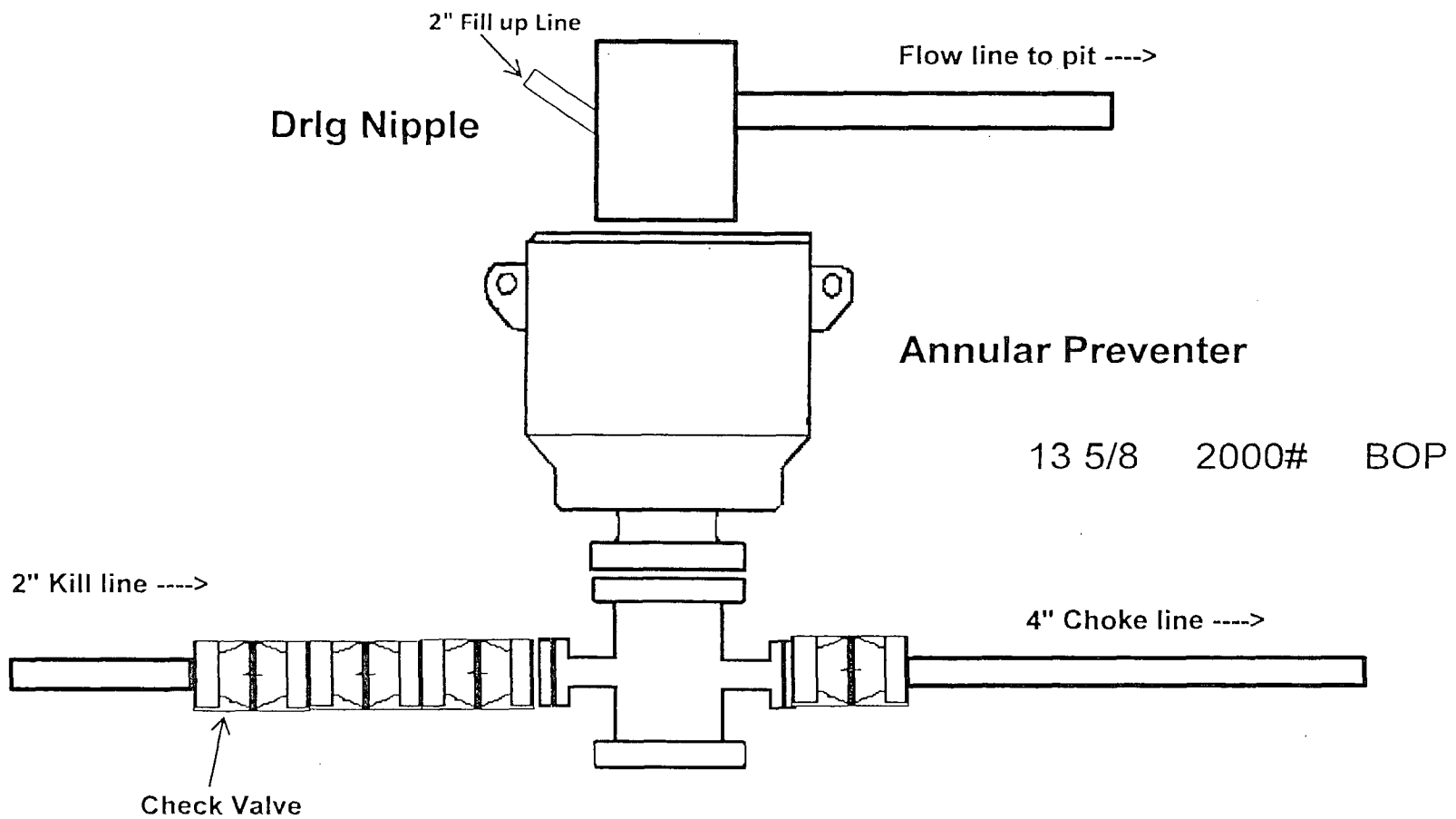
PROJECT DETAILS: Lea County NM
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Terra