

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

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

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE – Other instructions on page 2.

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
Devon Energy Production Co., LP

3a. Address
20 North Broadway
OKC, OK 73102

3b. Phone No. (include area code)
(405)-552-7802

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
NENE 990' FNL & 660' FEL
Sec 17-T24S-R27E Lot A

5. Lease Serial No.
NMNM-112268

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
Habanero 17 Federal 1

9. API Well No.
30-015-36108

10. Field and Pool or Exploratory Area
Black River; Wolfcamp

11. Country or Parish, State
Eddy County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Name change & Change from vertical to horizontal location
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recomple in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Devon Energy Production Company, L.P. respectfully requests permission to change the name from the Habanero 17 Federal 1 to the Habanero 17 Federal 1H. Proration unit revised from an E/2 to a N/2.

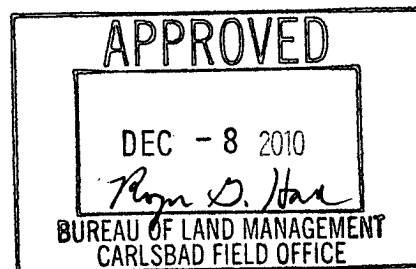
Devon Energy Production Company, L.P. also respectfully requests permission to change from a vertical to a horizontal location. See the attached:

- * Revised C-102 with new bottom hole location of 990' FNL & 660' FWL
- * Drilling Program
- * Directional Survey
- * Cementing Report
- * BOP Diagram
- * Choke Manifold Diagram

Rig Layout changed from a McVay rig to an H&P rig (see attached).

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

RECEIVED
DEC 10 2010
NMOCD ARTESIA



14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)
Stephanie A. Ysasaga

Title Sr. Staff Engineering Technician

Signature

Date 11/17/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

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)

**PECOS DISTRICT
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Devon Energy Production Company, LP
LEASE NO.:	NMNM112268
WELL NAME & NO.:	Serrano 29 Federal #1
SURFACE HOLE FOOTAGE:	990' FNL & 660' FEL
BOTTOM HOLE FOOTAGE:	990' FNL & 660' FWL
LOCATION:	Section 17, T. 24 S., R 27 E., NMPM
COUNTY:	Eddy County, New Mexico

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a possible hazard. It has been reported in the Township to the north. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface (horizontal well – vertical portion of hole) will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium cave/karst

Possible lost circulation in the Delaware Formation.

Possible high pressure gas in the Wolfcamp formation.

- 1. The 20 inch surface casing shall be set at approximately 250 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.**
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.**
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.**

2. The minimum required fill of cement behind the 13-3/8 inch intermediate casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the next hole segment. Report results to BLM office.

9-5/8" casing to be kept liquid filled while running in hole to maintain 1.125 safety factor for collapse..

3. The minimum required fill of cement behind the 9-5/8 inch second intermediate casing is:

a. First stage to DV tool, cement shall:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool, cement shall:

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

4. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- ☒ Cement should tie-back at least 1300 feet into previous casing string.
Operator shall provide method of verification..

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. **Variance approved to use flex line with serial number 45523 from BOP to choke manifold. Check condition of 3" ID flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to manufacturer's requirements. Anchor requirements are to be onsite for review.**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi**.
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8 inch** intermediate casing shoe shall be **5000 (5M) psi**. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) prior to initiating the test.
 - c. The results of the test shall be reported to the appropriate BLM office.

- d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
- f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

RGH 120810

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 and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-36108	Pool Code	Pool Name BLACK RIVER; WOLFCAMP
Property Code	Property Name HABANERO "17" FEDERAL	Well Number 1H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY LP	Elevation 3196'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	17	24 S	27 E		990	NORTH	660	EAST	EDDY

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	17	24 S	27 E		990	NORTH	660	WEST	EDDY
Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.						

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

N: 445425.29 E: 576065.35 990' 660' B.H. PROPOSED BOTTOM HOLE LOCATION Lat - N32°13'18.40" Long - W104°13'08.08" SPC- N.: 444435.757 E.: 576721.264 (NAD-83)	N: 445427.16 E: 581312.16 990' 990' 3189.0' 3194.9' 919' 660' 3197.6' 3198.6' PROPOSED WOLFCAMP HOT SHALE E.P. Lat - N32°13'18.37" Long - W104°12'25.38" SPC- N.: 444436.728 E.: 580388.973 (NAD-83) SURFACE LOCATION Lat - N32°13'18.37" Long - W104°12'22.37" SPC- N.: 444436.837 E.: 580647.910 (NAD-83)	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 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 _____ STEPHANIE A. YSASAGA Printed Name 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. DECEMBER 11, 2007 Date Surveyed Signature _____ Professional Surveyor W. C. Jones 893 Certificate No. Gary L. Jones 7977 BASIN SURVEYS
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HABANERO 17 FEDERAL 1H SEC 17-24S-27E APD DATA

Casing Program						
<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Wt</u>	<u>Collar</u>	<u>Grade</u>
26"	0' – 250'	20"	0' – 250'	94#	BTC	H-40
17 1/2"	250' – 3100'	13 3/8"	0' – 3100'	68#	BTC	HCL-80
12 1/4"	3100' – 9,800'	9 5/8"	0' – 9,800'	40#	BTC	P-110EC
8 3/4"	9800' – 14,200' PH	5 1/2"	0' – 14,200'	23#	Vam Top	ECP-110

Design Parameter Factors:

<u>Casing Size Factor</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
20"	4.2	12.4	24.1
13 3/8"	1.7	3.1	7.3
9 5/8"	1.7	1.9	2.2
5 1/2"	2.6	2.7	1.9

The Collapse SF for the 9 5/8 is derived using a 9 lb fluid gradient behind the casing and a minimum of a 9 lb fluid gradient in the casing. This casing will not be evacuated.

Mud Program

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' – 250'	8.4 – 8.8	32 – 34	N/C	FW/Gel
250' – 3,100'	9.7 – 10.0	28 – 30	N/C	Brine
3,100' – 9,800'	9.0 – 9.3	28-30	NC -40	Fresh
9,800' – 14,200'	10.5 – 12.5	32 – 40		Oil Base

BOP DESIGN: A 2M Annular BOP will be installed on the 20" surface casing and utilized continuously until the first intermediate depth of ~3100' is drilled. A 5M psi triple ram type and 5M psi annular type and a rotating head will be installed on the 13 3/8" casing. NOTE: **This BOP system will be utilized and tested as a 5M psi BOP stack.** All units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and 5" drill pipe rams on bottom. All BOP's will be tested with independent testers before drilling out the associated casing shoes. Prior to drilling out the 13 3/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 5000 psi WP rating.

A flexible line with flanged ends may be used between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

CEMENTING PROGRAM

20" Surface	630 sacks Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water Yield: 1.35 cf/sack.
13 3/8" Intermediate	Lead: 2120 sacks (35:65) 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: 2.04 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% Fresh Water Yield: 1.37 cf/sack.
9 5/8" Intermediate	1st Stage Lead: 1055 sacks 35/65 Poz + 0.35% bwoc R-3 + 0.4% bwoc CD-32 + 1.4% bwoc FL-62 + 0.1% bwoc ASA-301 + 0.2% bwoc Sodium Metasilicate + 20 lbs/sack ASCA-1 + 52.9% Fresh Water Yield: 1.95 cf/sack. Tail: 935 sacks Super C + 0.1% bwoc ASA-301 + 0.2% bwoc Sodium Metasilicate + 20 lbs/sack ASCA-1 + 52. Yield: 1.56 Stage Collar/DV Tool set at 4200' 2nd Stage Lead: 285 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 1% bwow Sodium Chloride + 0.4% bwoc R-3 + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 0.4% bwoc FL-52A + 103.1% Fresh Water Yield: 2.04 cf/sack. Tail: 200 sacks (60:40) Poz (Fly Ash):Premium Plus C Cement + 1% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.75% bwoc BA-10A + 4% bwoc MPA-5 + 63.1% Fresh Water Yield: 1.38 cf/sk
5 1/2" Production	Lead: 215 sacks (35:65) Poz (Fly Ash):Class H Cement + 1% bwow Flake + 6% bwoc Bentonite + 0.4% bwoc FL-52A + 103.2% FW. Yield: 1.99 cuft/sk Tail: 1270 sacks (50:50) Potash Class C Cement:CSE-2 + 1% 0.4% bwoc CD-32 + 2 lbs/sack LCM-1 + 0.6% bwoc FL-25 + 0.6% bwoc FL-52A + 73.3% Fresh Water. Yield: 1.56 cf/sk. TOC for All Strings Surface: 0' 1st Intermediate: 0' 2nd Intermediate: 2600' Production: 8500'



Devon Energy

Eddy County

Sec 17 - T24S - R27E

Habanero 17 Fed #1H

Wellbore #1

Plan: Plan #1

Standard Planning Report

16 November, 2010



Great White Directional Services
Planning Report

Database: EDM 5000.1 Single User Db
Company: Devon Energy
Project: Eddy County
Site: Sec 17 - T24S - R27E
Well: Habanero 17 Fed #1H
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well Habanero 17 Fed #1H
TVD Reference: WELL @ 0.0usft (Original Well Elev)
MD Reference: WELL @ 0.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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

