ATS-11-1046

OCD-HOBBS

HOBBS OCD

DEC 14 2011

RECEIVED

Form 3160-3
(February 2005)

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.
USA NMNM 114991

6 If Indian, Allotee or Tribe Name

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 (38988)
Green Wave 20 Federal 1H

2 Name of Operator
Devon Energy Production Co., LP (6137)

9 API Well No
30-025-40383

3a Address **20 North Broadway, OKC, OK 73102**

3b Phone No. *(include area code)* **(405)-236-3511**

10 Field and Pool, or Exploratory
~~Brushy Canyon~~ Bradley Delaware (73107)

4 Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **SWSW 330' FSL & 330' FWL Unit M**
At proposed prod zone **NWNW 330' FNL & 330' FWL Unit D**

11 Sec., T R M or Blk and Survey or Area
Sec 20 T26S R34E

14 Distance in miles and direction from nearest town or post office*
Approximately 17 miles west of Jal, NM

12 County or Parish **Lea**

13 State **NM**

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg unit line, if any)	16 No of acres in lease	17 Spacing Unit dedicated to this well
330'	**1880**	**160 acres**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth	20 BLM/BIA Bond No. on file
See attached map	**TVD 9,510' MD 13,887'** PH: 9750'	**CO-1104**
21 Elevations (Show whether DF, KDB, RT, GL, etc.)	22 Approximate date work will start*	23 Estimated duration
3368' GL		**45 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
2. A Drilling Plan
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)
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 BLM.

25 Signature	Name *(Printed/Typed)*	Date
Spence Laird	**Spence Laird**	**09/13/2011**
Title **Regulatory Analyst**		
Approved by *(Signature)* **/s/ Don Peterson**	Name *(Printed/Typed)*	Date **DEC 12 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

12/12/11

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

HOBBS OCD

DEC 14 2011

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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
1220 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, NM 87505

Form C-102
Revised October 15,2009
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

Bradley Delaware

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-40383	7310	~~BRUSHY CANYON~~

[4] Property Code	[5] Property Name	[6] Well Number
38988	GREEN WAVE 20 FEDERAL	1H

[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3368.8

[10] Surface Location

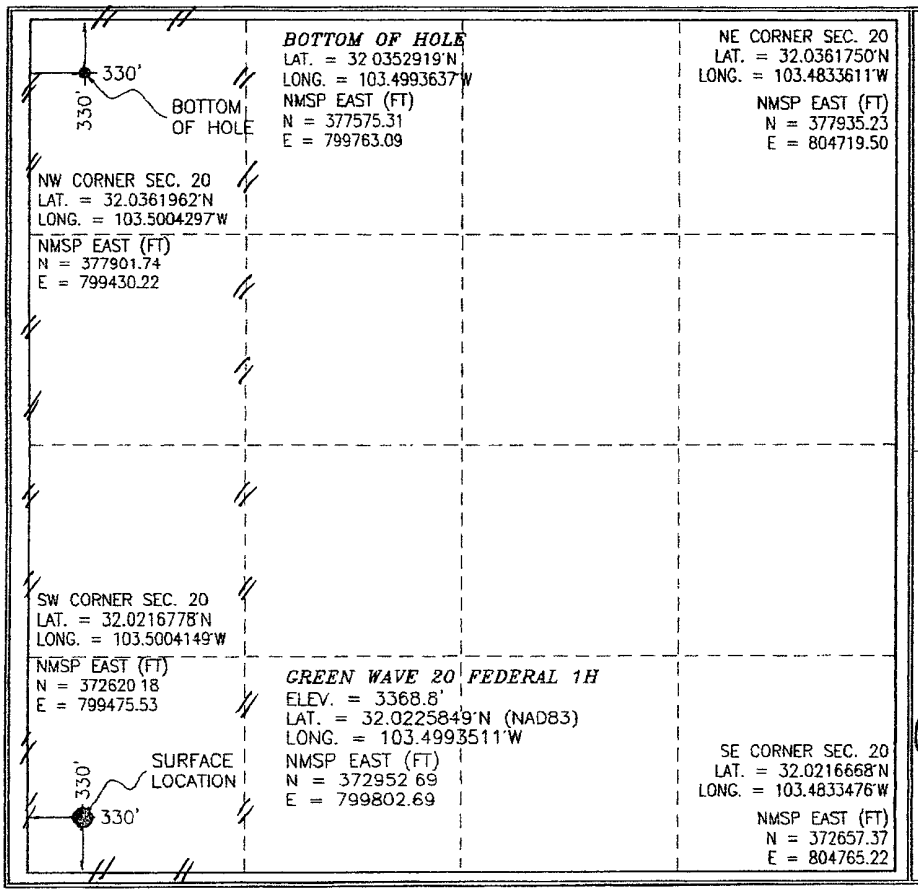
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	20	26 S	34 E		330	SOUTH	330	WEST	LEA

