AT5-12-1042

HOBBS OCD

JUN 24 2013

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OCD Hobbs

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NM-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. GREEN WAVE 20 FED 3H <38988>

2. Name of Operator DEVON ENERGY PRODUCTION COMPANY, L.P. <61377>

9. API Well No. 30-025-41235

3a. Address 333 W. SHERIDAN
OKLAHOMA CITY, OK. 73102

3b. Phone No. *(include area code)* (405) 552-4524

10. Field and Pool, or Exploratory Bradley DELAWARE <73107>

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

At surface 25 FNL & 1980 FEL

At proposed prod. zone 330 FSL & 1980 FEL

11. Sec., T. R. M. or Blk. and Survey or Area CHM
SECTION 20, T. 26 S., R. 34 E.

14. Distance in miles and direction from nearest town or post office*
17 MILES SOUTHWEST 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 drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
SHL-1980' BHL-330'	1880	160
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**
BHL-1330' SHL-50'	MD: 14,196' TVD: 9,510'	NMB-000801 CO-1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3340.6' GL		30 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
Barry W. Hunt	BARRY W. HUNT	8/6/12

Title
PERMIT AGENT FOR DEVON ENERGY PRODUCTION COMPANY, L.P.

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/George MacDonell		JUN 18 2013
Title	**Office**	
FIELD MANAGER	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.

(Continued on page 2)

*(Instructions on page 2)

Approval Subject to General Requirements & Special Stipulations Attached

Carlsbad Controlled Water Basin

CONDITIONS OF APPROVAL - 24 Hour call in for Spud, Casing, Cement and all other 24 Hour notices to be reported to the Office phone **575-393-6161 ext 102, 120 or 107**
****Leave message if no one answers****
EMERGENCY ONLY PHONE 575-370-3186

SEE ATTACHED FOR CONDITIONS OF APPROVAL

JUN 26 2013

DEVON ENERGY PRODUCTION, L. P.
DRILLING PLAN

GREEN WAVE 20 FED 3H
SHL: 25 FNL & 1980 FEL
BHL: 330 FSL & 1980 FEL
Section 20-26S-34E
LEA County, NM

The elevation of the unprepared ground is 3340.6' feet above sea level.

The geologic name of the surface formation is Quaternary - Alluvium.

A rotary rig will be utilized to drill the well.

Proposed total depth is: MD: 14196'. TVD: 9510'.

Estimated tops of important geologic markers:

Quaternary – Alluvium	Surface*
Rustler	730'
Salado/Top of Salt	1084'
Castile	3460'
Base of Salt	5100'
Delaware	5320'
Bell Canyon Sand	5360'
Cherry Canyon Sand	6412'
Brushy Canyon Sand	7882'
TVD	9510' (145 degree F)

*Water anticipated at 180 feet.

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

Delaware	Oil (2341 psi)
Bell Canyon	Oil (2358 psi)
Cherry Canyon	Oil (2821 psi)
Brushy Canyon	Oil (3468 psi)
TVD	Oil BHP 4184 psi

Drilling Program / Surface Use Plan
Discipline-Specific Input Form

1. **Pressure Control Equipment**

BOP DESIGN: The BOP system used to drill the intermediate and production holes will consist of a 13-5/8" 3M Triple Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a 3M system prior to drilling out the prior casing shoe.

The pipe rams 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 annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

2. **Casing and Cementing Plan Summary**

Salt

The surface fresh water sands will be protected by setting 13-3/8" casing at ~~800'~~ and circulating cement back to surface. The ~~fresh water sands~~ will be protected by setting 9-5/8" casing at 5,200' and circulating cement to surface. The Bone Spring intervals will be isolated by setting 5-1/2" 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:**

See COA

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight	Collar	Grade
17-1/2"	0 – ~~800~~ 760	13-3/8"	0 – 800'	48#	STC	H-40
12-1/4"	~~800'~~ – 5,200'	9-5/8"	0 - 5,200'	40#	LTC	HCK-55
8-3/4"	5,200' – 8,900'	5-1/2"	0 – 8,900'	17#	LTC	HCP-110
8-3/4"	8,900' – 14,196'	5-1/2"	8,900' – 14,196'	17#	BTC	HCP-110

4. **Design Factors:**

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13-3/8"	1.53	2.34	4.15
9-5/8"	1.77	2.72	4.64
5-1/2" LTC	1.89	2.34	2.70
5-1/2" BTC	1.64	2.34	2.23

5. **Cement Program:**

13-3/8" Surface

Tail: 850 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg

Yield: 1.35 cf/sk

TOC @ surface

9-5/8" Intermediate

Lead: 1170 sacks (65:35) Class C Cement:Poz (Fly Ash): + 5% bwow Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 6% bwoc Bentonite + 70.9% Fresh Water, 12.9 ppg

Yield: 1.85 cf/sk

TOC @ surface

Tail: 425 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Water, 14.8 ppg

Yield: 1.33 cf/sk

5-1/2" Production

1st Stage

Lead: 390 sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% bwoc Bentonite + 0.2% bwoc HR-601 + 74.1% Fresh Water, 12.5 ppg

Yield: 1.95 cf/sk

Tail: 1560 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg

Yield: 1.22 cf/sk

DV TOOL at 6500 ft

2nd Stage

Lead: 155 sacks Class C Cement + 3% bwoc Econolite + 0.125 lbs/sack Poly-E-Flake + 82.4% Fresh Water, 11.4 ppg

Yield: 2.87 cf/sk

Tail: 145 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water, 14.8 ppg

Yield: 1.33cf/sk

TOC @ 4700 ft

String	TOC
Surface	Surface
Intermediate	Surface
Production	4,700'

The above cement volumes are based on 25% excess. Actual cement volumes could be adjusted based on fluid caliper and caliper log data.

6. Proposed Mud Circulation System:

Depth Range	Mud Weight	Viscosity	Fluid Loss	Type System
0 – ~~800'~~ 760	8.4-8.6	28-32	NC	Fresh Water
~~800'~~ – 5,200'	9.9-10.1	28-29	NC	Brine
5,200' – 14,196'	8.7-9.2	28-29	NC	Fresh Water

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

7. **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:
    1. Total depth to intermediate casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
    2. Total Depth to Surface Compensated Neutron with Gamma Ray.
    3. No coring program is planned.

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

8. **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.

9. **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. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP of 4184 psi and estimated BHT 145°. No H2S is anticipated to be encountered.

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 as a rig becomes available following BLM approval. 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 the well and construct surface facilities and/or lay flow lines in order to place well on production.

12. LOGGING, CORING, AND TESTING PROGRAM:

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:
    1. Total depth to intermediate casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
    2. Total Depth to Surface Compensated Neutron with Gamma Ray.
    3. No coring program is planned.
    4. 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.

