

**RECEIVED**  
MAY 22 2012  
**NMOC D ARTESIA**

FORM APPROVED  
OMB No 1004-0137  
Expires March 31, 2007 *EA 12-535*

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <i>SH</i> NMLC-063622 & NMNM-101113 <i>8H</i>
1b. Type of Well. <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Devon Energy Production Co., LP		7. If Unit or CA Agreement, Name and No.
3a. Address 20 North Broadway OKC, OK 73102		8. Lease Name and Well No. Bellatrix 28 Fed Com 3H <i>&lt;392447&gt;</i>
3b. Phone No. (include area code) (405)-552-7802		9. API Well No. 30-015-40333
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface NESE 1560' FSL & 200' FEL Lot I of Sec 29 At proposed prod. zone NESE 2280' FSL & 340' FEL Lot I of Sec 28		10. Field and Pool, or Exploratory Gatuna Canyon; Bone Spring <i>&lt;96887&gt;</i>
14. Distance in miles and direction from nearest town or post office* Approximately 14 miles southeast of Loco Hills, NM.		11. Sec., T. R. M. or Blk and Survey or Area Sec 29-T19S-R31E
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drng. unit line, if any) 200'	16. No. of acres in lease 1080 & 240 acres	12. County or Parish Eddy
17. Spacing Unit dedicated to this well 160 acres	13. State NM	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft See Plat	19. Proposed Depth 19470' MTVD 9085' MD 14206'	20. BLM/BIA Bond No. on file PH: 9470' CO-1104 <i>NMB00801</i>
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3482.3' GL	22. Approximate date work will start* 03/15/2012	23. Estimated duration 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form.

- 1 Well plat certified by a registered surveyor
- 2 A Drilling Plan.
- 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)
- 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
- 5 Operator certification
- 6 Such other site specific information and/or plans as may be required by the BLM.

25. Signature <i>[Signature]</i>	Name (Printed/Typed) Stephanic A. Ysasaga	Date 01/20/2012
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Title Sr. Staff Engineering Technician		
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Approved by (Signature) <i>[Signature]</i> /s/ Don Peterson	Name (Printed/Typed)	Date MAY 21 2012
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Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	
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Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached

**APPROVAL FOR TWO YEARS**

Title 18 USC Section 1001 and Title 43 USC 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)

Capitan Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations Attached

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

**Operators Representative:**

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Steven Jones  
Operations Engineer Advisor

Don Mayberry  
Superintendent

Devon Energy Production Company, L.P.  
20 North Broadway, Suite 1500  
Oklahoma City, OK 73102-8260

Devon Energy Production Company, L.P.  
Post Office Box 250  
Artesia, NM 88211-0250

(405) 552-7994 (office)  
(405) 596-8041 (cell)

(505) 748-0164 (office)  
(505) 748-5235 (cell)

**Certification**

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this 20th day of January, 2012.

Printed Name: Stephanie A. Ysasaga

Signed Name: [Signature]

Position Title: Sr. Staff Engineering Technician

Address: 20 North Broadway, OKC OK 73102

Telephone: (405)-552-7802

Field Representative (if not above signatory): Don Mayberry (see above)

Address (if different from above):

Telephone (if different from above):

E-mail (optional):

District I  
1625 N French Dr Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-015-40333</b>		Pool Code <b>96688</b>	Pool Name <b>GATUNA CANYON; BONE SPRING</b>
Property Code <b>39244</b>	Property Name <b>BELLATRIX "28" FED COM</b>		Well Number <b>3H</b>
OGRID No. <b>6137</b>	Operator Name <b>DEVON ENERGY PRODUCTION COMPANY, L.P.</b>		Elevation <b>3482.3</b>

10 Surface Location

CL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>I</b>	<b>29</b>	<b>19 S</b>	<b>31 E</b>		<b>1560</b>	<b>SOUTH</b>	<b>200</b>	<b>EAST</b>	<b>EDDY</b>

11 Bottom Hole Location If Different From Surface

LL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>I</b>	<b>28</b>	<b>19 S</b>	<b>31 E</b>		<b>2280</b>	<b>SOUTH</b>	<b>340</b>	<b>EAST</b>	<b>EDDY</b>

12 Dedicated Acres <b>160</b>	13 Joint or Infill	14 Consolidation Code	15 Order No.
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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.