Directional Services LLC
322 Spring Hill Drive, Suite A300, Spring, Tx 77386
Phone: 432-425-7532

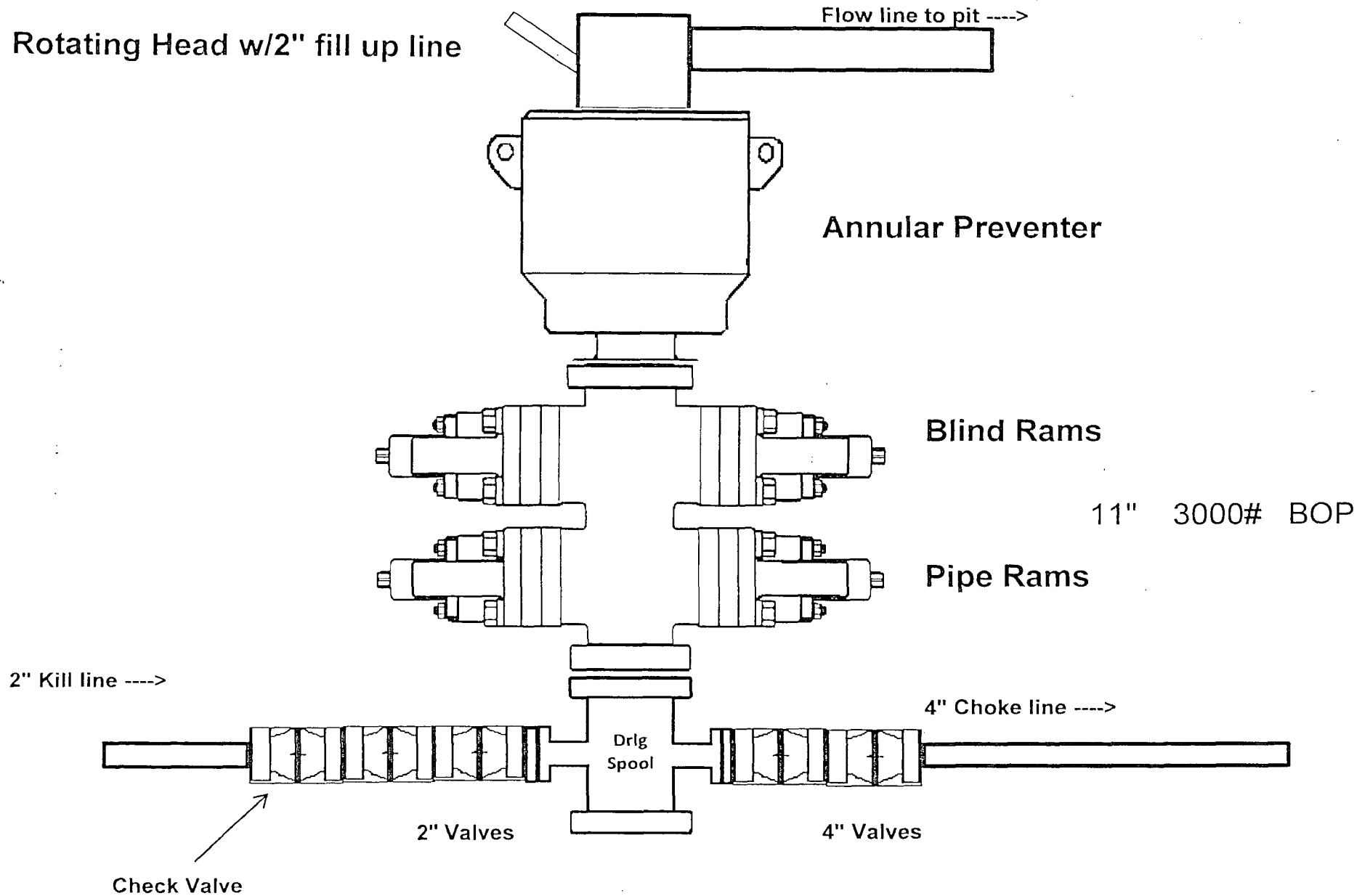
Plan: Design #2 (#1/Lateral)
Date: 13:20, June 18 2013