Devon Energy Corporation

HALLIBURTON | Sperry Drilling

devon

Project: Lea County, NM (NAD 83)
Site: Green Wave 20 Fed
Well: Green Wave 20 Fed 3H
Wellbore: Wellbore #1
Plan: Plan #1
Rig: Cactus 126

SURFACE LOCATION

US State Plane 1983
New Mexico Eastern Zone
Elevation: GL 3340.6' + 25' KB @ 3365.60ft (Cactus 126)

Northing	Easting	Latitude	Longitude
377907.00	802740.40	32° 2' 10.104 N	103° 29' 23.093 W

CASING DETAILS

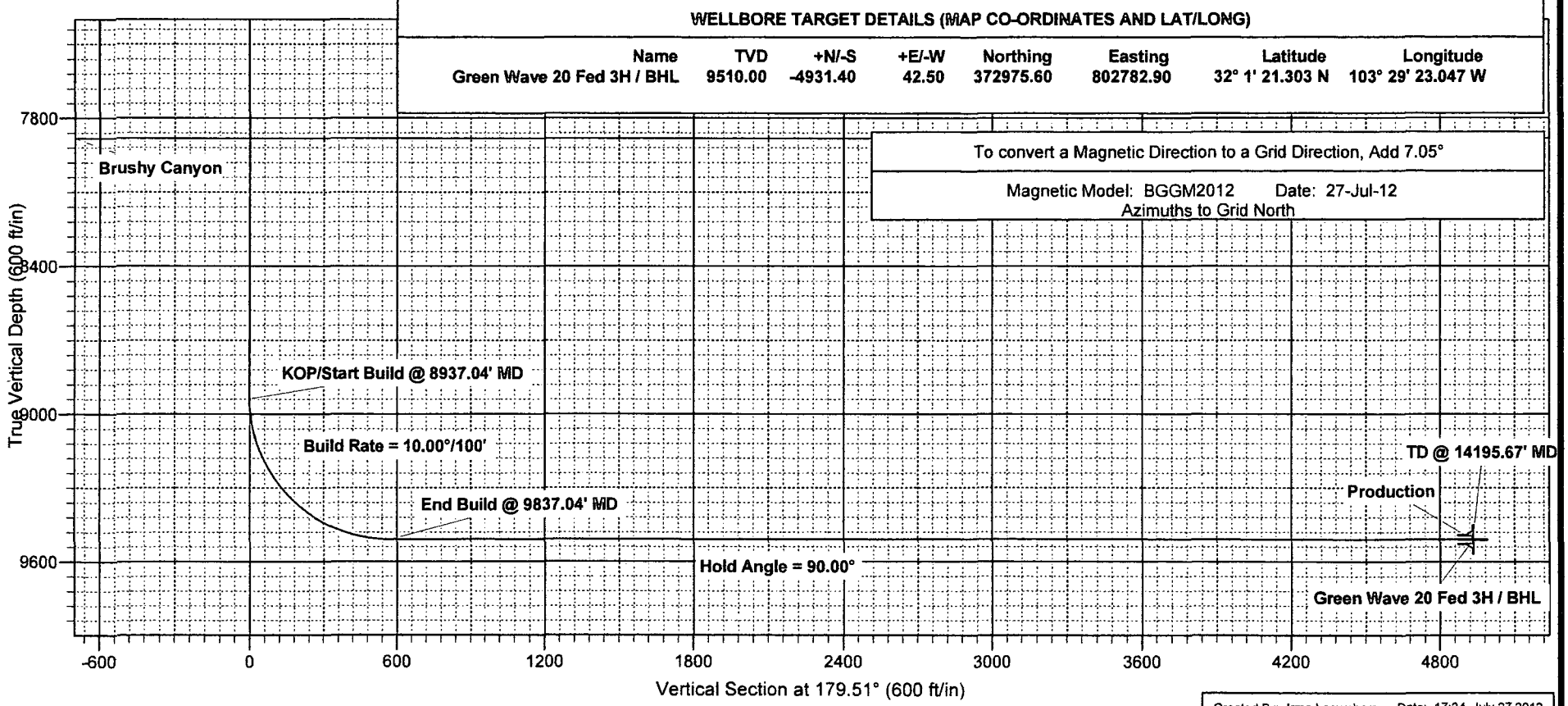
TVD	MD	Name
800.00	800.00	Surface
5200.00	5200.00	Intermediate
9510.00	14195.67	Production

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8937.04	0.00	0.00	8937.04	0.00	0.00	0.00	0.00	0.00	KOP/Start Build
9837.04	90.00	179.51	9510.00	-572.94	4.94	10.00	179.51	572.96	End Build
14195.67	90.00	179.51	9510.00	-4931.40	42.50	0.00	0.00	4931.58	TD

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Green Wave 20 Fed 3H / BHL	9510.00	-4931.40	42.50	372975.60	802782.90	32° 1' 21.303 N	103° 29' 23.047 W

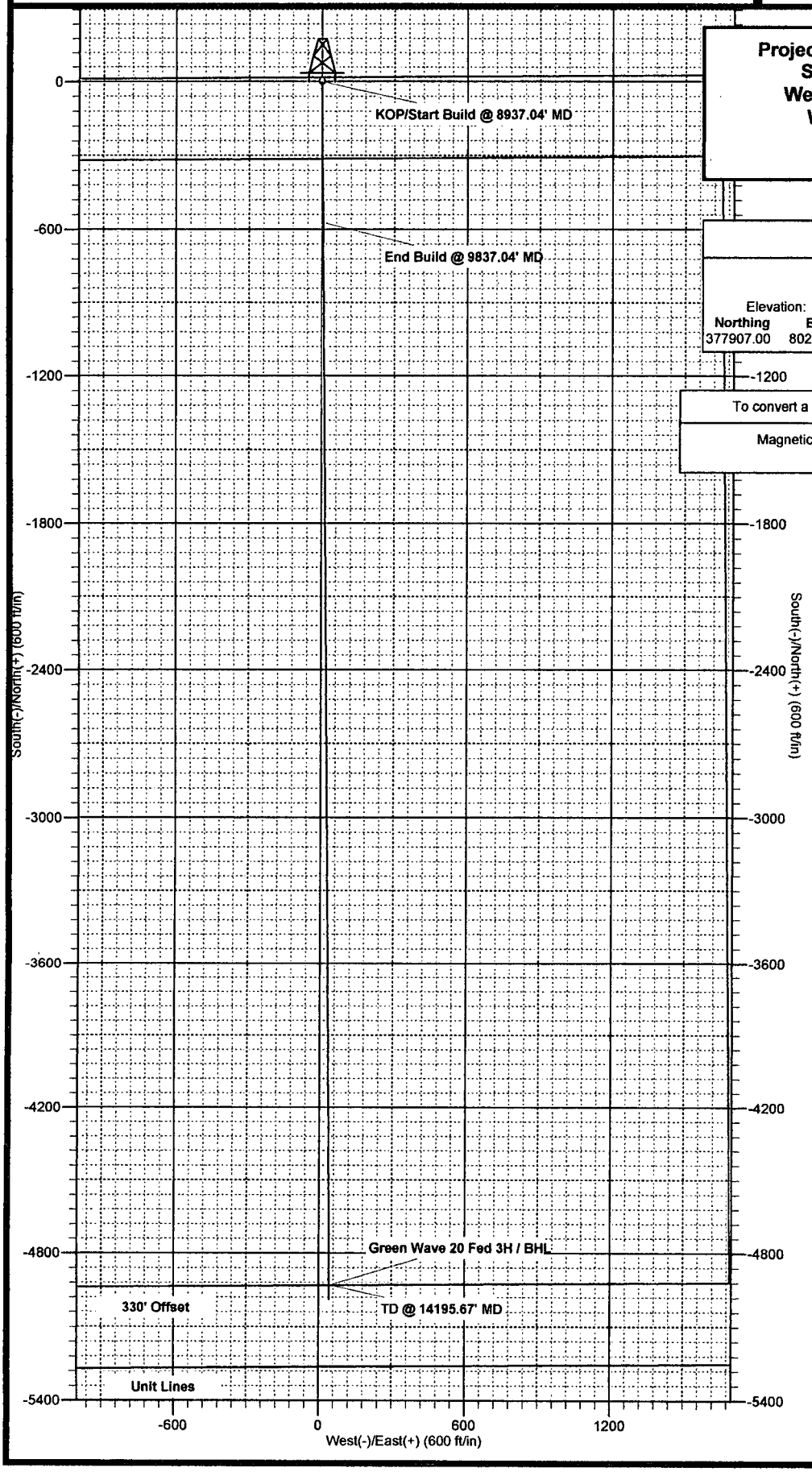


Created By: Irma Lecumberry Date: 17:34, July 27 2012

Devon Energy Corporation

HALLIBURTON | Sperry Drilling

Project: Lea County, NM (NAD 83)
Site: Green Wave 20 Fed
Well: Green Wave 20 Fed 3H
Wellbore: Wellbore #1
Plan: Plan #1
Rig: Cactus 126