NW CORNER SEC. 29  
LAT. = 32.6386302°N  
LONG. = 103.8999686°W  
NMSP EAST (FT)  
N = 596336.65  
E = 674736.47

SECTION CORNER  
LAT. = 32.6386573°N  
LONG. = 103.8628175°W  
NMSP EAST (FT)  
N = 596368.47  
E = 680015.94

NE CORNER SEC. 28  
LAT. = 32.6386863°N  
LONG. = 103.8656699°W  
NMSP EAST (FT)  
N = 596401.84  
E = 685294.35

SW CORNER SEC. 29  
LAT. = 32.6241144°N  
LONG. = 103.8999168°W  
NMSP EAST (FT)  
N = 591055.73  
E = 674773.95

SECTION CORNER  
LAT. = 32.6241448°N  
LONG. = 103.8627673°W  
NMSP EAST (FT)  
N = 591088.77  
E = 680053.80

SE CORNER SEC. 28  
LAT. = 32.6241693°N  
LONG. = 103.8656232°W  
NMSP EAST (FT)  
N = 591120.47  
E = 685331.96

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

Signature: *[Signature]* Date: *6/15/2011*  
Printed Name: **STEPHANIE A. YSASAGA**

**18 SURVEYOR CERTIFICATION**  
*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is a true and correct to the best of my belief*

Signature and Seal of Professional Surveyor: *[Signature]*  
Certificate Number: **FEDUO, F. JARAMILLO PLS 12797**  
NEW MEXICO SURVEY NO 759

1<sup>st</sup> PERFORATION POINT: 2190' FSL & 300' FWL OF SECTION 28

PRODUCING AREA PROJECT AREA

**DRILLING PROGRAM**

Devon Energy Production Company, LP

**Bellatrix 28 Fed Com 3H**

Surface Location: 1560' FSL & 200' FEL, Unit I, Sec 29 T19S R31E, Eddy, NM  
 Bottom hole Location: 2280' FSL & 340' FEL, Unit I, Sec 28 T19S R31E, Eddy, NM

**1. Geologic Name of Surface Formation**

a. Quaternary

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

a. Quaternary Alluvium	95'	Fresh Water
b. Rustler	550'	Barren
c. Salado	680'	Barren
d. Base Salado	2025'	Barren
e. Tansil Dolomite	2085'	Barren
f. Yates	2165'	Barren
g. Seven Rivers	2415'	Barren
h. Capitan	2565'	Barren
i. B/Capitan	3800'	Barren
j. Delaware	4320'	Oil
k. Bone Springs	6830'	Oil
l. 1 <sup>st</sup> Bone Spring Ss	8000'	Oil
m. 2 <sup>nd</sup> Bone Spring Lime	8395'	Oil
n. 2 <sup>nd</sup> Bone Spring Ss	8860'	Oil
o. 2 <sup>nd</sup> Bone Spring Middle Ss	9000'	Oil
p. 2 <sup>nd</sup> Bone Spring Middle Ss Base	9110'	Oil
q. 3 <sup>rd</sup> Bone Spring Lm	9300'	Oil
r. Total Depth	MTVD 9085' MD 13491'	

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 20" casing at 550' and circulating cement back to surface. The fresh water sands will be protected by setting 13 3/8" at 2400' and 9 5/8" casing at 4250' and circulating cement to surface. The Delaware 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:**

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
<i>see 10A</i> 26"	0 - 550' <i>600</i>	20"	0 - 550' <i>600</i>	94#	BTC	J/K-55
17 1/2"	550' - 2400'	13 3/8"	0' - 2400'	68#	BTC	J/K-55
12 1/4"	2400' - 4250'	9 5/8"	0' - 4250'	40#	LTC	J-55
8 3/4"	4250' - 8300'	5 1/2"	0' - 8300'	17#	LTC	HCP-110
8 3/4"	8300' - 14206'	5 1/2"	8300' - 14206'	17#	BTC	HCP-110

Max TVD: 9,085'

An 8-3/4" pilot hole will be drilled to 9,470' and plugged back to KOP with 450 sacks, Class H, 15.6 ppg, 1.18 cf/sk cement (actual volumes will be adjusted based on caliper log results).