[11] 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
D	20	26 S	34 E		330	NORTH	330	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
160			

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.



[17] OPERATOR CERTIFICATION

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

Signature — Date 9/13/11

Printed Name SPENCE LAIRD

[18] 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.

AUGUST 30, 2011

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number PERMON T. JARAMILLO, NO. PLS 12797 — SURVEY NO 567

DRILLING PROGRAM

Devon Energy Production Company, LP
Green Wave 20 Federal 1H
Surface Location: 330' FSL & 330' FWL, Unit M, Sec 20 T26S R34E, Lea, NM
Bottom hole Location: 330' FNL & 330' FWL, Unit D, Sec 20 T26S R34E, Lea, NM

1. Geologic Name of Surface Formation

a. Permian

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

a.	Quaternary	20'	Water
b.	Rustler Dol.	732'	Water
c.	Salt	1084'	
d.	Salado Salt	1168'	
e.	Base of Salt	5082'	
f.	Lamar Limestone	5320'	
g.	Bell Canyon	5360'	Oil
h.	Cherry Canyon	6423'	Oil
i.	Brushy Canyon	8148'	Oil
j.	Avalon Shale/top Bone Springs	9650'	Oil
k.	Primary Target landing zone	9510'	Oil
l.	Pilot Hole TD	9750'	Oil

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 ~~780'~~ and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at 5200' and circulating cement to surface. The pay intervals will be isolated by setting 5 ½" casing to total depth and circulating cement above the base of the 9 5/8" casing. All casing is new and API approved.

3. Casing Program:

	Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
See COA	17 1/2"	0'-~~780'~~ 830	13 3/8"	0'-780'	48#	STC	H-40
	12 ¼"	~~780'~~-5200'	9 5/8"	0'-5200'	40#	LTC	HCK-55
	8 ¾"	5200' - 9750'	(PH)				
	8 ¾"	5200'- 13887'	5 ½"	0'- 8900'	17#	LTC	HCP-110
				8900' – 13887'	17#	BTC	HCP-110

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13 3/8"	2.1	4.8	8.5
9 5/8"	1.4	2.3	4.7
5 ½"	1.3	1.7	2.3

4. Cement Program: (Calculations est. at 25% excess)

Regarding the Pilot Hole: A Whipstock with ~850' of 2 7/8" tubing tailpipe will be cemented in place at ~8900'. The plug back cement will be 490 sacks Class H with a 1.18 cuft/sk yield.

13 3/8" Surface

Lead: 550 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 5% bwow Sodium Chloride + 0.8% bwoc Sodium Metasilicate + 5% bwoc MPA-5 + 101.1% Fresh Water
Yield: 1.97 cf/sack. TOC @ surface.

Tail: 200 sacks Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water
Yield: 1.35 cf/sack.

9 5/8" Intermediate

Lead: 1265 sacks (50:50) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water
Yield: 2.24 cf/sack. TOC @ surface.

Tail: 300 sacks (60:40) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 64.7% Water
Yield: 1.38 cf/sack.

5 ½ Production

Lead: 600 sacks (35:65) Poz + 0.2% bwoc Sodium Metasilicate + 1.4% bwoc FL-62 + 0.4% bwoc
Yield: 2.01 cf/sack.

Tail
Lead: 1350 sacks (50:50) Poz (Fly Ash):Premium Plus C Cement + 1% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 0.4% bwoc FL-52A + 0.4% bwoc R-3 + 103.1% Fresh Water
Yield: 1.28 cf/sack.