SURFACE LOCATION

US State Plane 1983
New Mexico Eastern Zone
Elevation: GL 3340.6' + 25' KB @ 3365.60ft (Cactus 126)

Northing	Easting	Latitude	Longitude
377907.00	802740.40	32° 2' 10.104 N	103° 29' 23.093 W

To convert a Magnetic Direction to a Grid Direction, Add 7.05°

Magnetic Model: BGGM2012 Date: 27-Jul-12
Azimuths to Grid North

devon

N

Created By: Irma Lecumberry Date: 17:38, July 27 2012

Devon Energy Corporation

Lea County, NM (NAD 83)
Green Wave 20 Fed
Green Wave 20 Fed 3H

Wellbore #1

Plan: Plan #1

Sperry Drilling Services

Proposal Report

27 July, 2012

Well Coordinates: 377,907.00 N, 802,740.40 E (32° 02' 10.10" N, 103° 29' 23.09" W)
Ground Level: 3,340.60 ft

Local Coordinate Origin:	Centered on Well Green Wave 20 Fed 3H
Viewing Datum:	GL 3340.6' + 25' KB @ 3365.60ft (Cactus 126)
TVDs to System:	N
North Reference:	Grid
Unit System:	API - US Survey Feet

Version: 2003.16 Build: 43I

HALLIBURTON

Plan Report for Green Wave 20 Fed 3H - Plan #1

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
730.00	0.00	0.00	730.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler										
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface										
1,084.00	0.00	0.00	1,084.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Salt										
5,120.00	0.00	0.00	5,120.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt										
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Intermediate										
5,320.00	0.00	0.00	5,320.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware										
7,882.00	0.00	0.00	7,882.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon										
8,937.04	0.00	0.00	8,937.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP/Start Build @ 8937.04' MD										
8,937.05	0.00	179.51	8,937.05	0.00	0.00	0.00	0.00	0.00	0.00	179.51
Build Rate = 10.00°/100'										
9,000.00	6.30	179.51	8,999.87	-3.46	0.03	3.46	10.00	10.00	0.00	179.51
9,100.00	16.30	179.51	9,097.81	-23.02	0.20	23.02	10.00	10.00	0.00	0.00
9,200.00	26.30	179.51	9,190.87	-59.29	0.51	59.29	10.00	10.00	0.00	0.00
9,300.00	36.30	179.51	9,276.21	-111.17	0.96	111.17	10.00	10.00	0.00	0.00
9,400.00	46.30	179.51	9,351.24	-177.07	1.53	177.08	10.00	10.00	0.00	0.00
9,500.00	56.30	179.51	9,413.69	-255.01	2.20	255.02	10.00	10.00	0.00	0.00
9,600.00	66.30	179.51	9,461.66	-342.61	2.95	342.62	10.00	10.00	0.00	0.00
9,700.00	76.30	179.51	9,493.69	-437.20	3.77	437.22	10.00	10.00	0.00	0.00
9,800.00	86.30	179.51	9,508.80	-535.92	4.62	535.94	10.00	10.00	0.00	0.00
9,837.04	90.00	179.51	9,510.00	-572.94	4.94	572.96	10.00	10.00	0.00	0.00
End Build @ 9837.04' MD - Hold Angle = 90.00°										
9,900.00	90.00	179.51	9,510.00	-635.89	5.48	635.92	0.00	0.00	0.00	0.00
10,000.00	90.00	179.51	9,510.00	-735.89	6.34	735.92	0.00	0.00	0.00	0.00
10,100.00	90.00	179.51	9,510.00	-835.88	7.20	835.92	0.00	0.00	0.00	0.00
10,200.00	90.00	179.51	9,510.00	-935.88	8.07	935.92	0.00	0.00	0.00	0.00
10,300.00	90.00	179.51	9,510.00	-1,035.88	8.93	1,035.92	0.00	0.00	0.00	0.00
10,400.00	90.00	179.51	9,510.00	-1,135.87	9.79	1,135.92	0.00	0.00	0.00	0.00
10,500.00	90.00	179.51	9,510.00	-1,235.87	10.65	1,235.92	0.00	0.00	0.00	0.00
10,600.00	90.00	179.51	9,510.00	-1,335.87	11.51	1,335.92	0.00	0.00	0.00	0.00
10,700.00	90.00	179.51	9,510.00	-1,435.86	12.37	1,435.92	0.00	0.00	0.00	0.00
10,800.00	90.00	179.51	9,510.00	-1,535.86	13.24	1,535.92	0.00	0.00	0.00	0.00
10,900.00	90.00	179.51	9,510.00	-1,635.85	14.10	1,635.92	0.00	0.00	0.00	0.00
11,000.00	90.00	179.51	9,510.00	-1,735.85	14.96	1,735.92	0.00	0.00	0.00	0.00
11,100.00	90.00	179.51	9,510.00	-1,835.85	15.82	1,835.92	0.00	0.00	0.00	0.00
11,200.00	90.00	179.51	9,510.00	-1,935.84	16.68	1,935.92	0.00	0.00	0.00	0.00
11,300.00	90.00	179.51	9,510.00	-2,035.84	17.55	2,035.92	0.00	0.00	0.00	0.00
11,400.00	90.00	179.51	9,510.00	-2,135.84	18.41	2,135.92	0.00	0.00	0.00	0.00
11,500.00	90.00	179.51	9,510.00	-2,235.83	19.27	2,235.92	0.00	0.00	0.00	0.00
11,600.00	90.00	179.51	9,510.00	-2,335.83	20.13	2,335.92	0.00	0.00	0.00	0.00
11,700.00	90.00	179.51	9,510.00	-2,435.83	20.99	2,435.92	0.00	0.00	0.00	0.00
11,800.00	90.00	179.51	9,510.00	-2,535.82	21.85	2,535.92	0.00	0.00	0.00	0.00
11,900.00	90.00	179.51	9,510.00	-2,635.82	22.72	2,635.92	0.00	0.00	0.00	0.00
12,000.00	90.00	179.51	9,510.00	-2,735.81	23.58	2,735.92	0.00	0.00	0.00	0.00
12,100.00	90.00	179.51	9,510.00	-2,835.81	24.44	2,835.92	0.00	0.00	0.00	0.00
12,200.00	90.00	179.51	9,510.00	-2,935.81	25.30	2,935.92	0.00	0.00	0.00	0.00
12,300.00	90.00	179.51	9,510.00	-3,035.80	26.16	3,035.92	0.00	0.00	0.00	0.00
12,400.00	90.00	179.51	9,510.00	-3,135.80	27.03	3,135.92	0.00	0.00	0.00	0.00
12,500.00	90.00	179.51	9,510.00	-3,235.80	27.89	3,235.92	0.00	0.00	0.00	0.00