**Design Parameter Factors:**

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
20"	2.46	10.01	31.42
13 3/8"	1.44	2.55	3.82
9 5/8"	1.22	1.73	2.95
5 1/2" LTC	1.64	2.02	1.55
5 1/2" BTC	1.84	2.27	5.22

**4. Cement Program: (Note: All cement volumes are calculated with 25% excesses.)**

- a. 20" Surface **Lead:** 1200 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81.4% Fresh Water, 13.5 ppg, 1.75 cf/sk.
- Tail:** 300 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water, 14.8 ppg, 1.35 cf/sk  
**TOC @ surface**
- b. 13 3/8" Intermediate **Lead:** 1800 sacks (60:40) Poz (Fly Ash) Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8 Fresh Water, 12.5 ppg, 1.73 cf/sk.
- Tail:** 400 sacks (60:40) Poz Class C Cement + 5% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 52.7% Fresh Water, 13.8 ppg, 1.38 cf/sk. **TOC @ surface**
- c. 9 5/8" Intermediate
- 1<sup>st</sup> STAGE**
- Lead:** 600 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water, 12.5 ppg, 1.73 cf/sk
- Tail:** 300 sacks (60:40) Poz Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 52.7% Water, 13.8 ppg, 1.38 cf/sk
- see COA* → **2<sup>nd</sup> STAGE (DV tool and ECP at 2,400')**
- Lead:** 700 sacks (60:40) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water, 12.5 ppg, 1.73 cf/sk

**Tail:** 200 sacks (60:40) Poz Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 52.7% Water, 13.8 ppg, 1.38 cf/sk  
**TOC @ surface**

c. 5 1/2" Production

**1<sup>st</sup> STAGE**

**Lead:** 800 sacks (35:65) Poz (Fly Ash):Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 2% bwoc Bentonite + 0.6% bwoc Sodium Metasilicate + 0.5% bwoc FL-52A + 102.5% Fresh Water, 12.5 ppg, 2.00 cf/sk

**Tail:** 1,510 sacks (50:50) Poz (Fly Ash):Class H Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 58.3% Fresh Water, 14.2 ppg, 1.28 cf/sk

**2<sup>nd</sup> STAGE (DV TOOL at ~5,500')**

**Lead:** 800 sacks Class C Cement + 1% bwow Calcium Chloride + 0.125 lbs/sack Cello Flake + 157.8% Fresh Water, 11.4 ppg, 2.88 cf/sk

**Tail:** 150 sacks (60:40) Poz (Fly Ash):Class C Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 63.2% Fresh Water, 13.8 ppg, 1.38 cf/sk. **TOC @ 2400'**

<b>String</b>	<b>TOC</b>
20" Surface:	Surface
13 3/8" Intermediate:	Surface
9 5/8" Intermediate:	Surface
5 1/2" Production:	2,400'

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

5. **Pressure Control Equipment:**

**BOP DESIGN:** The BOP system used to drill the 17-1/2" hole will consist of a 20" 2M Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a 2M system prior to drilling out the surface casing shoe.

The BOP system used to drill the 12-1/4" and 8-3/4" 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.

**6. Proposed Mud Circulation System**

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 550' <sup>2000</sup>	8.4-9.0	28-34	NC	Fresh Water
550' - 2400'	9.8-10.0	28-32	NC	Brine
2400' - 4250	8.4-9.0	28-32	NC	Fresh Water
4250' - 14206'	8.4-9.0	28-32	N/C-12	Fresh Water

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

**7. Auxiliary Well Control and Monitoring Equipment:**

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 20" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 20" shoe until total depth is reached.

**8. Logging, Coring, and Testing Program:** *see COA*

- a. Drill stem tests will be based on geological sample shows.
- b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
- c. The open hole electrical logging program will be:
  - i. Total Depth to Intermediate Casing                      Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron - Z Density log with Gamma Ray and Caliper.
  - ii. Total Depth to Surface    Compensated Neutron with Gamma Ray
  - iii. No coring program is planned
  - iv. Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

**9. Potential Hazards:**

- a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. Possible lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 3800 psi and Estimated BHT 140°. 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 after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 32 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.





**Devon Energy, Inc.**

Eddy County

Bellatrix "28" Federal Com

#3H

OH

Plan: Plan #1

**PathfinderX & Y Report**

25 January, 2012



A Schlumberger Company





**Pathfinder**  
PathfinderX & Y Report



<b>Company:</b> Devon Energy, Inc.	<b>Local Co-ordinate Reference:</b>	<b>Well #3H:</b>
<b>Project:</b> Eddy County	<b>TVD Reference:</b>	KB = 26 @ 3508.3 usft (H&P 300)
<b>Site:</b> Bellatrix "28" Federal Com	<b>MD Reference:</b>	KB = 26 @ 3508.3 usft (H&P 300)
<b>Well:</b> #3H	<b>North Reference:</b>	<b>Grid:</b>
<b>Wellbore:</b> OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b> Plan #1	<b>Database:</b>	EDM:5000.1 Single User Db