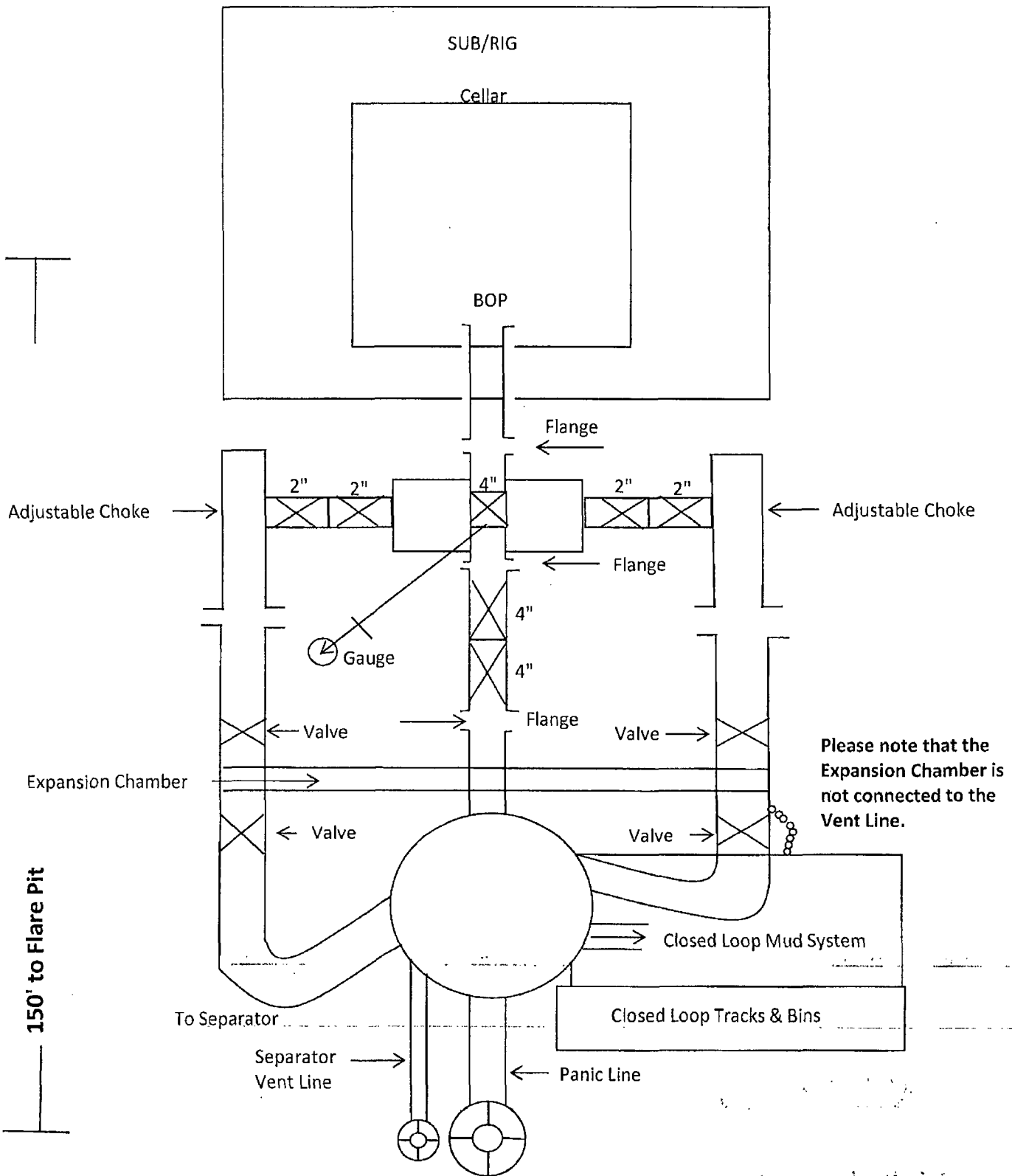
2,000 psi BOP Schematic



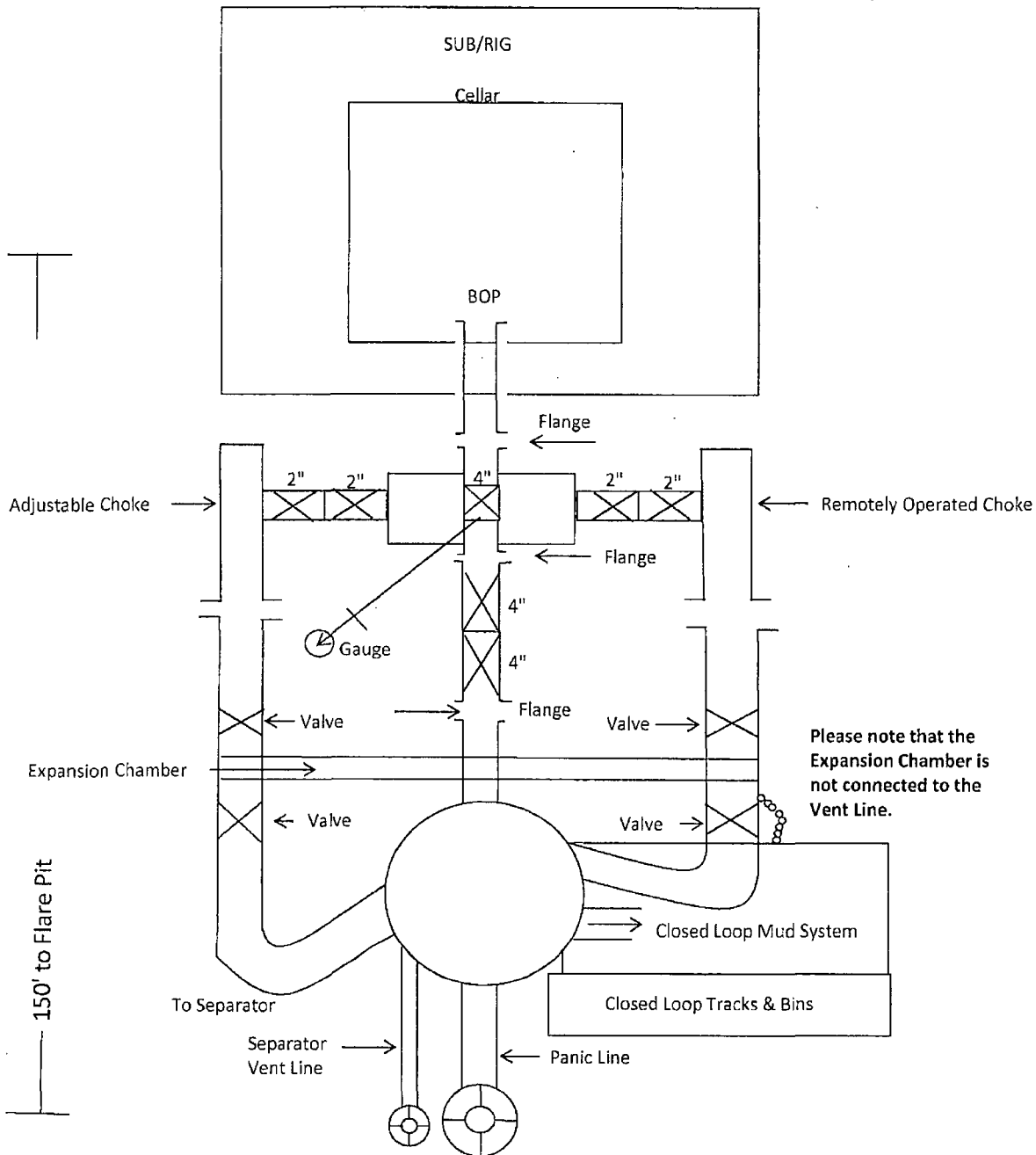
3,000 psi BOP Schematic