Site	Sec 17 - T24S - R27E				
Site Position:		Northing:	444,436.84 usft	Latitude:	32° 13' 18.370 N
From:	Map	Easting:	580,647.91 usft	Longitude:	104° 12' 22.370 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.07 °

Well	Habanero 17 Fed #1H					
Well Position	+N/-S	0.0 usft	Northing:	444,436.84 usft	Latitude:	32° 13' 18.370 N
	+E/-W	0.0 usft	Easting:	580,647.91 usft	Longitude:	104° 12' 22.370 W
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level:	0.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/16/10	7.93	60.11	48,662

Design	Plan #1			
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	270.00

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	
9,927.0	0.00	0.00	9,927.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,827.1	90.00	270.00	10,500.0	0.0	-573.0	10.00	10.00	0.00	270.00	
14,180.7	90.00	270.00	10,500.0	0.0	-3,926.6	0.00	0.00	0.00	0.00	Habanero #1H PBHL



Great White Directional Services

Planning Report

Database: EDM 5000.1 Single User Db
Company: Devon Energy
Project: Eddy County
Site: Sec 17 - T24S - R27E
Well: Habanero 17 Fed #1H
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well Habanero 17 Fed #1H
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)
9,927.0	0.00	0.00	9,927.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP 10°/100 DLS @ 270° AZI									
9,950.0	2.30	270.00	9,950.0	0.0	-0.5	0.5	10.00	10.00	0.00
10,000.0	7.30	270.00	9,999.8	0.0	-4.6	4.6	10.00	10.00	0.00
10,050.0	12.30	270.00	10,049.1	0.0	-13.2	13.2	10.00	10.00	0.00
10,100.0	17.30	270.00	10,097.4	0.0	-25.9	25.9	10.00	10.00	0.00
10,150.0	22.30	270.00	10,144.4	0.0	-42.8	42.8	10.00	10.00	0.00
10,200.0	27.30	270.00	10,189.8	0.0	-63.8	63.8	10.00	10.00	0.00
10,250.0	32.30	270.00	10,233.2	0.0	-88.7	88.7	10.00	10.00	0.00
10,300.0	37.30	270.00	10,274.2	0.0	-117.2	117.2	10.00	10.00	0.00
10,350.0	42.30	270.00	10,312.6	0.0	-149.2	149.2	10.00	10.00	0.00
10,400.0	47.30	270.00	10,348.1	0.0	-184.4	184.4	10.00	10.00	0.00
10,450.0	52.30	270.00	10,380.3	0.0	-222.6	222.6	10.00	10.00	0.00
10,492.4	56.53	270.00	10,405.0	0.0	-257.0	257.0	10.00	10.00	0.00
Wolfcamp Shale									
10,494.0	56.69	270.00	10,405.9	0.0	-258.4	258.4	10.00	10.00	0.00
Habanero #1H PP									
10,500.0	57.30	270.00	10,409.2	0.0	-263.4	263.4	10.00	10.00	0.00
10,550.0	62.30	270.00	10,434.3	0.0	-306.6	306.6	10.00	10.00	0.00
10,600.0	67.30	270.00	10,455.6	0.0	-351.8	351.8	10.00	10.00	0.00
10,650.0	72.29	270.00	10,472.9	0.0	-398.7	398.7	10.00	10.00	0.00
10,700.0	77.29	270.00	10,486.0	0.0	-447.0	447.0	10.00	10.00	0.00
10,750.0	82.29	270.00	10,494.8	0.0	-496.2	496.2	10.00	10.00	0.00
10,800.0	87.29	270.00	10,499.4	0.0	-545.9	545.9	10.00	10.00	0.00
10,827.1	90.00	270.00	10,500.0	0.0	-573.0	573.0	10.00	10.00	0.00
EOC - Hold to TD - Horizontal LP									
10,900.0	90.00	270.00	10,500.0	0.0	-645.9	645.9	0.00	0.00	0.00
11,000.0	90.00	270.00	10,500.0	0.0	-745.9	745.9	0.00	0.00	0.00
11,100.0	90.00	270.00	10,500.0	0.0	-845.9	845.9	0.00	0.00	0.00
11,200.0	90.00	270.00	10,500.0	0.0	-945.9	945.9	0.00	0.00	0.00
11,300.0	90.00	270.00	10,500.0	0.0	-1,045.9	1,045.9	0.00	0.00	0.00
11,400.0	90.00	270.00	10,500.0	0.0	-1,145.9	1,145.9	0.00	0.00	0.00
11,500.0	90.00	270.00	10,500.0	0.0	-1,245.9	1,245.9	0.00	0.00	0.00
11,600.0	90.00	270.00	10,500.0	0.0	-1,345.9	1,345.9	0.00	0.00	0.00
11,700.0	90.00	270.00	10,500.0	0.0	-1,445.9	1,445.9	0.00	0.00	0.00
11,800.0	90.00	270.00	10,500.0	0.0	-1,545.9	1,545.9	0.00	0.00	0.00
11,900.0	90.00	270.00	10,500.0	0.0	-1,645.9	1,645.9	0.00	0.00	0.00
12,000.0	90.00	270.00	10,500.0	0.0	-1,745.9	1,745.9	0.00	0.00	0.00
12,100.0	90.00	270.00	10,500.0	0.0	-1,845.9	1,845.9	0.00	0.00	0.00
12,200.0	90.00	270.00	10,500.0	0.0	-1,945.9	1,945.9	0.00	0.00	0.00
12,300.0	90.00	270.00	10,500.0	0.0	-2,045.9	2,045.9	0.00	0.00	0.00
12,400.0	90.00	270.00	10,500.0	0.0	-2,145.9	2,145.9	0.00	0.00	0.00
12,500.0	90.00	270.00	10,500.0	0.0	-2,245.9	2,245.9	0.00	0.00	0.00
12,600.0	90.00	270.00	10,500.0	0.0	-2,345.9	2,345.9	0.00	0.00	0.00
12,700.0	90.00	270.00	10,500.0	0.0	-2,445.9	2,445.9	0.00	0.00	0.00
12,800.0	90.00	270.00	10,500.0	0.0	-2,545.9	2,545.9	0.00	0.00	0.00
12,900.0	90.00	270.00	10,500.0	0.0	-2,645.9	2,645.9	0.00	0.00	0.00
13,000.0	90.00	270.00	10,500.0	0.0	-2,745.9	2,745.9	0.00	0.00	0.00
13,100.0	90.00	270.00	10,500.0	0.0	-2,845.9	2,845.9	0.00	0.00	0.00
13,200.0	90.00	270.00	10,500.0	0.0	-2,945.9	2,945.9	0.00	0.00	0.00
13,300.0	90.00	270.00	10,500.0	0.0	-3,045.9	3,045.9	0.00	0.00	0.00
13,400.0	90.00	270.00	10,500.0	0.0	-3,145.9	3,145.9	0.00	0.00	0.00
13,500.0	90.00	270.00	10,500.0	0.0	-3,245.9	3,245.9	0.00	0.00	0.00



Great White Directional Services

Planning Report

Database: EDM 5000.1 Single User Db
Company: Devon Energy
Project: Eddy County
Site: Sec 17 - T24S - R27E
Well: Habanero 17 Fed #1H
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well Habanero 17 Fed #1H
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)
13,600.0	90.00	270.00	10,500.0	0.0	-3,345.9	3,345.9	0.00	0.00	0.00
13,700.0	90.00	270.00	10,500.0	0.0	-3,445.9	3,445.9	0.00	0.00	0.00
13,800.0	90.00	270.00	10,500.0	0.0	-3,545.9	3,545.9	0.00	0.00	0.00
13,900.0	90.00	270.00	10,500.0	0.0	-3,645.9	3,645.9	0.00	0.00	0.00
14,000.0	90.00	270.00	10,500.0	0.0	-3,745.9	3,745.9	0.00	0.00	0.00
14,100.0	90.00	270.00	10,500.0	0.0	-3,845.9	3,845.9	0.00	0.00	0.00
14,180.7	90.00	270.00	10,500.0	0.0	-3,926.6	3,926.6	0.00	0.00	0.00

TD at 14180.7 - Habanero #1H PBHL

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Habanero #1H PP - plan misses target center by 1.1usft at 10494.0usft MD (10405.9 TVD, 0.0 N, -258.4 E) - Point	0.00	0.00	10,405.0	-0.1	-258.9	444,436.73	580,388.98	32° 13' 18.372 N	104° 12' 25.384 W
Habanero #1H PBHL - plan misses target center by 1.1usft at 14180.7usft MD (10500.0 TVD, 0.0 N, -3926.6 E) - Point	0.00	0.00	10,500.0	-1.1	-3,926.6	444,435.76	576,721.27	32° 13' 18.403 N	104° 13' 8.081 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
9,624.0	9,624.0	Wolfcamp		0.00	
10,492.4	10,405.0	Wolfcamp Shale		0.00	
10,827.1	10,500.0	Horizontal LP		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,927.0	9,927.0	0.0	0.0	KOP 10°/100 DLS @ 270° AZI
10,827.1	10,500.0	0.0	-573.0	EOC - Hold to TD
14,180.7	10,500.0	0.0	-3,926.6	TD at 14180.7



Project: Eddy County
Site: Sec 17 - T24S - R27E
Well: Habanero 17 Fed #1H
Wellbore: Wellbore #1
Design: Plan #1