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

<b>Site:</b> Bellatrix "28" Federal Com		
<b>Site Position:</b>	<b>Northing:</b> 595,443.610 usft	<b>Latitude:</b> 32° 38' 10.047 N
<b>From:</b> Map	<b>Easting:</b> 679,232.620 usft	<b>Longitude:</b> 103° 53' 7.349 W
<b>Position Uncertainty:</b> 0.0 usft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> 0.24 °

<b>Well:</b> #3H			
<b>Well Position</b>	<b>+N-S:</b> 0.0 usft	<b>Northing:</b> 592,647.160 usft	<b>Latitude:</b> 32° 37' 42.351 N
	<b>+E-W:</b> 0.0 usft	<b>Easting:</b> 679,842.640 usft	<b>Longitude:</b> 103° 53' 0.354 W
<b>Position Uncertainty:</b> 0.0 usft		<b>Wellhead Elevation:</b> usft	<b>Ground Level:</b> 3,482.3 usft

<b>Wellbore:</b> OH					
<b>Magnetics</b>	<b>Model Name:</b> IGRF200510	<b>Sample Date:</b> 1/25/2012	<b>Declination (°):</b> 7.67	<b>Dip Angle (°):</b> 60.52	<b>Field Strength (nT):</b> 48,802

<b>Design:</b> Plan #1				
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b> PLAN	<b>Tie On Depth:</b> 0.0		
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft):</b> 0.0	<b>+N-S (usft):</b> 0.0	<b>+E-W (usft):</b> 0.0	<b>Direction (°):</b> 81.68

<b>Survey Tool Program</b>	<b>Date:</b> 1/25/2012			
<b>From (usft):</b> 0.0	<b>To (usft):</b> 14,205.8	<b>Survey (Wellbore):</b> Plan #1 (OH)	<b>Tool Name:</b> Pathfinder	<b>Description:</b> Pathfinder MWD



Pathfinder  
PathfinderX & Y Report



Company:	Devon Energy, Inc	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County	TVD Reference:	KB = 26 @ 3508.3usft (H&P 300)
Site:	Bellatrix "28" Federal Com	MD Reference:	KB = 26 @ 3508.3usft (H&P 300)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan.#1	Database:	EDM 5000.1: Single User.Db

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)		
0.0	0.00	0.00	0.0	-3,508.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
100.0	0.00	0.00	100.0	-3,408.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
200.0	0.00	0.00	200.0	-3,308.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
300.0	0.00	0.00	300.0	-3,208.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
400.0	0.00	0.00	400.0	-3,108.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
500.0	0.00	0.00	500.0	-3,008.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
600.0	0.00	0.00	600.0	-2,908.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
700.0	0.00	0.00	700.0	-2,808.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
800.0	0.00	0.00	800.0	-2,708.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
900.0	0.00	0.00	900.0	-2,608.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,000.0	0.00	0.00	1,000.0	-2,508.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,100.0	0.00	0.00	1,100.0	-2,408.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,200.0	0.00	0.00	1,200.0	-2,308.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,300.0	0.00	0.00	1,300.0	-2,208.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,400.0	0.00	0.00	1,400.0	-2,108.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,500.0	0.00	0.00	1,500.0	-2,008.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,600.0	0.00	0.00	1,600.0	-1,908.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,700.0	0.00	0.00	1,700.0	-1,808.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,800.0	0.00	0.00	1,800.0	-1,708.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
1,900.0	0.00	0.00	1,900.0	-1,608.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
2,000.0	0.00	0.00	2,000.0	-1,508.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
2,100.0	0.00	0.00	2,100.0	-1,408.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
2,200.0	0.00	0.00	2,200.0	-1,308.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
2,300.0	0.00	0.00	2,300.0	-1,208.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
2,400.0	0.00	0.00	2,400.0	-1,108.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
2,500.0	0.00	0.00	2,500.0	-1,008.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
2,600.0	0.00	0.00	2,600.0	-908.3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		



Pathfinder  
PathfinderX & Y Report



<b>Company:</b>	Devon Energy, Inc.	<b>Local Co-ordinate Reference:</b>	Well #3H
<b>Project:</b>	Eddy County	<b>TVD Reference:</b>	KB = 26 @ 3508.3usft (H&P 300)
<b>Site:</b>	Bellatrix "28" Federal Com	<b>MD Reference:</b>	KB = 26 @ 3508.3usft (H&P 300)
<b>Well:</b>	#3H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDM.5000.1 Single User Db