2M Choke Manifold Equipment



3M Choke Manifold Equipment



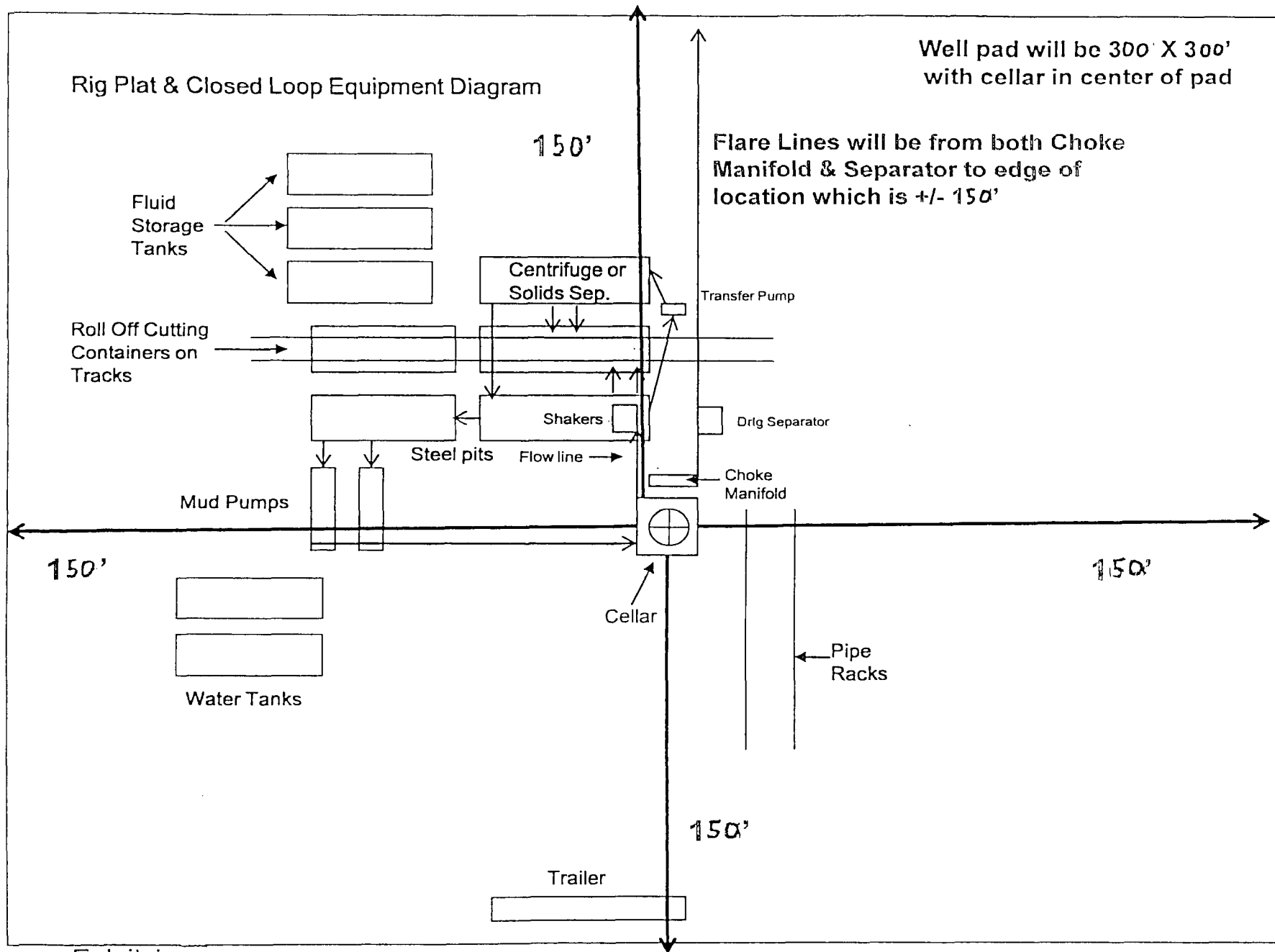


Exhibit 3