DV TOOL at ~6500'

2nd Stage

Lead: 210 sacks Class C+ 0.125 lbs/sack Cello Flake + 3
6% bwoc Bentonite + 0.4% bwoc FL-52A + 99.3% Fresh Water
Yield: 2.88 cf/sk

Tail: 100 sacks (60:40) Poz (Fly Ash):Class H Cement + 1% bwow Sodium Chloride + 0.15% bwoc + 63.2% Fresh Water
Yield: 1.35 cf/sk

TOC for All Strings:

Surface:	0'
Intermediate:	0'
Production	4700'

The above cement volumes could be revised pending the caliper measurement from the open hole logs. Actual cement volumes will be adjusted based on fluid caliper and caliper log data.

5. Pressure Control Equipment:

The blow out prevention system will consist of a bag type (hydril) preventer, a double ram preventer stack, and a rotating head. Both the hydril and ram stack will be hydraulically operated. Both BOP systems will be rated at 5000psi. **The hydril will be tested to 1000psi (high) and 250psi (low).** The Hydril preventer on the 13 3/8" surface casing will be tested as a 2000 psi preventer. Prior to drilling out the 9 5/8" intermediate shoe, the ram stack will be nipped up with 4.5" pipe rams installed and will be used in the BOP. **Tests on the 5000psi BOP will be conducted per the BLM Drilling Operations Order #2.**

For 12¼" hole only

The ram system will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and hydril, other BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 5000 psi WP.

6. Proposed Mud Circulation System

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0' – ~~780'~~ 830'	8.4 – 9.0	32 – 34	N/C	FW/Gel
~~780'~~ – 5200'	10	28 – 30	N/C	Brine
5,200' – 13,887'	8.6 – 9.0	28	NC	FW

The necessary mud products for weight addition and fluid loss control will be on location at all times.

7. Auxiliary Well Control and Monitoring Equipment:

a. A Kelly cock will be in the drill string at all times.
b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
c. 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.

8. Logging, Coring, and Testing Program: See COA

a. Drill stem tests will be based on geological sample shows.
b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
c. The open hole electrical logging program will be:
   i. Total Depth to Intermediate Casing — Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
   ii. Total Depth to Surface — Compensated Neutron with Gamma Ray

iii. No coring program is planned

iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Potential Hazards:

a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area; therefore, no H2S is anticipated to be encountered. 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 4600 psi and Estimated BHT 135°.

10. 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 soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 32 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

devon

Project	Lea Co , New Mexico (Nad 83)
Site	Green Wave 20 Fed 1H
Well	Green Wave 20 Fed 1H
Wellbore	Lateral #1
Design	Design #1

CUDD DRILLING & MEASUREMENT SERVICES

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	8937 09	0 00	0 00	8937 09	0 00	0 00	0 00	0 00	0 00	
3	9844 59	90 75	359 76	9510 00	580 45	-2 46	10 00	359 76	580 46	
4	13887 15	90 75	359 76	9457 08	4622 63	-19 60	0 00	0 00	4622 67	PBHL - TD (GW20F1H)

ANNOTATIONS

TVD	MD	Annotation
8937 09	8937 09	KOP - Build 10°/100'
9510 00	9844 59	EOC - Hold I 90 75° @ A 359 76°

PROJECT DETAILS Lea Co., New Mexico (Nad 83)

Geodetic System	US State Plane 1983
Datum	North American Datum 1983
Ellipsoid	GRS 1980
Zone	New Mexico Eastern Zone
System Datum	Mean Sea Level

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD (GW20F1H)	9457 08	4622 63	-19 60	377575 31	799783 09	32° 2' 7 049 N	103° 29' 57 477 W	Point

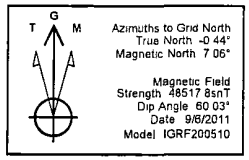
WELL DETAILS Green Wave 20 Fed 1H

Ground Level
3368 80
WELL @ 3377 00ft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	372952 69	799802 69	32° 1' 21 306 N	103° 29' 57 664 W	