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg ("/100usft)	Northing (usft)	Easting (usft)		
2,700.0	0 00	0 00	2,700 0	-808 3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
2,800 0	0.00	0.00	2,800.0	-708.3	0.0	0.0	0.0	0.00	592,647 16	679,842.64		
2,900 0	0 00	0 00	2,900 0	-608.3	0 0	0.0	0.0	0.00	592,647 16	679,842 64		
3,000.0	0 00	0 00	3,000 0	-508.3	0.0	0.0	0.0	0 00	592,647.16	679,842.64		
3,100.0	0.00	0 00	3,100.0	-408 3	0 0	0.0	0.0	0.00	592,647 16	679,842 64		
3,200.0	0 00	0 00	3,200 0	-308.3	0.0	0.0	0.0	0.00	592,647 16	679,842 64		
3,300.0	0.00	0.00	3,300 0	-208 3	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
3,400.0	0.00	0 00	3,400.0	-108.3	0 0	0.0	0.0	0.00	592,647 16	679,842 64		
3,500.0	0.00	0.00	3,500.0	-8.3	0.0	0 0	0.0	0.00	592,647.16	679,842.64		
3,600.0	0.00	0.00	3,600.0	91.7	0.0	0.0	0.0	0.00	592,647 16	679,842.64		
3,700 0	0.00	0.00	3,700.0	191.7	0 0	0 0	0.0	0.00	592,647 16	679,842.64		
3,800 0	0.00	0.00	3,800.0	291.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
3,900.0	0.00	0.00	3,900.0	391.7	0 0	0 0	0.0	0.00	592,647 16	679,842.64		
4,000.0	0.00	0.00	4,000.0	491.7	0 0	0.0	0.0	0 00	592,647.16	679,842.64		
4,100.0	0.00	0.00	4,100.0	591.7	0 0	0.0	0.0	0.00	592,647.16	679,842.64		
4,200.0	0 00	0.00	4,200.0	691.7	0 0	0.0	0.0	0.00	592,647.16	679,842 64		
4,300.0	0.00	0.00	4,300.0	791.7	0 0	0.0	0.0	0.00	592,647 16	679,842 64		
4,400.0	0.00	0.00	4,400 0	891.7	0.0	0.0	0 0	0.00	592,647.16	679,842.64		
4,500.0	0.00	0 00	4,500.0	991.7	0 0	0.0	0 0	0.00	592,647 16	679,842.64		
4,600.0	0 00	0 00	4,600 0	1,091.7	0.0	0.0	0 0	0.00	592,647.16	679,842.64		
4,700.0	0 00	0 00	4,700.0	1,191.7	0.0	0.0	0 0	0.00	592,647.16	679,842.64		
4,800.0	0 00	0 00	4,800 0	1,291 7	0.0	0.0	0 0	0.00	592,647.16	679,842 64		
4,900 0	0 00	0.00	4,900.0	1,391.7	0 0	0.0	0.0	0.00	592,647.16	679,842.64		
5,000.0	0.00	0 00	5,000.0	1,491.7	0 0	0 0	0.0	0 00	592,647 16	679,842.64		
5,100.0	0 00	0 00	5,100.0	1,591 7	0.0	0 0	0.0	0.00	592,647.16	679,842.64		
5,200.0	0 00	0 00	5,200.0	1,691 7	0.0	0.0	0.0	0.00	592,647.16	679,842 64		
5,300.0	0 00	0 00	5,300.0	1,791 7	0.0	0 0	0.0	0.00	592,647.16	679,842 64		



Pathfinder  
PathfinderX & Y Report



Company:	Devon Energy, Inc	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County	TVD Reference:	KB = 26 @ 3508.3usft (H&P 300)
Site:	Bellatrix "28" Federal Com	MD Reference:	KB = 26 @ 3508.3usft (H&P 300)
Well:	#3H	North Reference:	Grid.
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single-User Db.