Plan Report for Green Wave 20 Fed 3H - Plan #1

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
12,600.00	90.00	179.51	9,510.00	-3,335.79	28.75	3,335.92	0.00	0.00	0.00	0.00
12,700.00	90.00	179.51	9,510.00	-3,435.79	29.61	3,435.92	0.00	0.00	0.00	0.00
12,800.00	90.00	179.51	9,510.00	-3,535.78	30.47	3,535.92	0.00	0.00	0.00	0.00
12,900.00	90.00	179.51	9,510.00	-3,635.78	31.33	3,635.92	0.00	0.00	0.00	0.00
13,000.00	90.00	179.51	9,510.00	-3,735.78	32.20	3,735.92	0.00	0.00	0.00	0.00
13,100.00	90.00	179.51	9,510.00	-3,835.77	33.06	3,835.92	0.00	0.00	0.00	0.00
13,200.00	90.00	179.51	9,510.00	-3,935.77	33.92	3,935.92	0.00	0.00	0.00	0.00
13,300.00	90.00	179.51	9,510.00	-4,035.77	34.78	4,035.92	0.00	0.00	0.00	0.00
13,400.00	90.00	179.51	9,510.00	-4,135.76	35.64	4,135.92	0.00	0.00	0.00	0.00
13,500.00	90.00	179.51	9,510.00	-4,235.76	36.50	4,235.92	0.00	0.00	0.00	0.00
13,600.00	90.00	179.51	9,510.00	-4,335.75	37.37	4,335.92	0.00	0.00	0.00	0.00
13,700.00	90.00	179.51	9,510.00	-4,435.75	38.23	4,435.92	0.00	0.00	0.00	0.00
13,800.00	90.00	179.51	9,510.00	-4,535.75	39.09	4,535.92	0.00	0.00	0.00	0.00
13,900.00	90.00	179.51	9,510.00	-4,635.74	39.95	4,635.92	0.00	0.00	0.00	0.00
14,000.00	90.00	179.51	9,510.00	-4,735.74	40.81	4,735.92	0.00	0.00	0.00	0.00
14,100.00	90.00	179.51	9,510.00	-4,835.74	41.68	4,835.92	0.00	0.00	0.00	0.00
14,195.67	90.00	179.51	9,510.00	-4,931.40	42.50	4,931.58	0.00	0.00	0.00	0.00

TD @ 14195.67' MD

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,937.04	8,937.04	0.00	0.00	KOP/Start Build @ 8937.04' MD
8,937.05	8,937.05	0.00	0.00	Build Rate = 10.00°/100'
9,837.04	9,510.00	-572.93	4.94	End Build @ 9837.04' MD
9,837.04	9,510.00	-572.94	4.94	Hold Angle = 90.00°
14,195.67	9,510.00	-4,931.40	42.50	TD @ 14195.67' MD

Vertical Section Information

	Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
TD		No Target (Freehand)	179.51	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	14,195.67	Plan #1	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
800.00	800.00	Surface	13-3/8	17-1/2
5,200.00	5,200.00	Intermediate	9-5/8	12-1/4
14,195.67	9,510.00	Production	5-1/2	8-3/4

Plan Report for Green Wave 20 Fed 3H - Plan #1

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
730.00	730.00	Rustler		0.00	179.51
1,084.00	1,084.00	Salt		0.00	179.51
5,120.00	5,120.00	Base Salt		0.00	179.51
5,320.00	5,320.00	Delaware		0.00	179.51
7,882.00	7,882.00	Brushy Canyon		0.00	179.51

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Green Wave 20 Fed 3H / BHL	9,510.00	-4,931.40	42.50	Point

North Reference Sheet for Green Wave 20 Fed - Green Wave 20 Fed 3H - Wellbore #1

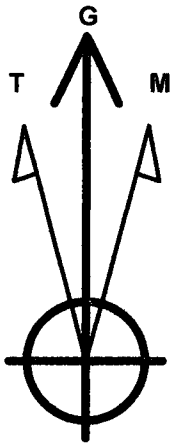
All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to GL 3340.6' + 25' KB @ 3365.60ft (Cactus 126). Northing and Easting are relative to Green Wave 20 Fed 3H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)
Central Meridian is -104.33°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°
False Easting: 541,337.50ft, False Northing: 0.00ft, Scale Reduction: 0.99998734

Grid Coordinates of Well: 377,907.00 ft N, 802,740.40 ft E
Geographical Coordinates of Well: 32° 02' 10.10" N, 103° 29' 23.09" W
Grid Convergence at Surface is: 0.45°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,195.67ft
the Bottom Hole Displacement is 4,931.58ft in the Direction of 179.51° (Grid).

Magnetic Convergence at surface is: -7.05° (27 July 2012, , BGGM2012)



Magnetic Model:	BGGM2012
Date:	27-Jul-12
Declination:	7.49°
Inclination/Dip:	59.96°
Field Strength:	48395

Grid North is 0.45° East of True North (Grid Convergence)
Magnetic North is 7.49° East of True North (Magnetic Declination)
Magnetic North is 7.05° East of Grid North (Magnetic Convergence)

To convert a True Direction to a Grid Direction, Subtract 0.45°
To convert a Magnetic Direction to a True Direction, Add 7.49° East
To convert a Magnetic Direction to a Grid Direction, Add 7.05°

Standard Survey

Company: Devon Energy Corporation
Project: Lea County
Site: Green Wave 20 Fed
Well: Green Wave 20 Fed 3H
Wellbore: Wellbore #1
Design/Survey: Plan #1
North Reference Grid

MD ft	Inc °	Azi (Grid) °	TVDSS ft	TVD ft	N/S ft	E/W ft
0.00	0.00	0.00	-3365.60	0.00	0.00	0.00
100.00	0.00	0.00	-3265.60	100.00	0.00	0.00
200.00	0.00	0.00	-3165.60	200.00	0.00	0.00
300.00	0.00	0.00	-3065.60	300.00	0.00	0.00
400.00	0.00	0.00	-2965.60	400.00	0.00	0.00
500.00	0.00	0.00	-2865.60	500.00	0.00	0.00
600.00	0.00	0.00	-2765.60	600.00	0.00	0.00
700.00	0.00	0.00	-2665.60	700.00	0.00	0.00
800.00	0.00	0.00	-2565.60	800.00	0.00	0.00
900.00	0.00	0.00	-2465.60	900.00	0.00	0.00
1000.00	0.00	0.00	-2365.60	1000.00	0.00	0.00
1100.00	0.00	0.00	-2265.60	1100.00	0.00	0.00
1200.00	0.00	0.00	-2165.60	1200.00	0.00	0.00
1300.00	0.00	0.00	-2065.60	1300.00	0.00	0.00
1400.00	0.00	0.00	-1965.60	1400.00	0.00	0.00
1500.00	0.00	0.00	-1865.60	1500.00	0.00	0.00
1600.00	0.00	0.00	-1765.60	1600.00	0.00	0.00
1700.00	0.00	0.00	-1665.60	1700.00	0.00	0.00
1800.00	0.00	0.00	-1565.60	1800.00	0.00	0.00
1900.00	0.00	0.00	-1465.60	1900.00	0.00	0.00
2000.00	0.00	0.00	-1365.60	2000.00	0.00	0.00
2100.00	0.00	0.00	-1265.60	2100.00	0.00	0.00
2200.00	0.00	0.00	-1165.60	2200.00	0.00	0.00
2300.00	0.00	0.00	-1065.60	2300.00	0.00	0.00
2400.00	0.00	0.00	-965.60	2400.00	0.00	0.00
2500.00	0.00	0.00	-865.61	2500.00	0.00	0.00
2599.99	0.00	0.00	-765.61	2599.99	0.00	0.00
2699.99	0.00	0.00	-665.61	2699.99	0.00	0.00
2799.99	0.00	0.00	-565.61	2799.99	0.00	0.00
2899.99	0.00	0.00	-465.61	2899.99	0.00	0.00
2999.99	0.00	0.00	-365.61	2999.99	0.00	0.00
3099.99	0.00	0.00	-265.61	3099.99	0.00	0.00
3199.99	0.00	0.00	-165.61	3199.99	0.00	0.00
3299.99	0.00	0.00	-65.61	3299.99	0.00	0.00
3399.99	0.00	0.00	34.39	3399.99	0.00	0.00
3499.99	0.00	0.00	134.39	3499.99	0.00	0.00
3599.99	0.00	0.00	234.39	3599.99	0.00	0.00