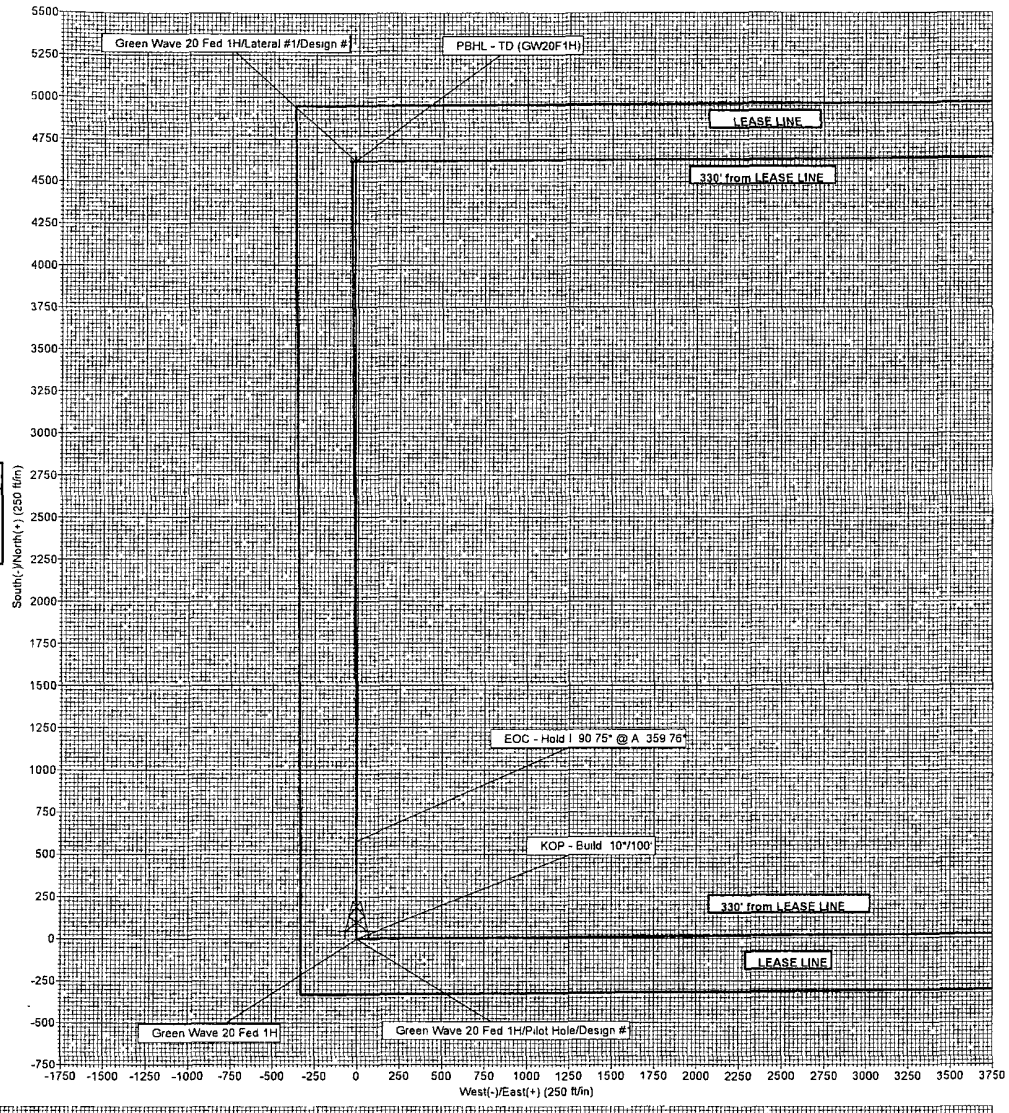
Plan Design #1 (Green Wave 20 Fed 1H/Lateral #1)