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (%/100usft)	Northing (usft)	Easting (usft)		
5,400.0	0.00	0.00	5,400.0	1,891.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
5,500.0	0.00	0.00	5,500.0	1,991.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
5,600.0	0.00	0.00	5,600.0	2,091.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
5,700.0	0.00	0.00	5,700.0	2,191.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
5,800.0	0.00	0.00	5,800.0	2,291.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
5,900.0	0.00	0.00	5,900.0	2,391.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,000.0	0.00	0.00	6,000.0	2,491.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,100.0	0.00	0.00	6,100.0	2,591.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,200.0	0.00	0.00	6,200.0	2,691.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,300.0	0.00	0.00	6,300.0	2,791.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,400.0	0.00	0.00	6,400.0	2,891.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,500.0	0.00	0.00	6,500.0	2,991.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,600.0	0.00	0.00	6,600.0	3,091.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,700.0	0.00	0.00	6,700.0	3,191.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,800.0	0.00	0.00	6,800.0	3,291.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
6,900.0	0.00	0.00	6,900.0	3,391.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,000.0	0.00	0.00	7,000.0	3,491.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,100.0	0.00	0.00	7,100.0	3,591.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,200.0	0.00	0.00	7,200.0	3,691.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,300.0	0.00	0.00	7,300.0	3,791.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,400.0	0.00	0.00	7,400.0	3,891.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,500.0	0.00	0.00	7,500.0	3,991.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,600.0	0.00	0.00	7,600.0	4,091.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,700.0	0.00	0.00	7,700.0	4,191.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,800.0	0.00	0.00	7,800.0	4,291.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
7,900.0	0.00	0.00	7,900.0	4,391.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
8,000.0	0.00	0.00	8,000.0	4,491.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		



Pathfinder  
PathfinderX & Y Report



<b>Company:</b>	Devon Energy, Inc.	<b>Local Co-ordinate Reference:</b>	Well #3H
<b>Project:</b>	Eddy County	<b>TVD Reference:</b>	KB = 26 @ 3508.3usft (H&P 300)
<b>Site:</b>	Bellatrix "28" Federal Com	<b>MD Reference:</b>	KB = 26 @ 3508.3usft (H&P 300)
<b>Well:</b>	#3H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDM 5000:1 Single User Db

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (%/100usft)	Northing (usft)	Easting (usft)		
8,100.0	0.00	0.00	8,100.0	4,591.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
8,200.0	0.00	0.00	8,200.0	4,691.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
8,300.0	0.00	0.00	8,300.0	4,791.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
8,400.0	0.00	0.00	8,400.0	4,891.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
8,507.0	0.00	0.00	8,507.0	4,998.7	0.0	0.0	0.0	0.00	592,647.16	679,842.64		
8,550.0	4.30	48.00	8,550.0	5,041.7	1.1	1.2	1.3	10.00	592,648.24	679,843.84		
8,600.0	9.30	48.00	8,599.6	5,091.3	5.0	5.6	6.3	10.00	592,652.20	679,848.24		
8,650.0	14.30	48.00	8,648.5	5,140.2	11.9	13.2	14.8	10.00	592,659.04	679,855.83		
8,700.0	19.30	48.00	8,696.4	5,188.1	21.5	23.9	26.8	10.00	592,668.71	679,866.57		
8,750.0	24.30	48.00	8,742.8	5,234.5	34.0	37.7	42.2	10.00	592,681.13	679,880.36		
8,800.0	29.30	48.00	8,787.4	5,279.1	49.0	54.5	61.0	10.00	592,696.21	679,897.11		
8,850.0	34.30	48.00	8,829.9	5,321.6	66.7	74.0	82.9	10.00	592,713.83	679,916.69		
8,900.0	39.30	48.00	8,869.9	5,361.6	86.7	96.3	107.8	10.00	592,733.87	679,938.94		
8,950.0	44.30	48.00	8,907.2	5,398.9	109.0	121.1	135.6	10.00	592,756.16	679,963.70		
9,000.0	49.30	48.00	8,941.4	5,433.1	133.4	148.1	165.9	10.00	592,780.54	679,990.77		
9,050.0	54.30	48.00	8,972.3	5,464.0	159.7	177.3	198.6	10.00	592,806.82	680,019.96		
9,100.0	59.30	48.00	8,999.7	5,491.4	187.6	208.4	233.4	10.00	592,834.81	680,051.05		
9,150.0	64.30	48.00	9,023.3	5,515.0	217.1	241.1	270.0	10.00	592,864.29	680,083.78		
9,200.0	69.30	48.00	9,043.0	5,534.7	247.9	275.3	308.3	10.00	592,895.03	680,117.92		
9,250.0	74.30	48.00	9,058.6	5,550.3	279.6	310.6	347.8	10.00	592,926.80	680,153.21		
9,300.0	79.30	48.00	9,070.0	5,561.7	312.2	346.7	388.3	10.00	592,959.36	680,189.38		
9,350.0	84.30	48.00	9,077.1	5,568.8	345.3	383.5	429.4	10.00	592,992.47	680,226.14		
9,400.0	89.30	48.00	9,079.9	5,571.6	378.7	420.6	471.0	10.00	593,025.86	680,263.23		
9,406.4	89.94	48.00	9,080.0	5,571.7	383.0	425.3	476.3	10.00	593,030.14	680,267.98		
9,500.0	89.94	51.74	9,080.1	5,571.8	443.3	496.9	555.8	4.00	593,090.46	680,339.54		
9,600.0	89.94	55.74	9,080.2	5,571.9	502.4	577.5	644.2	4.00	593,149.58	680,420.16		
9,700.0	89.94	59.74	9,080.3	5,572.0	555.8	662.1	735.5	4.00	593,202.94	680,504.71		