3699.99	0.00	0.00	334.39	3699.99	0.00	0.00
3799.99	0.00	0.00	434.39	3799.99	0.00	0.00
3899.99	0.00	0.00	534.39	3899.99	0.00	0.00
3999.99	0.00	0.00	634.39	3999.99	0.00	0.00
4099.99	0.00	0.00	734.39	4099.99	0.00	0.00
4199.99	0.00	0.00	834.39	4199.99	0.00	0.00
4299.99	0.00	0.00	934.39	4299.99	0.00	0.00
4399.99	0.00	0.00	1034.39	4399.99	0.00	0.00
4499.99	0.00	0.00	1134.39	4499.99	0.00	0.00
4599.99	0.00	0.00	1234.39	4599.99	0.00	0.00
4699.99	0.00	0.00	1334.39	4699.99	0.00	0.00
4799.99	0.00	0.00	1434.39	4799.99	0.00	0.00
4899.99	0.00	0.00	1534.39	4899.99	0.00	0.00
4999.99	0.00	0.00	1634.39	4999.99	0.00	0.00
5099.99	0.00	0.00	1734.39	5099.99	0.00	0.00
5199.99	0.00	0.00	1834.39	5199.99	0.00	0.00
5299.99	0.00	0.00	1934.39	5299.99	0.00	0.00
5399.99	0.00	0.00	2034.39	5399.99	0.00	0.00
5499.99	0.00	0.00	2134.39	5499.99	0.00	0.00
5599.99	0.00	0.00	2234.39	5599.99	0.00	0.00
5699.99	0.00	0.00	2334.39	5699.99	0.00	0.00
5799.99	0.00	0.00	2434.39	5799.99	0.00	0.00
5899.99	0.00	0.00	2534.39	5899.99	0.00	0.00
5999.99	0.00	0.00	2634.39	5999.99	0.00	0.00
6099.99	0.00	0.00	2734.39	6099.99	0.00	0.00
6199.99	0.00	0.00	2834.39	6199.99	0.00	0.00
6299.99	0.00	0.00	2934.39	6299.99	0.00	0.00
6399.99	0.00	0.00	3034.39	6399.99	0.00	0.00
6499.99	0.00	0.00	3134.39	6499.99	0.00	0.00
6599.99	0.00	0.00	3234.39	6599.99	0.00	0.00
6699.99	0.00	0.00	3334.39	6699.99	0.00	0.00
6799.99	0.00	0.00	3434.39	6799.99	0.00	0.00
6899.99	0.00	0.00	3534.39	6899.99	0.00	0.00
6999.99	0.00	0.00	3634.39	6999.99	0.00	0.00
7099.99	0.00	0.00	3734.39	7099.99	0.00	0.00
7199.99	0.00	0.00	3834.39	7199.99	0.00	0.00
7299.99	0.00	0.00	3934.39	7299.99	0.00	0.00
7399.99	0.00	0.00	4034.39	7399.99	0.00	0.00
7499.99	0.00	0.00	4134.38	7499.99	0.00	0.00
7599.98	0.00	0.00	4234.38	7599.98	0.00	0.00
7699.98	0.00	0.00	4334.38	7699.98	0.00	0.00
7799.98	0.00	0.00	4434.38	7799.98	0.00	0.00
7899.98	0.00	0.00	4534.38	7899.98	0.00	0.00
7999.98	0.00	0.00	4634.38	7999.98	0.00	0.00
8099.98	0.00	0.00	4734.38	8099.98	0.00	0.00
8199.98	0.00	0.00	4834.38	8199.98	0.00	0.00
8299.98	0.00	0.00	4934.38	8299.98	0.00	0.00
8399.98	0.00	0.00	5034.38	8399.98	0.00	0.00
8499.98	0.00	0.00	5134.38	8499.98	0.00	0.00
8599.98	0.00	0.00	5234.38	8599.98	0.00	0.00
8699.98	0.00	0.00	5334.38	8699.98	0.00	0.00
8799.98	0.00	0.00	5434.38	8799.98	0.00	0.00

8899.98	0.00	0.00	5534.38	8899.98	0.00	0.00
8937.04	0.00	0.00	5571.44	8937.04	0.00	0.00
8999.98	6.29	179.51	5634.26	8999.86	-3.45	0.03
9099.98	16.29	179.51	5732.19	9097.79	-23.01	0.20
9199.98	26.29	179.51	5825.25	9190.85	-59.28	0.51
9299.98	36.29	179.51	5910.59	9276.19	-111.15	0.96
9399.98	46.29	179.51	5985.63	9351.23	-177.06	1.53
9499.98	56.29	179.51	6048.08	9413.68	-254.99	2.20
9599.98	66.29	179.51	6096.05	9461.65	-342.59	2.95
9699.98	76.29	179.51	6128.08	9493.68	-437.18	3.77
9799.98	86.29	179.51	6143.20	9508.80	-535.90	4.62
9837.04	90.00	179.51	6144.40	9510.00	-572.94	4.94
9899.98	90.00	179.51	6144.40	9510.00	-635.87	5.48
9999.98	90.00	179.51	6144.40	9510.00	-735.87	6.34
10099.98	90.00	179.51	6144.40	9510.00	-835.86	7.20
10199.98	90.00	179.51	6144.40	9510.00	-935.86	8.07
10299.98	90.00	179.51	6144.40	9510.00	-1035.86	8.93
10399.98	90.00	179.51	6144.40	9510.00	-1135.85	9.79
10499.98	90.00	179.51	6144.40	9510.00	-1235.85	10.65
10599.98	90.00	179.51	6144.40	9510.00	-1335.84	11.51
10699.98	90.00	179.51	6144.40	9510.00	-1435.84	12.37
10799.98	90.00	179.51	6144.40	9510.00	-1535.84	13.24
10899.98	90.00	179.51	6144.40	9510.00	-1635.83	14.10
10999.98	90.00	179.51	6144.40	9510.00	-1735.83	14.96
11099.98	90.00	179.51	6144.40	9510.00	-1835.83	15.82
11199.98	90.00	179.51	6144.40	9510.00	-1935.82	16.68
11299.98	90.00	179.51	6144.40	9510.00	-2035.82	17.55
11399.98	90.00	179.51	6144.40	9510.00	-2135.81	18.41
11499.98	90.00	179.51	6144.40	9510.00	-2235.81	19.27
11599.98	90.00	179.51	6144.40	9510.00	-2335.81	20.13
11699.98	90.00	179.51	6144.40	9510.00	-2435.80	20.99
11799.98	90.00	179.51	6144.40	9510.00	-2535.80	21.85
11899.98	90.00	179.51	6144.40	9510.00	-2635.79	22.72
11999.98	90.00	179.51	6144.40	9510.00	-2735.79	23.58
12099.98	90.00	179.51	6144.40	9510.00	-2835.79	24.44
12199.98	90.00	179.51	6144.40	9510.00	-2935.78	25.30
12299.98	90.00	179.51	6144.40	9510.00	-3035.78	26.16
12399.98	90.00	179.51	6144.40	9510.00	-3135.77	27.02
12499.98	90.00	179.51	6144.40	9510.00	-3235.77	27.89
12599.97	90.00	179.51	6144.40	9510.00	-3335.77	28.75
12699.97	90.00	179.51	6144.40	9510.00	-3435.76	29.61
12799.97	90.00	179.51	6144.40	9510.00	-3535.76	30.47
12899.97	90.00	179.51	6144.40	9510.00	-3635.75	31.33
12999.97	90.00	179.51	6144.40	9510.00	-3735.75	32.20
13099.97	90.00	179.51	6144.40	9510.00	-3835.75	33.06
13199.97	90.00	179.51	6144.40	9510.00	-3935.74	33.92
13299.97	90.00	179.51	6144.40	9510.00	-4035.74	34.78
13399.97	90.00	179.51	6144.40	9510.00	-4135.74	35.64
13499.97	90.00	179.51	6144.40	9510.00	-4235.73	36.50
13599.97	90.00	179.51	6144.40	9510.00	-4335.73	37.37
13699.97	90.00	179.51	6144.40	9510.00	-4435.72	38.23
13799.97	90.00	179.51	6144.40	9510.00	-4535.72	39.09