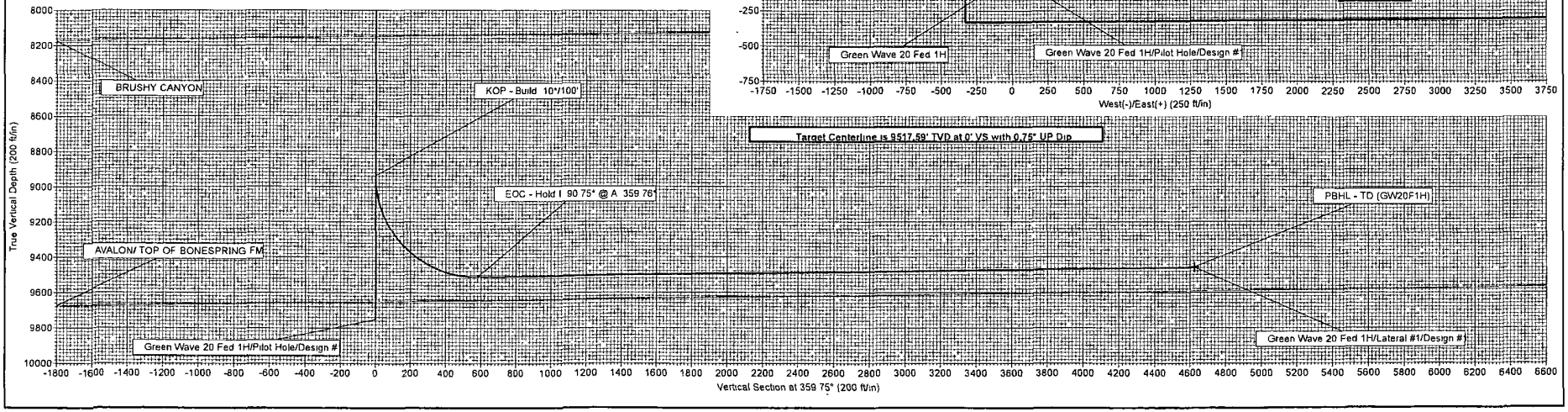
Created By	Eric Minchew	Date	16 49, September 06 2011
Checked		Date	
Reviewed		Date	
Approved		Date	



Azimuths to Grid North
True North -0 44°
Magnetic North 7 06°

Magnetic Field
Strength 48517 8snT
Dip Angle 60 03°
Date 9/6/2011
Model IGRF200510





Devon Energy Production Co, LP

Lea Co., New Mexico (Nad 83)
Green Wave 20 Fed 1H
Green Wave 20 Fed 1H
30-025-
Lateral #1

Plan: Design #1

Standard Planning Report

06 September, 2011

devon

CUDD Drilling and Measurement

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Green Wave 20 Fed 1H
Company:	Devon Energy Production Co LP	**TVD Reference:**	WELL @ 3377.00ft (Original Well Elev)
Project:	Lea Co New Mexico (Nad 83)	**MD Reference:**	WELL @ 3377.00ft (Original Well Elev)
Site:	Green Wave 20 Fed 1H	**North Reference:**	Grid
Well:	Green Wave 20 Fed 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Project Lea Co New Mexico (Nad 83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Green Wave 20 Fed 1H, Sec 20, T-26S, R-34E

Site Position:		**Northing:**	372,952 69 usft	**Latitude:**	32° 1' 21.306 N
From:	Map	**Easting:**	799,802 69 usft	**Longitude:**	103° 29' 57.664 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0 44 °

Well Green Wave 20 Fed 1H

Well Position	**+N/-S**	0 00 ft	**Northing:**	372,952 69 usft	**Latitude:**	32° 1' 21.306 N
	+E/-W	0 00 ft	**Easting:**	799,802.69 usft	**Longitude:**	103° 29' 57.664 W
Position Uncertainty		0 00 ft	**Wellhead Elevation:**	3,377.00 ft	**Ground Level:**	3,368.80 ft

Wellbore Lateral #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/6/2011	7 50	60.03	48,518

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0 00	0.00	90.00

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0 00	0 00	0 00	0 00	0 00	0.00	0.00	0.00	
8,937.09	0.00	0 00	8,937 09	0 00	0 00	0 00	0.00	0 00	0 00	
9,844 59	90 75	359 76	9,510 00	580 45	-2 46	10 00	10.00	0 00	359 76	
13,887.15	90 75	359.76	9,457.08	4,622 63	-19 60	0 00	0.00	0 00	0.00	PBHL - TD (GW20F