WELL DETAILS: Habanero 17 Fed #1H

+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 444436.84 580647.91 32° 13' 18.370 N 104° 12' 22.370 W
SHL: 990' FNL / 660' FEL
BHL: 990' FNL / 660' FWL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Habanero #1H PP	0.0	0.0	0.0	444436.84	580647.91	32° 13' 18.370 N	104° 12' 22.370 W
Habanero #1H PBHL	10500.0	-1.1	-3926.6	444436.76	576721.26	32° 13' 18.403 N	104° 13' 8.081 W

- plan misses target center by 1.1 usft at 14180.7 usft MD (10500.0 TVD, 0.0 N, -3926.6 E)

PLAN DETAILS

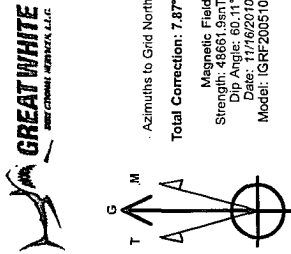
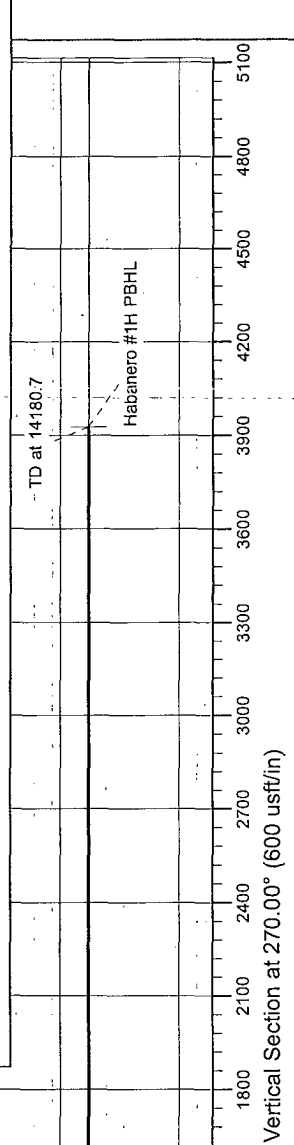
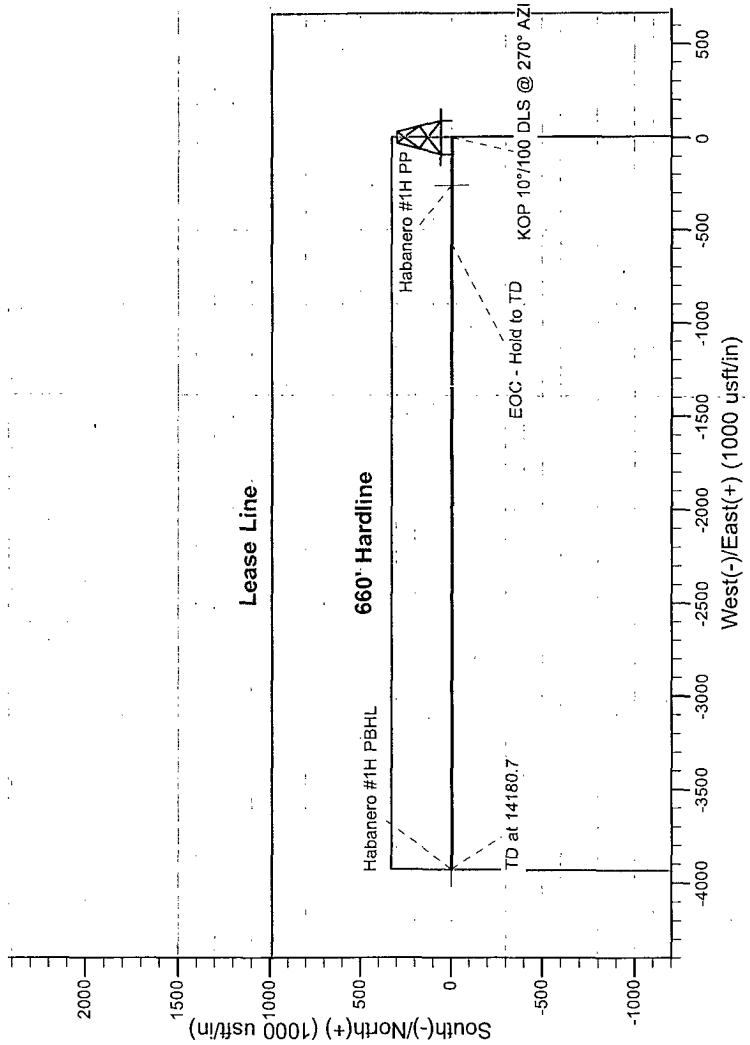
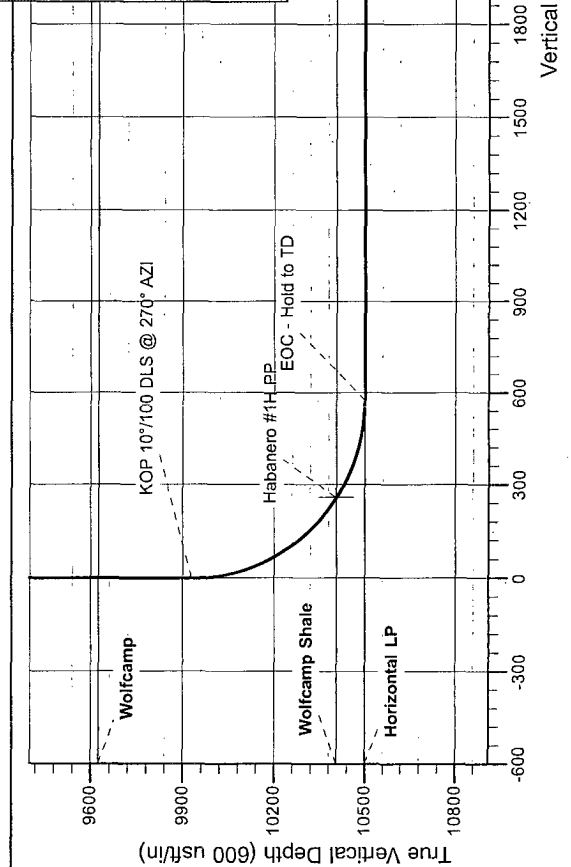
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Target
9927.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.0
9927.0	0.00	0.00	9927.0	0.0	0.0	0.00	0.00	0.00	0.0
10827.1	90.00	270.00	10500.0	0.0	-573.0	10.00	270.00	0.00	573.0
14180.7	90.00	270.00	10500.0	0.0	-3926.6	0.00	0.00	3926.6	3926.6

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSeet	Departure	Annotation
9927.0	9927.0	0.00	0.00	0.0	0.0	0.0	0.0	KOP 10°/100 DLS @ 270° AZI
10500.0	10827.1	90.00	270.00	0.0	-573.0	573.0	573.0	EOC - Hold to TD
10500.0	14180.7	90.00	270.00	0.0	-3926.6	3926.6	3926.6	TD at 14180.7

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
9624.0	9624.0	Wolfcamp	0.00	
10405.0	10492.0	Wolfcamp Shale	0.00	
10500.0	10827.1	Horizontal LP	0.00	



Plan #1.txt

Devon Energy
Habanero 17 Fed #1H - Plan #1

Eddy County
Sec 17 - T24S - R27E
Your Ref:

Measured			Sub-Sea	Vertical	Local Coordinates	
UTM Coordinates			Vertical	Dogleg		
Depth	Incl.	Azim.	Depth	Depth	Northings	Eastings
Northings	Eastings		Section	Rate		
(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
				(°/100ft)		
0.00	0.000	0.000	0.00	0.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
100.00	0.000	0.000	100.00	100.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
200.00	0.000	0.000	200.00	200.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
300.00	0.000	0.000	300.00	300.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
400.00	0.000	0.000	400.00	400.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
500.00	0.000	0.000	500.00	500.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
600.00	0.000	0.000	600.00	600.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
700.00	0.000	0.000	700.00	700.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
800.00	0.000	0.000	800.00	800.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
900.00	0.000	0.000	900.00	900.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1000.00	0.000	0.000	1000.00	1000.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1100.00	0.000	0.000	1100.00	1100.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1200.00	0.000	0.000	1200.00	1200.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1300.00	0.000	0.000	1300.00	1300.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1400.00	0.000	0.000	1400.00	1400.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1500.00	0.000	0.000	1500.00	1500.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1600.00	0.000	0.000	1600.00	1600.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1700.00	0.000	0.000	1700.00	1700.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1800.00	0.000	0.000	1800.00	1800.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
1900.00	0.000	0.000	1900.00	1900.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
2000.00	0.000	0.000	2000.00	2000.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
2100.00	0.000	0.000	2100.00	2100.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
2200.00	0.000	0.000	2200.00	2200.00	0.00 N	0.00 E
444436.837 N	580647.910 E		0.00	0.00		
2300.00	0.000	0.000	2300.00	2300.00	0.00 N	0.00 E