13899.97	90.00	179.51	6144.40	9510.00	-4635.72	39.95
13999.97	90.00	179.51	6144.40	9510.00	-4735.71	40.81
14099.97	90.00	179.51	6144.40	9510.00	-4835.71	41.68
14195.67	90.00	179.51	6144.40	9510.00	-4931.40	42.50

Northings ft	Eastings ft	DLS °/100ft	V.Sec ft
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
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377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
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377907.00	802740.40	0.00	0.00
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377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
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377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
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377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
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377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
377907.00	802740.40	0.00	0.00
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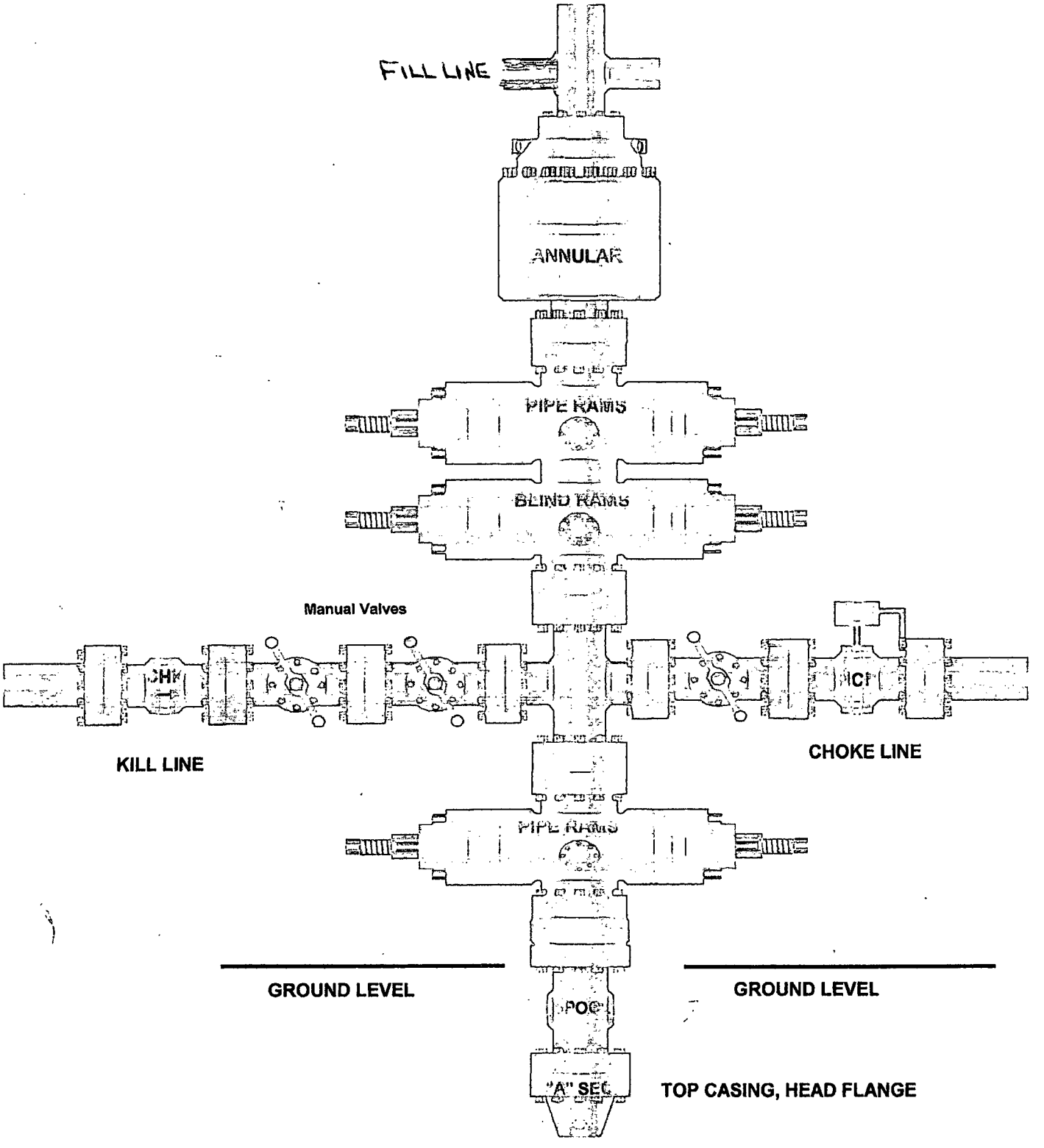
13-5/8" x 3,000 psi BOP Stack



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Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Green Wave 20 Fed 3H
Surface Location: 25' FNL & 1980' FEL, Unit B, Sec 20 T26S R34E, Lea, NM
Bottom Hole Location: 330' FSL & 1980' FEL, Unit O, Sec 26 T18S 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 3000 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.