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Green Wave 20 Fed 1H
Company:	Devon Energy Production Co, LP	TVD Reference:	WELL @ 3377 00ft (Original Well Elev)
Project:	Lea Co , New Mexico (Nad 83)	MD Reference:	WELL @ 3377 00ft (Original Well Elev)
Site:	Green Wave 20 Fed 1H	North Reference:	Grid
Well:	Green Wave 20 Fed 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,937 09	0 00	0 00	8,937 09	0.00	0.00	0.00	0.00	0 00	0 00
KOP - Build: 10°/100'									
8,950 00	1 29	359 76	8,950 00	0 15	0 00	0 00	10.00	10 00	0.00
9,000 00	6.29	359 76	8,999.87	3 45	-0 01	-0 01	10 00	10 00	0 00
9,050 00	11 29	359.76	9,049.27	11 09	-0.05	-0 05	10.00	10.00	0 00
9,100 00	16 29	359 76	9,097 81	23 01	-0 10	-0.10	10 00	10.00	0 00
9,150 00	21 29	359 76	9,145 13	39 11	-0 17	-0.17	10.00	10.00	0 00
9,200 00	26.29	359 76	9,190 87	59 27	-0 25	-0.25	10 00	10 00	0 00
9,250 00	31.29	359 76	9,234 68	83 34	-0 35	-0.35	10 00	10 00	0.00
9,300 00	36 29	359 76	9,276 22	111 14	-0 47	-0 47	10.00	10 00	0.00
9,350 00	41.29	359 76	9,315 17	142 46	-0 60	-0 60	10.00	10 00	0 00
9,400 00	46 29	359.76	9,351 26	177 05	-0.75	-0 75	10.00	10 00	0 00
9,450 00	51 29	359.76	9,384 19	214 65	-0.91	-0 91	10.00	10 00	0 00
9,500 00	56 29	359 76	9,413.71	254 98	-1.08	-1.08	10.00	10 00	0 00
9,550.00	61 29	359.76	9,439.61	297.73	-1.26	-1.26	10.00	10 00	0 00
9,600.00	66 29	359 76	9,461 69	342 58	-1 45	-1.45	10.00	10 00	0 00
9,650.00	71 29	359.76	9,479 77	389.17	-1.65	-1 65	10 00	10.00	0 00
9,700 00	76 29	359 76	9,493 72	437.17	-1 85	-1.85	10.00	10.00	0 00
9,750 00	81 29	359 76	9,503.44	486 20	-2.06	-2 06	10 00	10.00	0 00
9,800 00	86 29	359 76	9,508 84	535 89	-2 27	-2 27	10 00	10.00	0 00
9,844 59	90.75	359 76	9,510.00	580 46	-2.46	-2.46	10.00	10 00	0 00
EOC - Hold I: 90.75° @ A: 359.76°									
9,900.00	90.75	359.76	9,509 27	635 86	-2 70	-2 70	0.00	0 00	0 00
10,000 00	90.75	359.76	9,507.96	735 85	-3 12	-3.12	0.00	0 00	0 00
10,100.00	90.75	359 76	9,506.65	835 84	-3.54	-3 54	0.00	0 00	0 00
10,200.00	90 75	359.76	9,505 34	935 83	-3.97	-3 97	0.00	0.00	0 00
10,300 00	90.75	359.76	9,504 03	1,035 82	-4 39	-4 39	0.00	0 00	0 00
10,400 00	90.75	359.76	9,502.73	1,135 81	-4 82	-4.82	0.00	0.00	0 00
10,500 00	90 75	359.76	9,501.42	1,235.80	-5.24	-5.24	0.00	0.00	0.00
10,600.00	90.75	359 76	9,500.11	1,335.79	-5.66	-5 66	0.00	0 00	0.00
10,700 00	90 75	359 76	9,498 80	1,435.79	-6.09	-6.09	0 00	0 00	0 00
10,800.00	90 75	359 76	9,497.49	1,535 78	-6.51	-6.51	0.00	0 00	0 00
10,900 00	90 75	359 76	9,496.18	1,635.77	-6.94	-6 94	0 00	0.00	0.00
11,000 00	90 75	359 76	9,494 87	1,735 76	-7 36	-7 36	0 00	0.00	0 00
11,100 00	90 75	359 76	9,493 56	1,835.75	-7 78	-7 78	0 00	0 00	0.00
11,200.00	90 75	359 76	9,492.25	1,935.74	-8 21	-8 21	0 00	0.00	0.00