Pathfinder  
PathfinderX & Y Report



Company:	Devon Energy, Inc.	Local Co-ordinate Reference:	Well #3H
Project:	Eddy County	TVD Reference:	KB = 26 @ 3508.3usft (H&P 300)
Site:	Bellatrix "28" Federal Com	MD Reference:	KB = 26 @ 3508.3usft (H&P 300)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM:5000.1 Single-User.Db

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)		
9,800.0	89.94	63.74	9,080.4	5,572.1	603.1	750.1	829.5	4.00	593,250.27	680,592.78		
9,900.0	89.94	67.74	9,080.5	5,572.2	644.2	841.3	925.7	4.00	593,291.35	680,683.93		
10,000.0	89.94	71.74	9,080.6	5,572.3	678.8	935.1	1,023.5	4.00	593,325.96	680,777.73		
10,100.0	89.94	75.74	9,080.7	5,572.4	706.8	1,031.1	1,122.5	4.00	593,353.95	680,873.71		
10,200.0	89.94	79.74	9,080.8	5,572.5	728.0	1,128.8	1,222.3	4.00	593,375.17	680,971.41		
10,300.0	89.94	83.74	9,080.9	5,572.6	742.4	1,227.7	1,322.2	4.00	593,389.53	681,070.35		
10,400.0	89.94	87.74	9,081.0	5,572.7	749.8	1,327.4	1,422.0	4.00	593,396.95	681,170.06		
10,456.4	89.94	90.00	9,081.1	5,572.8	750.9	1,383.8	1,477.9	4.00	593,398.06	681,226.45		
10,500.0	89.94	90.00	9,081.1	5,572.8	750.9	1,427.4	1,521.1	0.00	593,398.06	681,270.04		
10,600.0	89.94	90.00	9,081.3	5,573.0	750.9	1,527.4	1,620.0	0.00	593,398.06	681,370.04		
10,700.0	89.94	90.00	9,081.4	5,573.1	750.9	1,627.4	1,719.0	0.00	593,398.06	681,470.04		
10,800.0	89.94	90.00	9,081.5	5,573.2	750.9	1,727.4	1,817.9	0.00	593,398.06	681,570.04		
10,900.0	89.94	90.00	9,081.6	5,573.3	750.9	1,827.4	1,916.8	0.00	593,398.06	681,670.04		
11,000.0	89.94	90.00	9,081.7	5,573.4	750.9	1,927.4	2,015.8	0.00	593,398.06	681,770.04		
11,100.0	89.94	90.00	9,081.8	5,573.5	750.9	2,027.4	2,114.7	0.00	593,398.06	681,870.04		
11,200.0	89.94	90.00	9,081.9	5,573.6	750.9	2,127.4	2,213.7	0.00	593,398.06	681,970.04		
11,300.0	89.94	90.00	9,082.0	5,573.7	750.9	2,227.4	2,312.6	0.00	593,398.06	682,070.04		
11,400.0	89.94	90.00	9,082.1	5,573.8	750.9	2,327.4	2,411.6	0.00	593,398.05	682,170.04		
11,500.0	89.94	90.00	9,082.2	5,573.9	750.9	2,427.4	2,510.5	0.00	593,398.05	682,270.04		
11,600.0	89.94	90.00	9,082.3	5,574.0	750.9	2,527.4	2,609.5	0.00	593,398.05	682,370.04		
11,700.0	89.94	90.00	9,082.4	5,574.1	750.9	2,627.4	2,708.4	0.00	593,398.05	682,470.04		
11,800.0	89.94	90.00	9,082.5	5,574.2	750.9	2,727.4	2,807.4	0.00	593,398.05	682,570.04		
11,900.0	89.94	90.00	9,082.6	5,574.3	750.9	2,827.4	2,906.3	0.00	593,398.05	682,670.04		
12,000.0	89.94	90.00	9,082.7	5,574.4	750.9	2,927.4	3,005.3	0.00	593,398.05	682,770.04		
12,100.0	89.94	90.00	9,082.8	5,574.5	750.9	3,027.4	3,104.2	0.00	593,398.05	682,870.04		
12,200.0	89.94	90.00	9,082.9	5,574.6	750.9	3,127.4	3,203.2	0.00	593,398.05	682,970.04		
12,300.0	89.94	90.00	9,083.0	5,574.7	750.9	3,227.4	3,302.1	0.00	593,398.05	683,070.04		