Plan #1.txt

444436.837	N	580647.910	E	0.00	0.00		
2400.00		0.000	0.000	2400.00	2400.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
2500.00		0.000	0.000	2500.00	2500.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
2600.00		0.000	0.000	2600.00	2600.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
2700.00		0.000	0.000	2700.00	2700.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
2800.00		0.000	0.000	2800.00	2800.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
2900.00		0.000	0.000	2900.00	2900.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3000.00		0.000	0.000	3000.00	3000.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3100.00		0.000	0.000	3100.00	3100.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3200.00		0.000	0.000	3200.00	3200.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3300.00		0.000	0.000	3300.00	3300.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3400.00		0.000	0.000	3400.00	3400.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3500.00		0.000	0.000	3500.00	3500.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3600.00		0.000	0.000	3600.00	3600.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3700.00		0.000	0.000	3700.00	3700.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3800.00		0.000	0.000	3800.00	3800.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
3900.00		0.000	0.000	3900.00	3900.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4000.00		0.000	0.000	4000.00	4000.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4100.00		0.000	0.000	4100.00	4100.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4200.00		0.000	0.000	4200.00	4200.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4300.00		0.000	0.000	4300.00	4300.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4400.00		0.000	0.000	4400.00	4400.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4500.00		0.000	0.000	4500.00	4500.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4600.00		0.000	0.000	4600.00	4600.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4700.00		0.000	0.000	4700.00	4700.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4800.00		0.000	0.000	4800.00	4800.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
4900.00		0.000	0.000	4900.00	4900.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
5000.00							

Plan #1.txt

5500.00	0.000	0.000	5500.00	5500.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
5600.00	0.000	0.000	5600.00	5600.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
5700.00	0.000	0.000	5700.00	5700.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
5800.00	0.000	0.000	5800.00	5800.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
5900.00	0.000	0.000	5900.00	5900.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6000.00	0.000	0.000	6000.00	6000.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6100.00	0.000	0.000	6100.00	6100.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6200.00	0.000	0.000	6200.00	6200.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6300.00	0.000	0.000	6300.00	6300.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6400.00	0.000	0.000	6400.00	6400.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6500.00	0.000	0.000	6500.00	6500.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6600.00	0.000	0.000	6600.00	6600.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6700.00	0.000	0.000	6700.00	6700.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6800.00	0.000	0.000	6800.00	6800.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
6900.00	0.000	0.000	6900.00	6900.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
7000.00	0.000	0.000	7000.00	7000.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
7100.00	0.000	0.000	7100.00	7100.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
7200.00	0.000	0.000	7200.00	7200.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
7300.00	0.000	0.000	7300.00	7300.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
7400.00	0.000	0.000	7400.00	7400.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
7500.00	0.000	0.000	7500.00	7500.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00			
7600.00	0.000	0.000	7600.00	7600.00	0.00	N	0.00	E
444436.837	N	580647.910	E	0.00	0.00		</	

Plan #1.txt

444436.837	N	580647.910	E	0.00	0.00		
8700.00		0.000	0.000	8700.00	8700.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
8800.00		0.000	0.000	8800.00	8800.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
8900.00		0.000	0.000	8900.00	8900.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9000.00		0.000	0.000	9000.00	9000.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9100.00		0.000	0.000	9100.00	9100.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9200.00		0.000	0.000	9200.00	9200.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9300.00		0.000	0.000	9300.00	9300.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9400.00		0.000	0.000	9400.00	9400.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9500.00		0.000	0.000	9500.00	9500.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9600.00		0.000	0.000	9600.00	9600.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9700.00		0.000	0.000	9700.00	9700.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9800.00		0.000	0.000	9800.00	9800.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9900.00		0.000	0.000	9900.00	9900.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9927.00		0.000	0.000	9927.00	9927.00	0.00 N	0.00 E
444436.837	N	580647.910	E	0.00	0.00		
9950.00		2.300	270.000	9949.99	9949.99	0.00 S	0.46 W
444436.837	N	580647.448	E	0.46	10.00		
10000.00		7.299	270.000	9999.80	9999.80	0.00 S	4.64 W
444436.837	N	580643.266	E	4.64	10.00		
10050.00		12.299	270.000	10049.06	10049.06	0.00 S	13.15 W
444436.837	N	580634.759	E	13.15	10.00		
10100.00		17.299	270.000	10097.38	10097.38	0.00 S	25.92 W
444436.837	N	580621.992	E	25.92	10.00		
10150.00		22.298	270.000	10144.41	10144.41	0.00 S	42.85 W
444436.837	N	580605.061	E	42.85	10.00		
10200.00		27.298	270.000	10189.79	10189.79	0.00 S	63.81 W
444436.837	N	580584.097	E	63.81	10.00		
10250.00		32.298	270.000	10233.16	10233.16	0.00 S	88.65 W
444436.837	N	580559.258	E	88.65	10.00		
10300.00		37.297	270.000	10274.21	10274.21	0.00 S	117.18 W
444436.837	N	580530.733	E	117.18	10.00		
10350.00		42.297	270.000	10312.61	10312.61	0.00 S	149.17 W
444436.837	N	580498.740	E	149.17	10.00		
10400.00		47.297	270.000	10348.08	10348.08	0.00 S	184.39 W
444436.837	N	580463.521	E	184.39	10.00		
10450.00		52.296	270.000	10380.35	10380.35	0.00 S	222.56 W
444436.837	N	580425.345	E	222.56	10.00		
10500.00		57.296	270.000	10409.16	10409.16	0.00 S	263.41 W
444436.837	N	580384.503	E	263.41	10.00		
10550.00		62.295	270.000	10434.31	10434.31	0.00 S	306.60 W
444436.837	N	580341.305	E	306.60	10.00		
10600.00		67.295	270.000	10455.60	10455.60	0.00 S	351.83 W
444436.837	N	580296.080	E	351.83	10.00		
10650.00		72.295	270.000	10472.86	10472.86	0.00 S	398.74 W
444436.837	N	580249.172	E	398.74	10.00		
10700.00		77.294	270.000	10485.97	10485.97	0.00 S	446.97 W
444436.837	N	580200.937	E	446.97	10.00		
10750.00		82.294	270.000	10494.83	10494.83	0.00 S	496.17 W
444436.837	N	580151.744	E	496.17	10.00		

Plan #1.txt

10800.00	87.294	270.000	10499.36	10499.36	0.00 S	545.94 W
444436.837	N	580101.966 E	545.94	10.00		
10827.07	90.000	270.000	10500.00	10500.00	0.00 S	573.00 W
444436.837	N	580074.910 E	573.00	10.00		
10900.00	90.000	270.000	10500.00	10500.00	0.00 S	645.93 W
444436.837	N	580001.976 E	645.93	0.00		
11000.00	90.000	270.000	10500.00	10500.00	0.00 S	745.93 W
444436.837	N	579901.976 E	745.93	0.00		
11100.00	90.000	270.000	10500.00	10500.00	0.00 S	845.93 W
444436.837	N	579801.976 E	845.93	0.00		
11200.00	90.000	270.000	10500.00	10500.00	0.00 S	945.93 W
444436.837	N	579701.976 E	945.93	0.00		
11300.00	90.000	270.000	10500.00	10500.00	0.00 S	1045.93 W
444436.837	N	579601.976 E	1045.93	0.00		
11400.00	90.000	270.000	10500.00	10500.00	0.00 S	1145.93 W
444436.837	N	579501.976 E	1145.93	0.00		
11500.00	90.000	270.000	10500.00	10500.00	0.00 S	1245.93 W
444436.837	N	579401.976 E	1245.93	0.00		
11600.00	90.000	270.000	10500.00	10500.00	0.00 S	1345.93 W
444436.837	N	579301.976 E	1345.93	0.00		
11700.00	90.000	270.000	10500.00	10500.00	0.00 S	1445.93 W
444436.837	N	579201.976 E	1445.93	0.00		
11800.00	90.000	270.000	10500.00	10500.00	0.00 S	1545.93 W
444436.837	N	579101.976 E	1545.93	0.00		
11900.00	90.000	270.000	10500.00	10500.00	0.00 S	1645.93 W
444436.837	N	579001.976 E	1645.93	0.00		
12000.00	90.000	270.000	10500.00	10500.00	0.00 S	1745.93 W
444436.837	N	578901.976 E	1745.93	0.00		
12100.00	90.000	270.000	10500.00	10500.00	0.00 S	1845.93 W
444436.837	N	578801.976 E	1845.93	0.00		
12200.00	90.000	270.000	10500.00	10500.00	0.00 S	1945.93 W
444436.837	N	578701.976 E	1945.93	0.00		
12300.00	90.000	270.000	10500.00	10500.00	0.00 S	2045.93 W
444436.837	N	578601.976 E	2045.93	0.00		
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444436.837	N	578501.976 E	2145.93	0.00		
12500.00	90.000	270.000	10500.00	10500.00	0.00 S	2245.93 W
444436.837	N	578401.976 E	2245.93	0.00		
12600.00	90.000	270.000	10500.00	10500.00	0.00 S	2345.93 W
444436.837	N	578301.976 E	2345.93	0.00		
12700.00	90.000	270.000	10500.00	10500.00	0.00 S	2445.93 W
444436.837	N	578201.976 E	2445.93	0.00		
12800.00	90.000	270.000	10500.00	10500.00	0.00 S	2545.93 W
444436.837	N	578101.976 E	2545.93	0.00		
12900.00	90.000	270.000	10500.00	10500.00	0.00 S	2645.93 W
444436.837	N	578001.976 E	2645.93	0.00		
13000.00	90.000	270.000	10500.00	10500.00	0.00 S	2745.93 W
444436.837	N	577901.976 E	2745.93	0.00		
13100.00	90.000	270.000	10500.00	10500.00	0.00 S	2845.93 W
444436.837	N	577801.976 E	2845.93	0.00		
13200.00	90.000	270.000	10500.00	10500.00	0.00 S	2945.93 W
444436.837	N	577701.976 E	2945.93	0.00		
13300.00	90.000	270.000	10500.00	10500.00	0.00 S	3045.93 W
444436.837	N	577601.976 E	3045.93	0.00		
13400.00	90.000	270.000	10500.00	10500.00	0.00 S	3145.93 W
444436.837	N	577501.976 E	3145.93	0.00		
13500.00	90.000	270.000	10500.00	10500.00	0.00 S	3245.93 W
444436.837	N	577401.976 E	3245.93	0.00		
13600.00	90.000	270.000	10500.00	10500.00	0.00 S	3345.93 W
444436.837	N	577301.976 E	3345.93	0.00		
13700.00	90.000	270.000	10500.00	10500.00	0.00 S	3445.93 W
444436.837	N	577201.976 E	3445.93	0.00		
13800.00	90.000	270.000	10500.00	10500.00	0.00 S	3545.93 W