11,300 00	90 75	359 76	9,490.94	2,035.73	-8 63	-8 63	0 00	0 00	0 00
11,400.00	90 75	359 76	9,489 64	2,135.72	-9 06	-9 06	0 00	0.00	0 00
11,500.00	90 75	359.76	9,488 33	2,235.71	-9.48	-9 48	0 00	0 00	0.00
11,600 00	90 75	359 76	9,487 02	2,335.70	-9 90	-9 90	0 00	0.00	0.00
11,700.00	90 75	359 76	9,485 71	2,435.69	-10.33	-10.33	0 00	0.00	0.00
11,800 00	90 75	359.76	9,484 40	2,535.68	-10.75	-10 75	0 00	0 00	0 00
11,900 00	90 75	359 76	9,483 09	2,635.67	-11.18	-11.18	0 00	0 00	0 00
12,000.00	90 75	359 76	9,481 78	2,735.66	-11 60	-11 60	0.00	0 00	0 00
12,100 00	90 75	359 76	9,480 47	2,835 65	-12.02	-12 02	0 00	0 00	0 00
12,200 00	90 75	359.76	9,479 16	2,935.64	-12.45	-12 45	0 00	0 00	0 00
12,300 00	90 75	359 76	9,477.86	3,035 63	-12 87	-12 87	0 00	0 00	0 00
12,400.00	90 75	359 76	9,476 55	3,135 62	-13 30	-13 30	0.00	0 00	0.00
12,500.00	90 75	359 76	9,475 24	3,235 61	-13.72	-13.72	0.00	0 00	0 00
12,600 00	90 75	359 76	9,473.93	3,335 61	-14 14	-14.14	0.00	0.00	0 00
12,700 00	90 75	359 76	9,472.62	3,435 60	-14 57	-14.57	0 00	0 00	0 00
12,800.00	90 75	359 76	9,471 31	3,535 59	-14 99	-14.99	0 00	0.00	0 00
12,900.00	90.75	359 76	9,470 00	3,635 58	-15 41	-15 41	0 00	0.00	0 00
13,000.00	90 75	359 76	9,468 69	3,735.57	-15.84	-15.84	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Green Wave 20 Fed 1H
Company:	Devon Energy Production Co LP	**TVD Reference:**	WELL @ 3377.00ft (Original Well Elev)
Project:	Lea Co, New Mexico (Nad 83)	**MD Reference:**	WELL @ 3377.00ft (Original Well Elev)
Site:	Green Wave 20 Fed 1H	**North Reference:**	Grid
Well:	Green Wave 20 Fed 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,100 00	90.75	359 76	9,467.38	3,835 56	-16.26	-16.26	0.00	0 00	0 00
13,200 00	90.75	359 76	9,466 07	3,935 55	-16 69	-16.69	0 00	0.00	0 00
13,300 00	90 75	359 76	9,464 77	4,035 54	-17 11	-17 11	0 00	0.00	0 00
13,400 00	90 75	359 76	9,463 46	4,135 53	-17 53	-17 53	0 00	0 00	0 00
13,500.00	90 75	359 76	9,462.15	4,235 52	-17 96	-17 96	0.00	0 00	0.00
13,600 00	90 75	359.76	9,460.84	4,335.51	-18 38	-18 38	0 00	0 00	0 00
13,700 00	90.75	359 76	9,459 53	4,435.50	-18.81	-18 81	0.00	0.00	0.00
13,800.00	90.75	359 76	9,458.22	4,535 49	-19.23	-19 23	0 00	0 00	0.00
13,887 15	90 75	359 76	9,457.08	4,622 63	-19 60	-19.60	0 00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - TD (GW20F1H - plan hits target center - Point	0 00	0 00	9,457.08	4,622 63	-19.60	377,575 31	799,783 09	32° 2' 7.049 N	103° 29' 57 477 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
20 00	20.00	QUATERNARY		-0 75	359.76
732 00	732 00	RUSTLER DOL		-0 75	359.76
1,168.00	1,168 00	SALADO SALT		-0 75	359.76
5,360.00	5,360.00	BELL CANYON		-0.75	359 76
6,423.00	6,423.00	CHERRY CANYON		-0 75	359 76
8,148 00	8,148.00	BRUSHY CANYON		-0.75	359 76