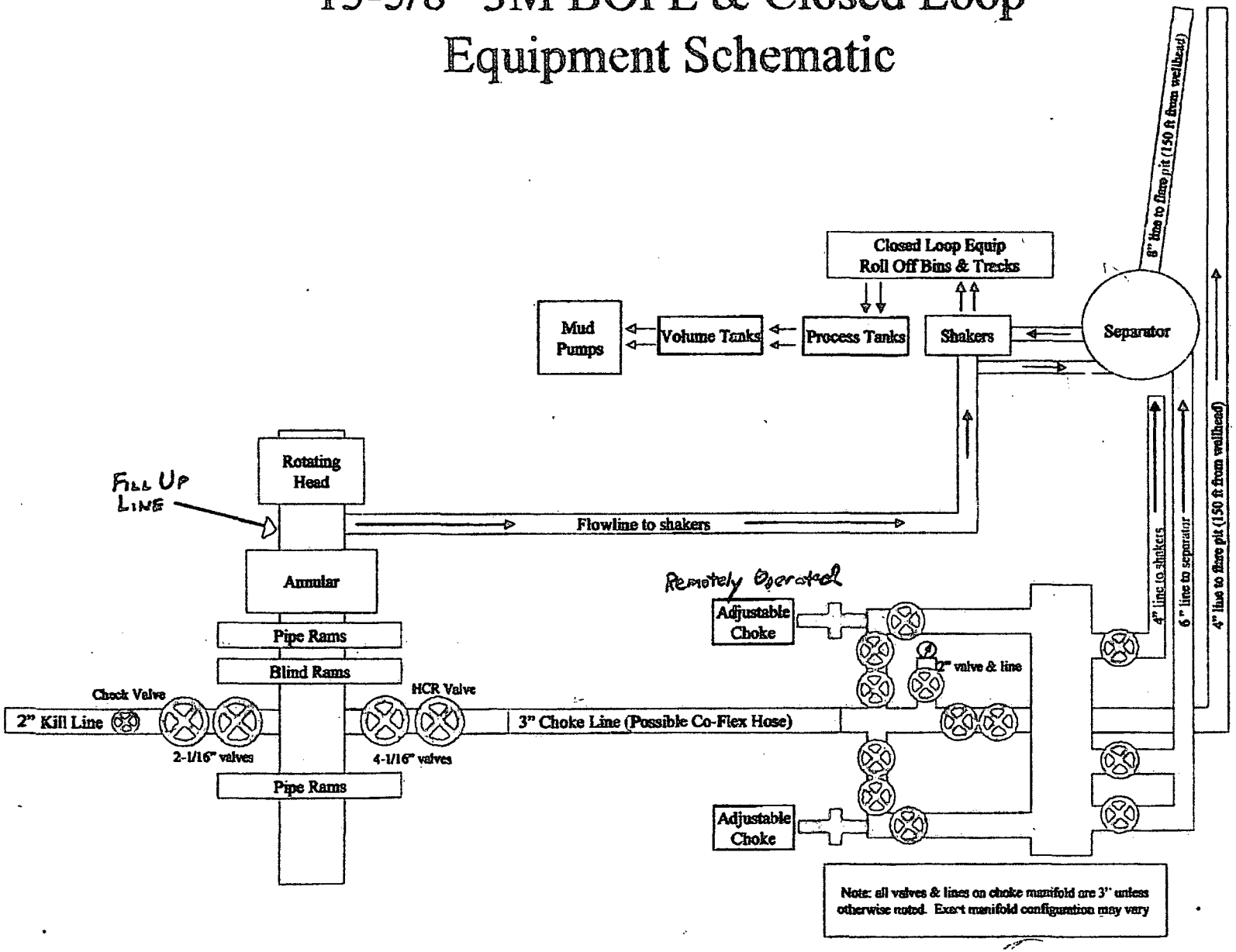
8. Will maintain a kelly cock attached to the kelly.

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.

13-5/8" 3M BOPE & Closed Loop Equipment Schematic



Hydrostatic Test Certificate

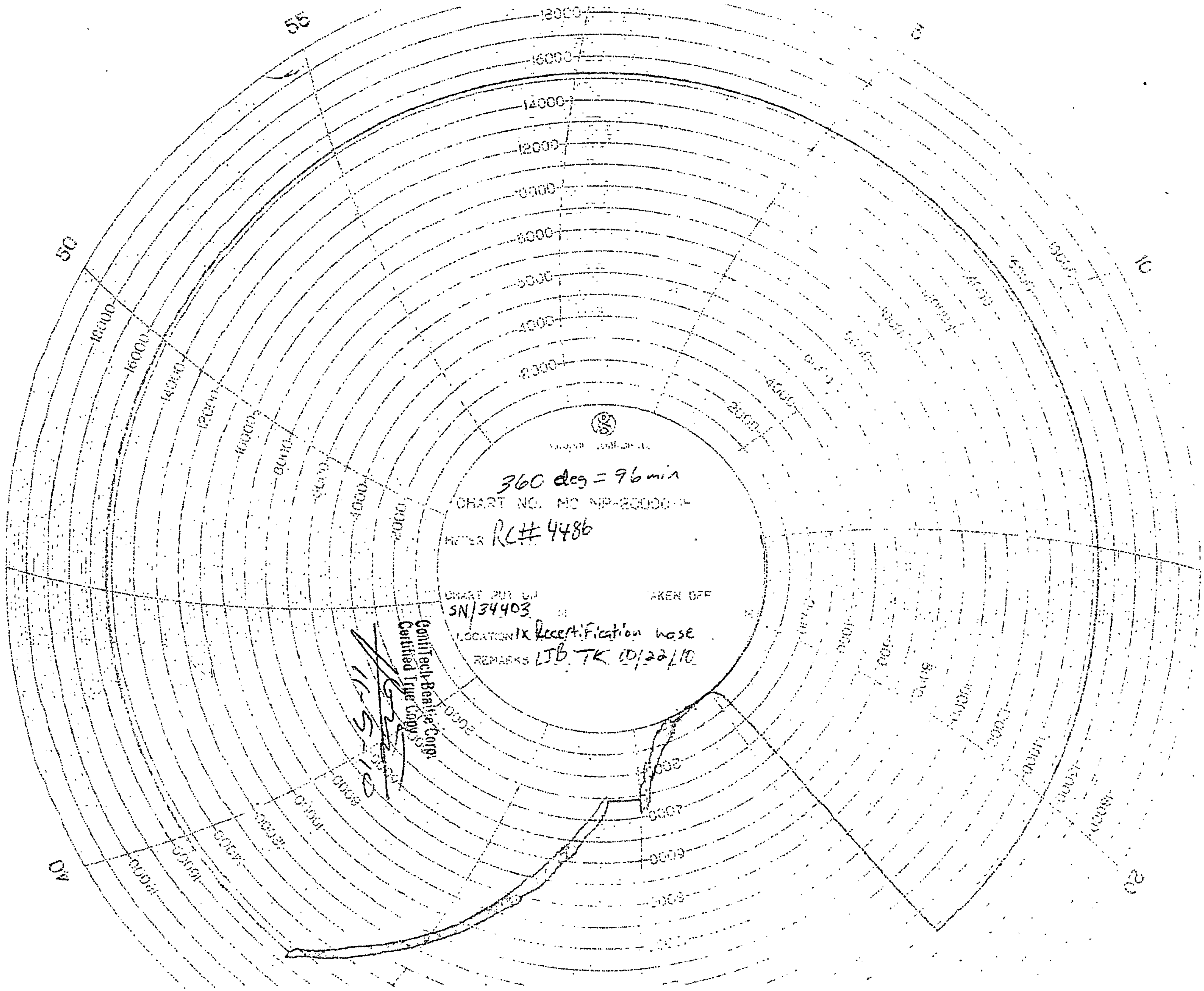
Certificate Number: 4520	**PBC No:** 10321	**Customer Name & Address**
Customer Purchase Order No:	RIG 300	HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119
Project:		

Test Centre Address	Accepted by ContiTech Beattie Inspection		Accepted by Client Inspection
ContiTech Beattie Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed:	Josh Sims	
	Date:	10/27/10	

We certify that the goods detailed hereon have been inspected by our Quality Management System, and to the best of our knowledge are found to conform to relevant industrial standards within the requirements of the purchase order as issued to ContiTech Beattie Corporation.

These goods were made in the United States of America.