Plan #1.txt							
444436.837	N	577101.976	E	3545.93	0.00		
13900.00		90.000	270.000	10500.00	10500.00	0.00 S	3645.93 W
444436.837	N	577001.976	E	3645.93	0.00		
14000.00		90.000	270.000	10500.00	10500.00	0.00 S	3745.93 W
444436.837	N	576901.976	E	3745.93	0.00		
14100.00		90.000	270.000	10500.00	10500.00	0.00 S	3845.93 W
444436.837	N	576801.976	E	3845.93	0.00		
14180.71		90.000	270.000	10500.00	10500.00	0.00 S	3926.65 W
444436.837	N	576721.264	E	3926.65	0.00		



Proposal No: 690850075A

**Devon Energy Corp
Habanero 17 Fed #1**

Sec. 17-24S-27E
Eddy County, New Mexico
November 16, 2010

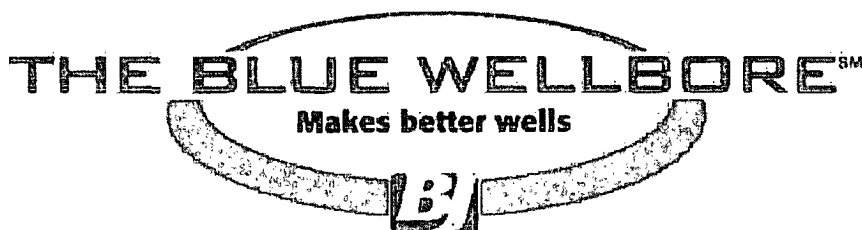
Well Proposal

Prepared for:

Pat Brown
Drilling Engineer
Oklahoma City, Oklahoma
Bus Phone: (405) 228-8511

Prepared by:

John Parks
Region Technical Rep.
Oklahoma City, Oklahoma



Service Point:

Artesia
Bus Phone: (505) 746-3140
Fax: (505) 746-2293

Service Representatives:

Larry Johnson
Senior Sales Rep
Artesia, New Mexico

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: Surface Casing
Date: November 16, 2010



Proposal No: 690850075A

JOB AT A GLANCE

Depth (TVD)	250 ft
Depth (MD)	250 ft
Hole Size	26 in
Casing Size/Weight	20 in, 94 lbs/ft
Pump Via	20" O.D. (19.124" I.D) 94
Total Mix Water Required	4,001 gals
Spacer	
Fresh Water	10 bbls
Density	8.3 ppg
Cement Slurry	
Class C	630 sacks
Density	14.8 ppg
Yield	1.35 cf/sack
Displacement	
Mud	89 bbls
Density	8.8 ppg

Operator Name: Devon Energy Corp
 Well Name: Habanero 17 Fed #1
 Job Description: Surface Casing
 Date: November 16, 2010



Proposal No: 690850075A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
26.000 HOLE	250	250

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
20.000	19.124	94	250	250

Mud Density 8.80 ppg
 Est. Static Temp. 80 ° F
 Est. Circ. Temp. 80 ° F

VOLUME CALCULATIONS

250 ft x 1.5053 cf/ft with 125 % excess = 846.8 cf
TOTAL SLURRY VOLUME = 846.8 cf
 = 151 bbls

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: Surface Casing
Date: November 16, 2010



Proposal No: 690850075A

FLUID SPECIFICATIONS

Spacer 10.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Cement Slurry	847	1.35	= 630 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water

Displacement 88.8 bbls Mud @ 8.8 ppg

CEMENT PROPERTIES

SLURRY NO.1

Slurry Weight (ppg)	14.80
Slurry Yield (cf/sack)	1.35
Amount of Mix Water (gps)	6.35
Estimated Pumping Time - 70 BC (HH:MM)	2:30

COMPRESSIVE STRENGTH

8 hrs @ 80 ° F (psi)	
12 hrs @ 80 ° F (psi)	500
24 hrs @ 80 ° F (psi)	1150
72 hrs @ 80 ° F (psi)	2100
	2700

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: Intermediate Casing
Date: November 16, 2010



Proposal No: 690850075A

JOB AT A GLANCE

Depth (TVD)	3,100 ft
Depth (MD)	3,100 ft
Hole Size	17.5 in
Casing Size/Weight	13 3/8 in, 68 lbs/ft
Pump Via	13 3/8" O.D. (12.415" I.D) 68
Total Mix Water Required	25,752 gals
Spacer	
Fresh Water	20 bbls
Density	8.3 ppg
Lead Slurry	
35:65:6 Poz:Class C	2,120 sacks
Density	12.5 ppg
Yield	2.04 cf/sack
Tail Slurry	
60:40 Poz:Class C (MPA)	300 sacks
Density	13.8 ppg
Yield	1.37 cf/sack
Displacement	
Mud	458 bbls
Density	10.0 ppg

Operator Name: Devon Energy Corp
 Well Name: Habanero 17 Fed #1
 Job Description: Intermediate Casing
 Date: November 16, 2010



Proposal No: 690850075A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
19.124 CASING	250	250
17.500 HOLE	3,100	3,100

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
13.375	12.415	68	3,100	3,100

Float Collar set @ 3,060 ft
 Mud Density 10.00 ppg
 Est. Static Temp. 108 ° F
 Est. Circ. Temp. 95 ° F

VOLUME CALCULATIONS

250 ft	x	1.0190 cf/ft	with	0 % excess	=	254.8 cf
2,608 ft	x	0.6946 cf/ft	with	125 % excess	=	4076.0 cf
242 ft	x	0.6946 cf/ft	with	125 % excess	=	378.4 cf
40 ft	x	0.8407 cf/ft	with	0 % excess	=	33.6 cf (inside pipe)
TOTAL SLURRY VOLUME					=	4742.8 cf
					=	845 bbls

Operator Name: Devon Energy Corp
 Well Name: Habanero 17 Fed #1
 Job Description: Intermediate Casing
 Date: November 16, 2010



Proposal No: 690850075A

FLUID SPECIFICATIONS

Spacer

20.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	4331	2.04	= 2120 sacks (35:65) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 0.4% bwoc FL- 52A + 107.7% Fresh Water
Tail Slurry	412	1.37	= 300 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.1% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 65.4% Fresh Water
Displacement			458.2 bbls Mud @ 10 ppg

CEMENT PROPERTIES

	SLURRY NO.1	SLURRY NO.2
Slurry Weight (ppg)	12.50	13.80
Slurry Yield (cf/sack)	2.04	1.37
Amount of Mix Water (gps)	11.24	6.43
Estimated Pumping Time - 70 BC (HH:MM)	5:00	3:30

COMPRESSIVE STRENGTH

8 hrs @ 107 ° F (psi)		
12 hrs @ 107 ° F (psi)		800
17 hrs @ 107 ° F (psi)	325	1549
24 hrs @ 107 ° F (psi)	500	
	637	2400

ACTUAL CEMENT VOLUME MAY VARY BASED ON FLUID CALIPER.