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,937 09	8,937.09	0.00	0.00	KOP - Build. 10*/100'
9,844 59	9,510.00	580 46	-2 46	EOC - Hold I. 90 75* @ A: 359 76*

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Green Wave 20 Federal 1H
Surface Location: 330' FSL & 330' FWL, Unit M, Sec 20 T26S R34E, Lea, NM
Bottom hole Location: 330' FNL & 330' FWL, Unit D, Sec 20 T26S R34E, Lea, NM

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.

2. Wear ring will be properly installed in head.

3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 5000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 5000 psi WP with proper thread connections will be available on the rotary rig floor at all times.

6. All choke lines will be anchored to prevent movement.

7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.

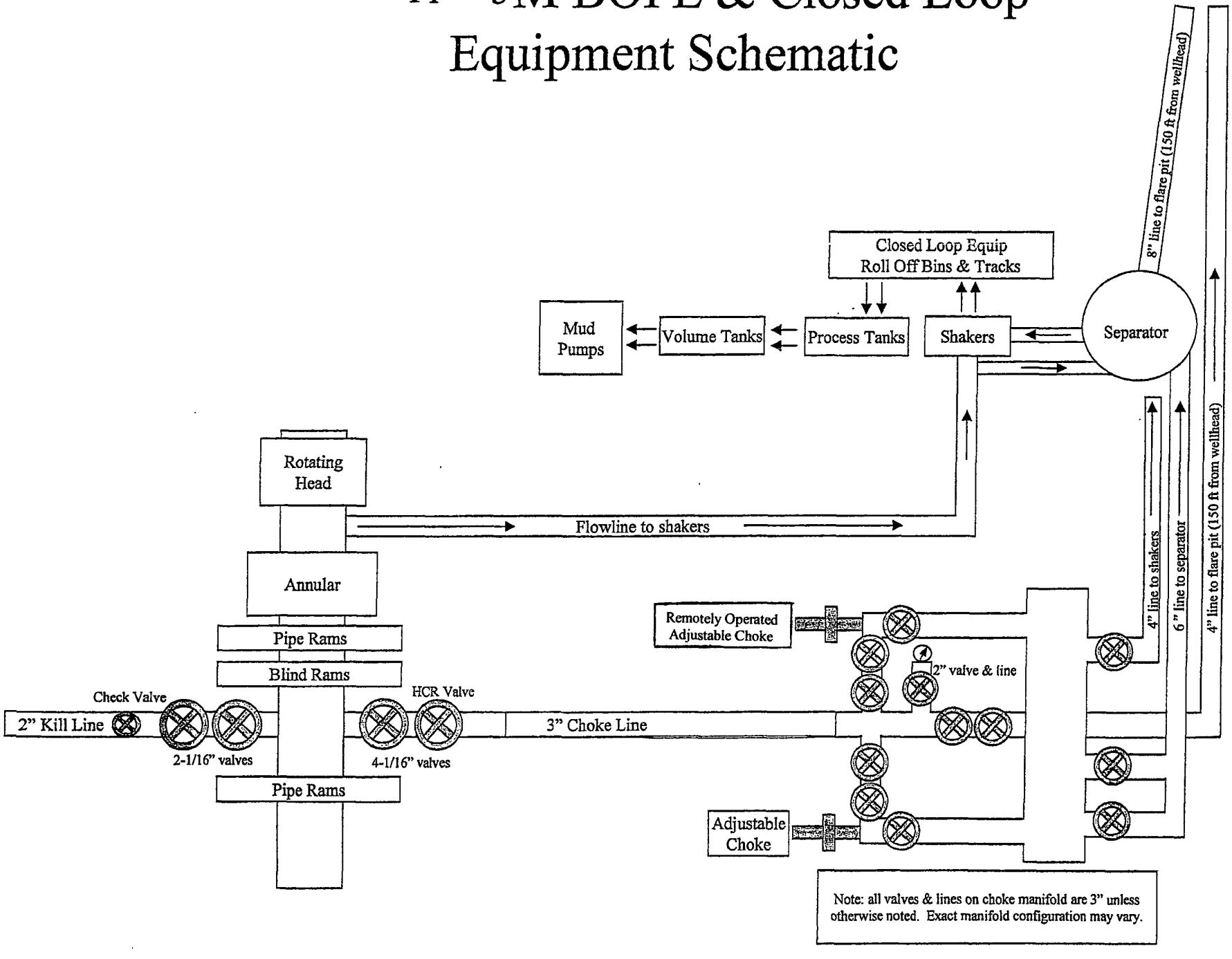
8. Will maintain a kelly cock attached to the kelly.

9. Hand wheels and wrenches will be properly installed and tested for safe operation.

10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.

11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

11" 5M BOPE & Closed Loop Equipment Schematic



13 5/8" 2M BOPE & Closed Loop Equipment Schematic