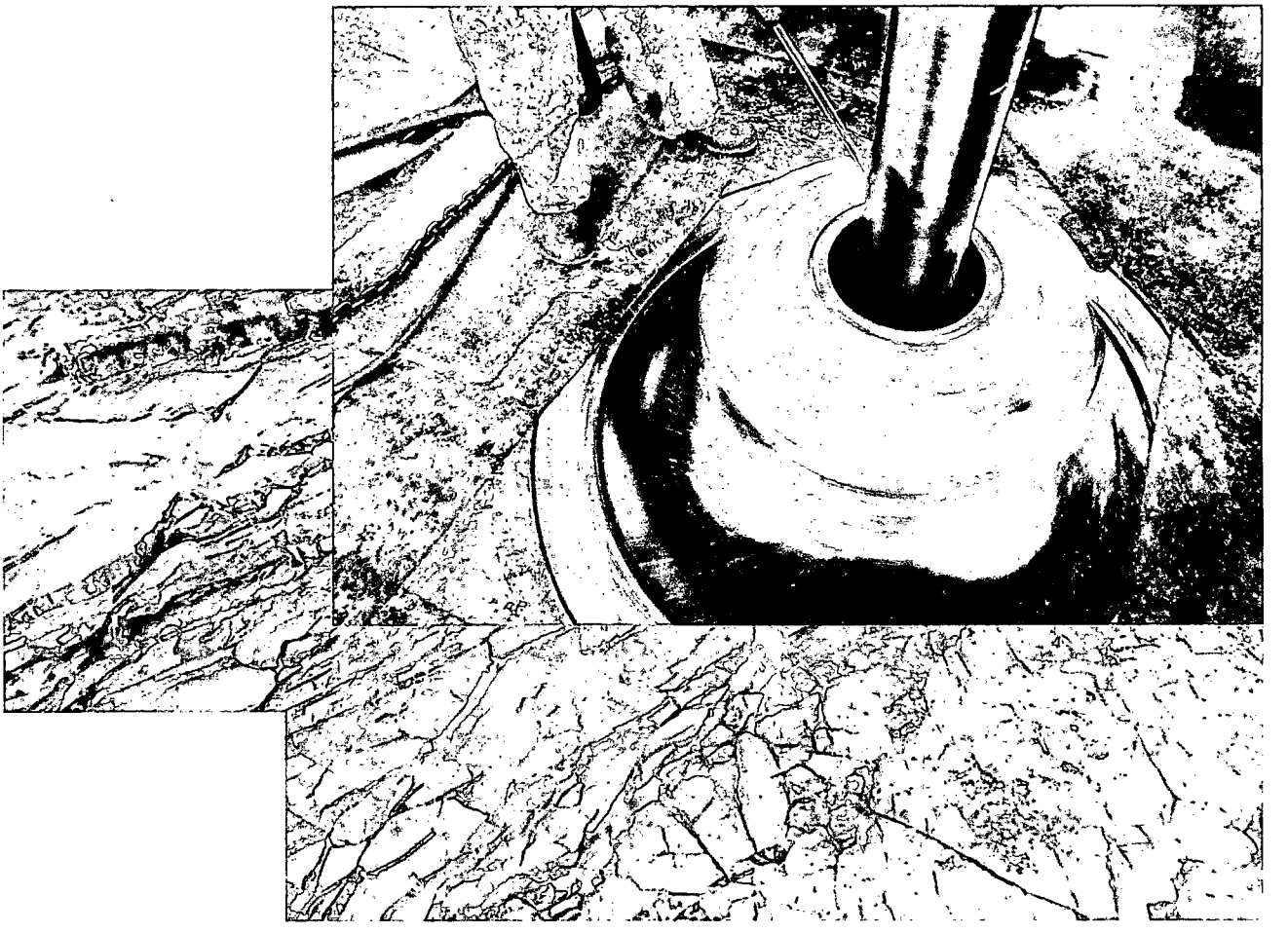
Item	Part No.	Description	Qnty	Serial Number	As-Built Length (m)	Work. Press.	Test Press.	Test Time (minutes)
1		3" ID 10K Choke & Kill Hose x 35ft OAL End A: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange End B: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange Working Pressure: 10,000psi Test Pressure: 15,000psi Serial#: 49106	1	49106		10 kpsi	15 kpsi	60



360 deg = 96 min
CHART NO. MC MP-20000-IP
METER RC# 4486
CHART PUT ON
TAKEN OFF
SN/34403
LOCATION IX Recertification hose
REMARKS LJB TK 10/22/10
ContiTech Beattie Corp.
Certified True Copy
11-5-10
45
50
55
5
10
15
20
40
2000
4000
6000
8000
10000
12000
14000
16000
18000

devon

Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2012

I. Design Plan

Devon uses various high efficient closed loop systems (CLS). The CLS shown is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

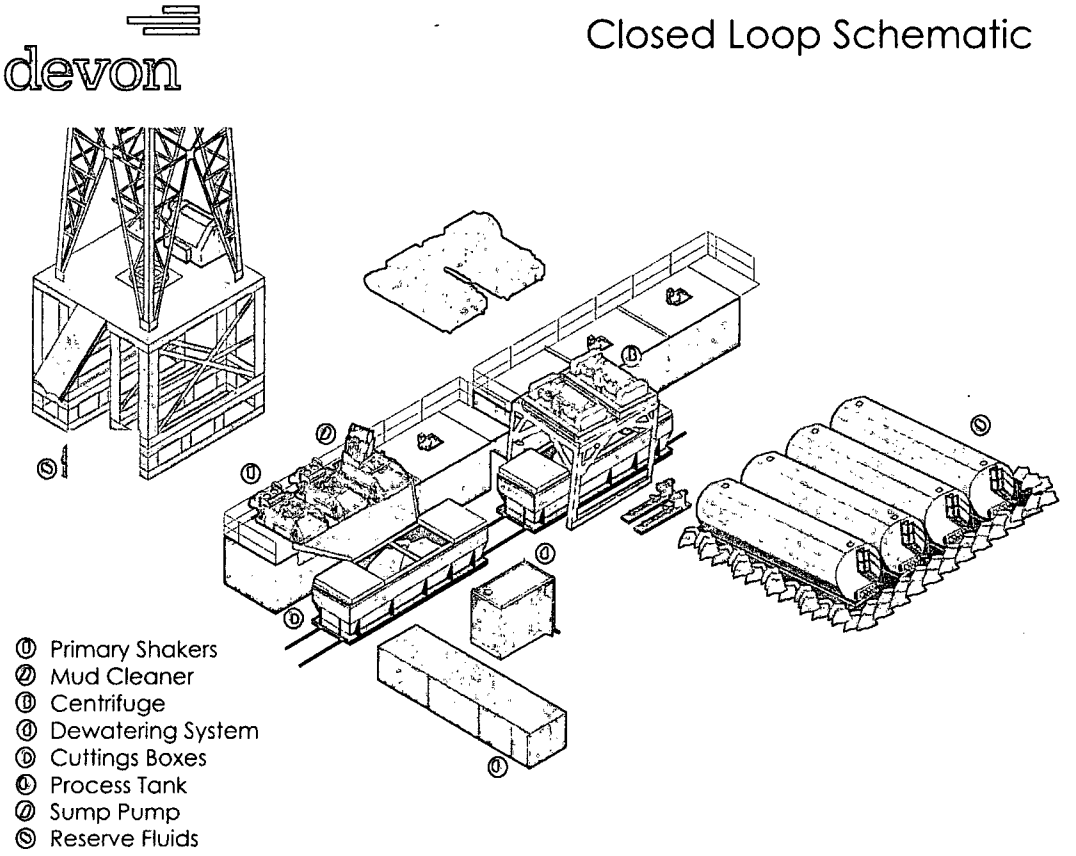
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Centrifuges: The centrifuges can be utilized depending on the well's anticipated solids volume. One or two centrifuges can be used depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds

ultra fine solids into a mass that is within the centrifuge operating design. The dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Solids Control service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

III. Closure Plan

A maximum 170' X 170' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.