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: 2nd Intermediate Casing
Date: November 16, 2010



Proposal No: 690850075A

JOB AT A GLANCE

Depth (TVD)	9,800 ft
Depth (MD)	9,800 ft
Hole Size	12.25 in
Casing Size/Weight	9 5/8 in, 40 lbs/ft
Pump Via	9 5/8" O.D. (8.835" I.D) 40
Total Mix Water Required	22,994 gals
Stage No: 1	Float Collar set @ 9,760 ft
Spacer	
Fresh Water	10 bbls
Density	8.3 ppg
Spacer	
Surebond III	1,000 gals
Density	9.4 ppg
Spacer	
Fresh Water	10 bbls
Density	8.3 ppg
Lead Slurry	
35:65:6 Poz:Class H:Gel	1,055 sacks
Density	12.5 ppg
Yield	1.96 cf/sack
Tail Slurry	
Super C Modified	935 sacks
Density	13.3 ppg
Yield	1.56 cf/sack
Displacement	
Displacement Fluid	740 bbls

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: 2nd Intermediate Casing
Date: November 16, 2010



Proposal No: 690850075A

JOB AT A GLANCE (Continued)

Stage No: 2	Stage Collar set @	4,200 ft
Spacer		
Fresh Water		20 bbls
Density		8.3 ppg
Lead Slurry		
35:65:6 Poz:Class C:Gel		285 sacks
Density		12.5 ppg
Yield		2.04 cf/sack
Tail Slurry		
60:40 Poz:Class C (MPA)		200 sacks
Density		13.8 ppg
Yield		1.38 cf/sack
Displacement		
Displacement Fluid		318 bbls

Operator Name: Devon Energy Corp
 Well Name: Habanero 17 Fed #1
 Job Description: 2nd Intermediate Casing
 Date: November 16, 2010



Proposal No: 690850075A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
12.415 CASING	3,100	3,100
12.250 HOLE	9,800	9,800

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
9.625	8.835	40	9,800	9,800

STAGE: 1 Float Collar set @ 9,760 ft
 Mud Density 9.30 ppg
 Est. Static Temp. 178 ° F
 Est. Circ. Temp. 142 ° F

VOLUME CALCULATIONS

3,300 ft x 0.3132 cf/ft with 100 % excess = 2067.0 cf
 2,300 ft x 0.3132 cf/ft with 100 % excess = 1440.7 cf
 40 ft x 0.4257 cf/ft with 0 % excess = 17.0 cf (inside pipe)
 TOTAL SLURRY VOLUME = 3524.7 cf
 = 628 bbls

STAGE: 2 Stage Collar set @ 4,200 ft
 Mud Density 9.30 ppg
 Est. Static Temp. 114 ° F
 Est. Circ. Temp. 100 ° F

VOLUME CALCULATIONS

500 ft x 0.3354 cf/ft with 0 % excess = 167.7 cf
 661 ft x 0.3132 cf/ft with 100 % excess = 413.9 cf
 439 ft x 0.3132 cf/ft with 100 % excess = 275.1 cf
 TOTAL SLURRY VOLUME = 856.7 cf
 = 153 bbls

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: 2nd Intermediate Casing
Date: November 16, 2010



Proposal No: 690850075A

FLUID SPECIFICATIONS

STAGE NO. 1

Spacer	10.0 bbls Fresh Water @ 8.34 ppg
Spacer	1,000.0 gals Surebond III @ 9.35 ppg
Spacer	10.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	2067	/ 1.96	= 1055 sacks (35:65) Poz (Fly Ash):Class H Cement + 1% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 0.4% bwoc FL-52A + 103.2% Fresh Water
Tail Slurry	1458	/ 1.56	= 935 sacks (15:61:11) Poz (Fly Ash):Class C Cement:CSE-2 + 1% bwow Potassium Chloride + 0.75% bwoc EC-1 + 0.125 lbs/sack Cello Flake + 0.4% bwoc CD-32 + 2 lbs/sack LCM-1 + 0.6% bwoc FL-25 + 0.6% bwoc FL-52A + 73.3% Fresh Water
Displacement			740.1 bbls Displacement Fluid

CEMENT PROPERTIES

	<u>SLURRY NO.1</u>	<u>SLURRY NO.2</u>
Slurry Weight (ppg)	12.50	13.30
Slurry Yield (cf/sack)	1.96	1.56
Amount of Mix Water (gps)	10.76	7.65
Estimated Pumping Time - 70 BC (HH:MM)	5:30	4:30
Free Water (mls) @ ° F @ 90 ° Angle		0.0
Fluid Loss (cc/30min) at 1000 psi and ° F		50.0
COMPRESSIVE STRENGTH		
12 hrs @ 167 ° F (psi)	350	900
24 hrs @ 167 ° F (psi)	700	2100
72 hrs @ 167 ° F (psi)	1000	2600

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: 2nd Intermediate Casing
Date: November 16, 2010



Proposal No: 690850075A

FLUID SPECIFICATIONS (Continued)

STAGE NO. 2

Spacer				20.0 bbls Fresh Water @ 8.34 ppg
Lead Slurry	582	/	2.04	= 285 sacks (35:65) Poz (Fly Ash):Class C Cement + 0.4% bwoc FL-52A + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.7% Fresh Water
Tail Slurry	275	/	1.38	= 200 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.3% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 65.5% Fresh Water
Displacement				318.5 bbls Displacement Fluid

CEMENT PROPERTIES

	SLURRY NO.1	SLURRY NO.2
Slurry Weight (ppg)	12.50	13.80
Slurry Yield (cf/sack)	2.04	1.38
Amount of Mix Water (gps)	11.24	6.44
Estimated Pumping Time - 70 BC (HH:MM)	4:00	2:30
Free Water (mls) @ ° F @ 90 ° Angle		
Fluid Loss (cc/30min) at 1000 psi and ° F		

COMPRESSIVE STRENGTH

12 hrs @ 106 ° F (psi)	350	
17 hrs @ 106 ° F (psi)	500	
24 hrs @ 106 ° F (psi)	650	
12 hrs @ 121 ° F (psi)		1700
24 hrs @ 121 ° F (psi)		2500

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: Long String
Date: November 16, 2010



Proposal No: 690850075A

JOB AT A GLANCE

Depth (TVD)	10,500 ft
Depth (MD)	14,220 ft
Hole Size	8.75 in
Casing Size/Weight	5 1/2 in, 23 lbs/ft
Pump Via	5 1/2" O.D. (4.670" I.D.) 23
Total Mix Water Required	9,578 gals
Spacer	
MCS-3	50 bbls
Density	12.0 ppg
Spacer	
Water Based Mud	400 bbls
Density	11.0 ppg
Spacer	
Turbo Flow III	40 bbls
Density	12.0 ppg
Lead Slurry	
35:65:6 Poz:Class H	215 sacks
Density	12.5 ppg
Yield	1.99 cf/sack
Tail Slurry	
50:50 Poz:Class H	1,270 sacks
Density	14.2 ppg
Yield	1.26 cf/sack
Displacement	
Displacement Fluid	300 bbls

Operator Name: Devon Energy Corp
 Well Name: Habanero 17 Fed #1
 Job Description: Long String
 Date: November 16, 2010



Proposal No: 690850075A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
8.835 CASING	9,800	9,800
8.750 HOLE	14,220	10,500

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
5.500	4.670	23	14,220	10,500

Float Collar set @ 14,180 ft
 Mud Density 11.00 ppg
 Mud Type Oil Based
 Est. Static Temp. 164 ° F
 Est. Circ. Temp. 164 ° F

VOLUME CALCULATIONS

1,300 ft	x	0.2607 cf/ft	with	0 % excess	=	339.0 cf
200 ft	x	0.2526 cf/ft	with	70 % excess	=	86.0 cf
4,220 ft	x	0.2526 cf/ft	with	50 % excess	=	1598.9 cf
40 ft	x	0.1189 cf/ft	with	0 % excess	=	4.8 cf (inside pipe)
TOTAL SLURRY VOLUME					=	2028.6 cf
					=	362 bbls

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: Long String
Date: November 16, 2010



Proposal No: 690850075A

FLUID SPECIFICATIONS

Spacer	50.0 bbls MCS-3 + 2 gal/bbl US-40 + 16.5 lbs/bbl Bentonite + 183 lbs/bbl Barite, Bulk @ 12 ppg
Spacer	400.0 bbls Water Based Mud @ 11 ppg
Spacer	40.0 bbls Turbo Flow III @ 12 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	425	/ 1.99	= 215 sacks (35:65) Poz (Fly Ash):Class H Cement + 2% bwow Sodium Chloride + 0.25% bwoc R-3 + 0.3% bwoc ASA-301 + 6% bwoc Bentonite + 0.6% bwoc FL-52A + 104.4% Fresh Water
Tail Slurry	1604	/ 1.26	= 1270 sacks (50:50) Poz (Fly Ash):Class H Cement + 3% bwow Sodium Chloride + 0.2% bwoc CD-32 + 0.5% bwoc FL-25 + 0.5% bwoc Sodium Metasilicate + 0.5% bwoc FL-52A + 56.6% Fresh Water
Displacement			300.4 bbls Displacement Fluid

CEMENT PROPERTIES

	SLURRY NO.1	SLURRY NO.2
Slurry Weight (ppg)	12.50	14.20
Slurry Yield (cf/sack)	1.99	1.26
Amount of Mix Water (gps)	10.89	5.70
Estimated Pumping Time - 70 BC (HH:MM)	5:00	4:00
Free Water (mls) @ 178 ° F @ 90 ° Angle	0.0	0.0
Fluid Loss (cc/30min) at 1000 psi and 178 ° F		50.0
COMPRESSIVE STRENGTH		
12 hrs @ 166 ° F (psi)	180	250
24 hrs @ 166 ° F (psi)	600	1400
72 hrs @ 166 ° F (psi)	850	1900

Operator Name: Devon Energy Corp
Well Name: Habanero 17 Fed #1
Job Description: Long String
Date: November 16, 2010



Proposal No: 690850075A

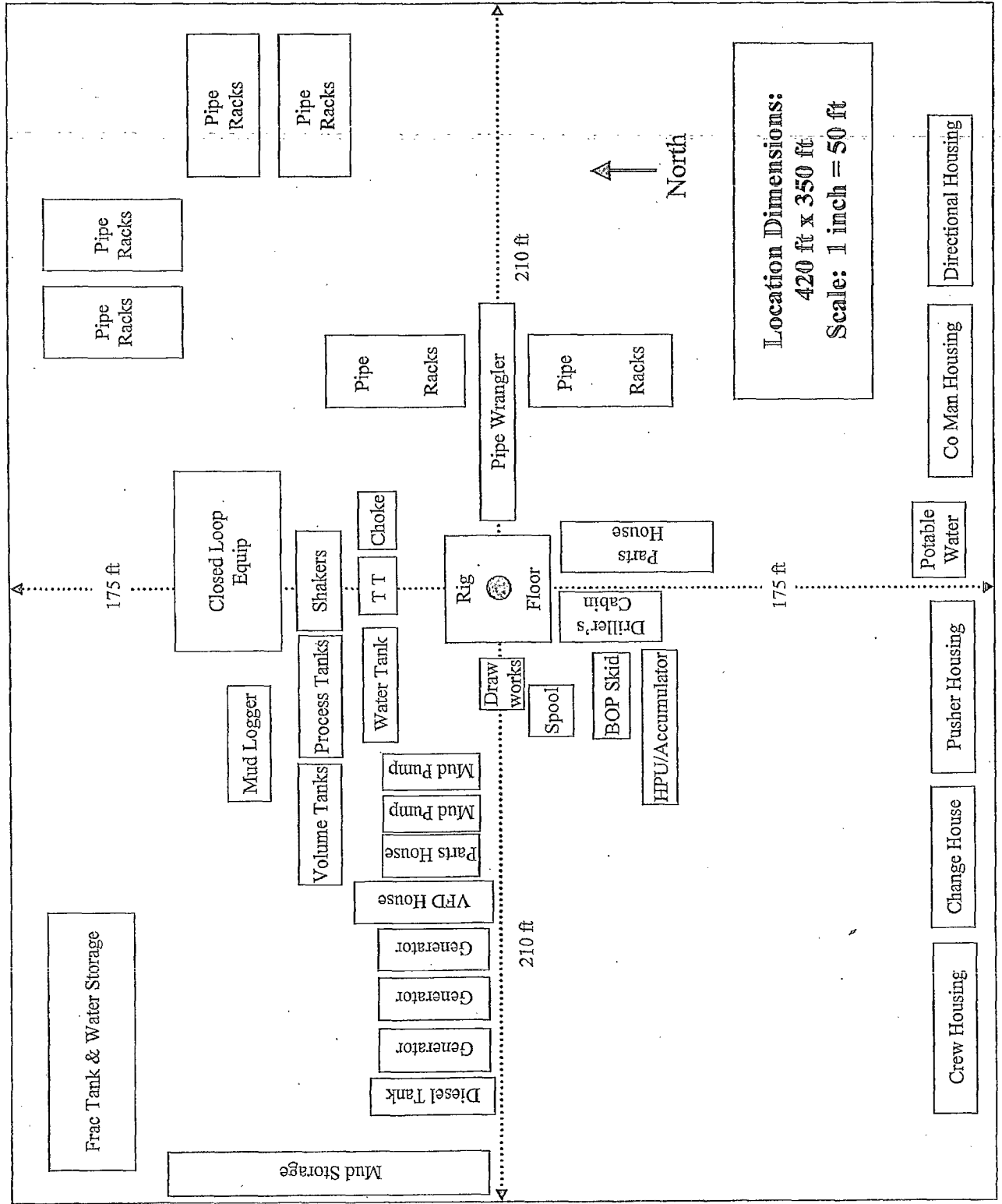
FLUID SPECIFICATIONS (Continued)

CEMENT VOLUMES WILL VARY BASED ON CALIPER.

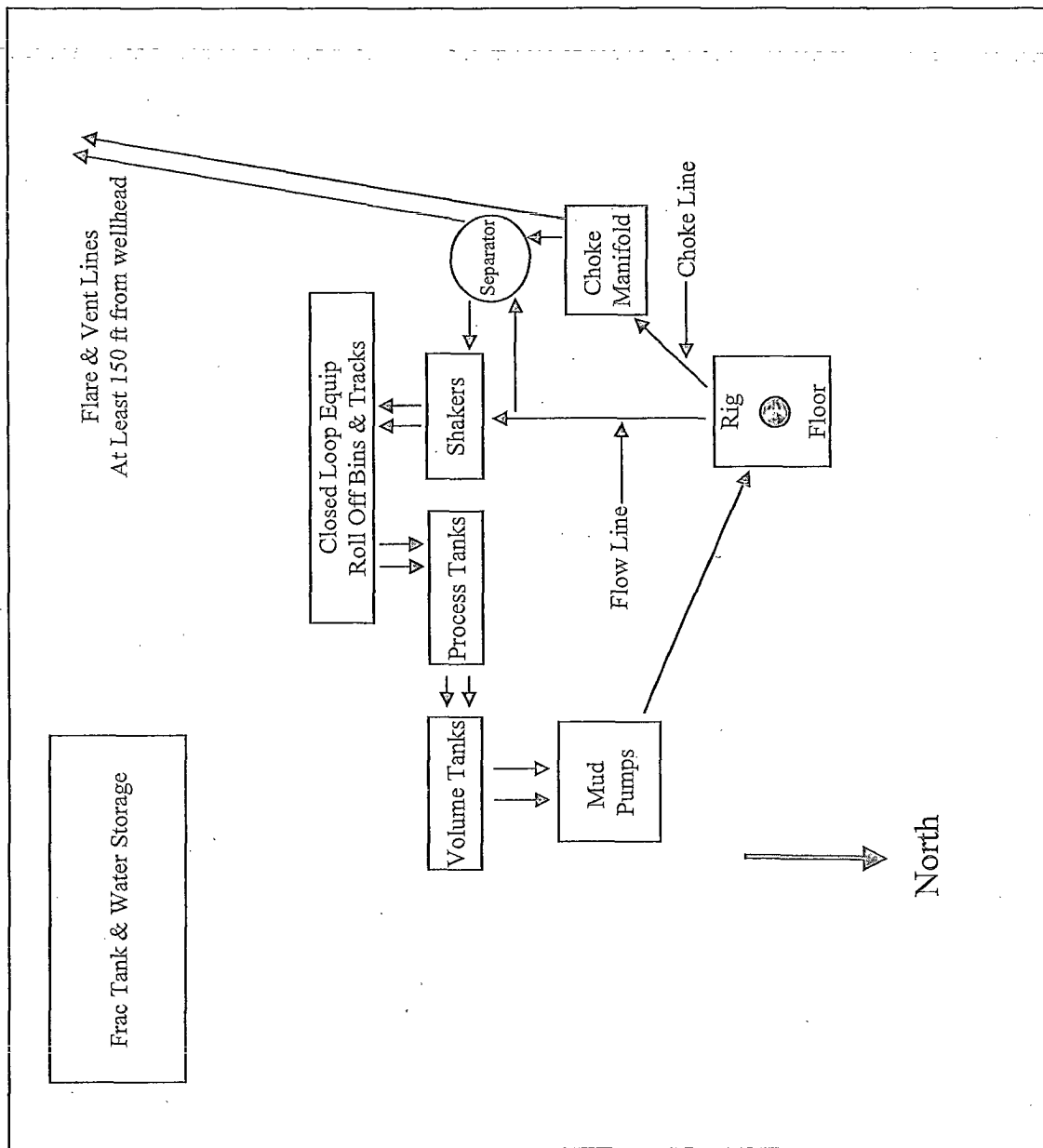
TEST SPACER SYSTEM WITH OIL BASED MUD.

BATCH MIX SPACER SYSTEM.

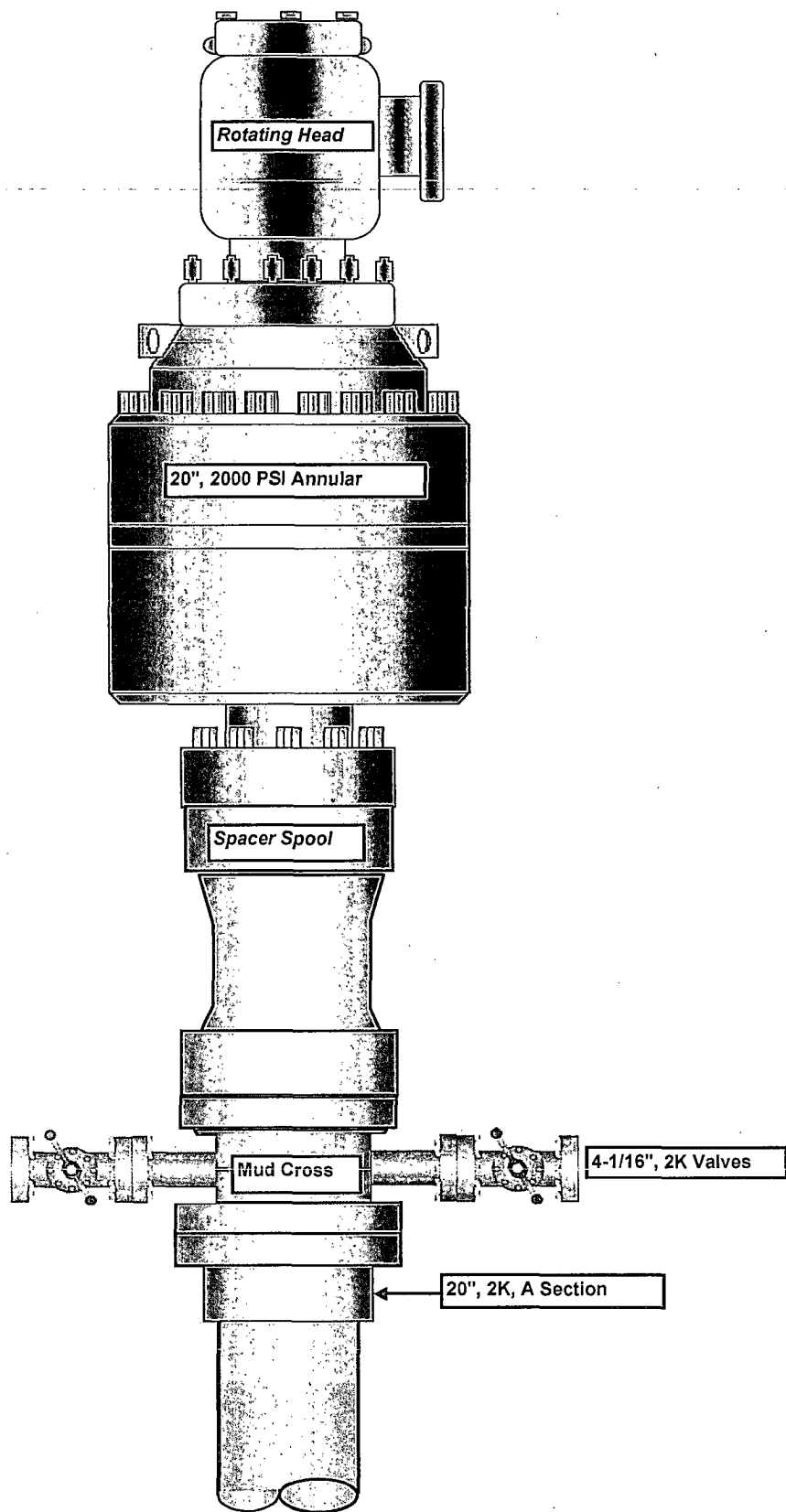
H&P Flex Rig Location Layout



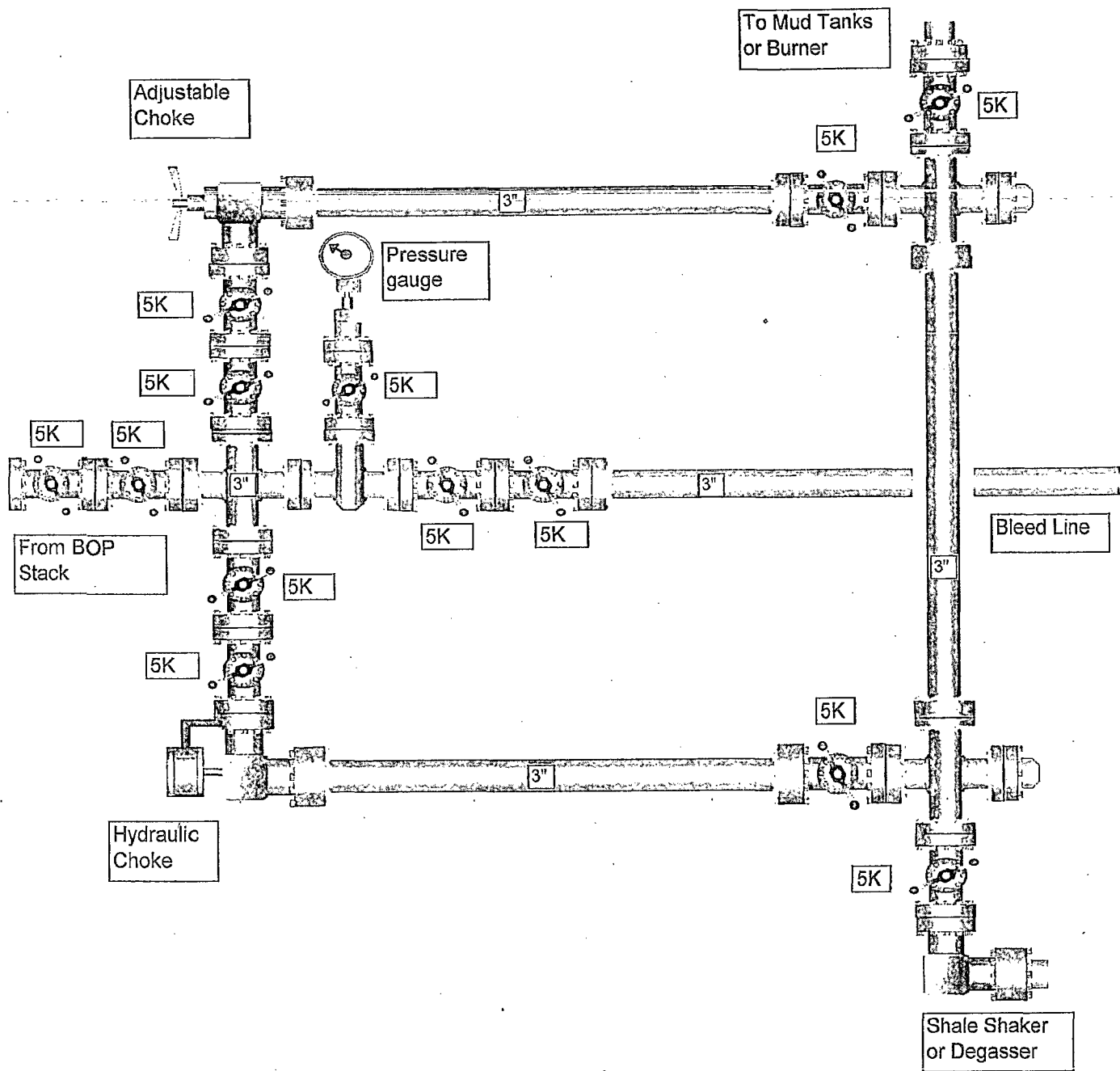
Closed Loop Equipment Diagram



20" 2K Annular



5,000 PSI CHOKE MANIFOLD



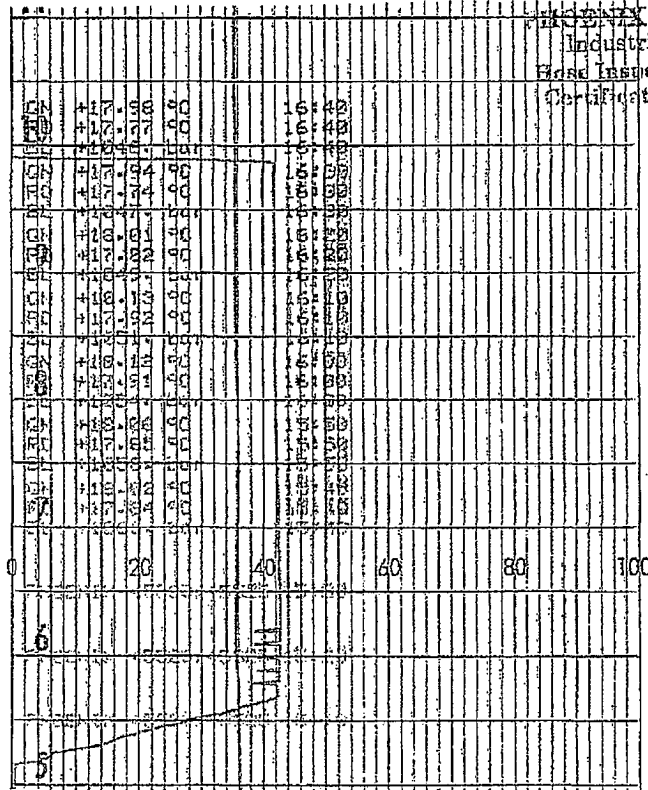


QUALITY DOCUMENT

**PHOENIX RUBBER
INDUSTRIAL LTD.**

H-6726 Szeged, Budapesti út 10. Hungary H-6701 Szeged P.O.Box: 152 • Phone: (3662) 566-737, Fax: (3662) 566-736
The Court of Csongrád County as Registry Court, Registry Court reg.No.: Cg.06-03-002502

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT N° 164	
PURCHASER: Phoenix Beattie Co.				P.O. N° 000504	
PHOENIX ORDER N° 327309		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N° 45523		NOMINAL / ACTUAL LENGTH: 10,67 m			
W.P. 68,96 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature					
See attachment. (1 page)					
↑ 10 mm = 10 Min. → 10 mm = 25 MPa					
COUPLINGS					
Type		Serial N°		Quality	
3" coupling with 4 1/16" Flange end		3147 3150		AISI 4130 AISI 4135	
				Heat N°	
				93070	
				42404	
API Spec 16 C Temperature rate: "B"					
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
Date:		Inspector		Quality Control	
25. January. 2006				PHOENIX RUBBER Industrial Ltd. Hose Inspection and Certification Dept.	





Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory.

Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

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