Pathfinder  
PathfinderX & Y Report



<b>Company:</b>	Devon Energy, Inc.	<b>Local Co-ordinate Reference:</b>	Well #3H
<b>Project:</b>	Eddy County	<b>TVD Reference:</b>	KB = 26 @ 3508.3usft (H&P 300)
<b>Site:</b>	Bellatrix "28" Federal Corn	<b>MD Reference:</b>	KB = 26 @ 3508.3usft (H&P 300)
<b>Well:</b>	#3H	<b>North Reference:</b>	Grid..
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDM 5000.1 Single User.Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
12,400.0	89.94	90.00	9,083.1	5,574.8	750.9	3,327.4	3,401.0	0.00	593,398.05	683,170.04	
12,500.0	89.94	90.00	9,083.2	5,574.9	750.9	3,427.4	3,500.0	0.00	593,398.05	683,270.04	
12,600.0	89.94	90.00	9,083.3	5,575.0	750.9	3,527.4	3,598.9	0.00	593,398.05	683,370.04	
12,700.0	89.94	90.00	9,083.4	5,575.1	750.9	3,627.4	3,697.9	0.00	593,398.05	683,470.04	
12,800.0	89.94	90.00	9,083.5	5,575.2	750.9	3,727.4	3,796.8	0.00	593,398.05	683,570.04	
12,900.0	89.94	90.00	9,083.6	5,575.3	750.9	3,827.4	3,895.8	0.00	593,398.05	683,670.04	
13,000.0	89.94	90.00	9,083.7	5,575.4	750.9	3,927.4	3,994.7	0.00	593,398.05	683,770.04	
13,100.0	89.94	90.00	9,083.9	5,575.6	750.9	4,027.4	4,093.7	0.00	593,398.05	683,870.04	
13,200.0	89.94	90.00	9,084.0	5,575.7	750.9	4,127.4	4,192.6	0.00	593,398.05	683,970.04	
13,300.0	89.94	90.00	9,084.1	5,575.8	750.9	4,227.4	4,291.6	0.00	593,398.04	684,070.04	
13,400.0	89.94	90.00	9,084.2	5,575.9	750.9	4,327.4	4,390.5	0.00	593,398.04	684,170.04	
13,500.0	89.94	90.00	9,084.3	5,576.0	750.9	4,427.4	4,489.5	0.00	593,398.04	684,270.04	
13,600.0	89.94	90.00	9,084.4	5,576.1	750.9	4,527.4	4,588.4	0.00	593,398.04	684,370.04	
13,700.0	89.94	90.00	9,084.5	5,576.2	750.9	4,627.4	4,687.4	0.00	593,398.04	684,470.04	
13,800.0	89.94	90.00	9,084.6	5,576.3	750.9	4,727.4	4,786.3	0.00	593,398.04	684,570.04	
13,900.0	89.94	90.00	9,084.7	5,576.4	750.9	4,827.4	4,885.3	0.00	593,398.04	684,670.04	
14,000.0	89.94	90.00	9,084.8	5,576.5	750.9	4,927.4	4,984.2	0.00	593,398.04	684,770.04	
14,100.0	89.94	90.00	9,084.9	5,576.6	750.9	5,027.4	5,083.1	0.00	593,398.04	684,870.04	
14,205.8	89.94	90.00	9,085.0	5,576.7	750.9	5,133.2	5,187.8	0.00	593,398.04	684,975.81	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



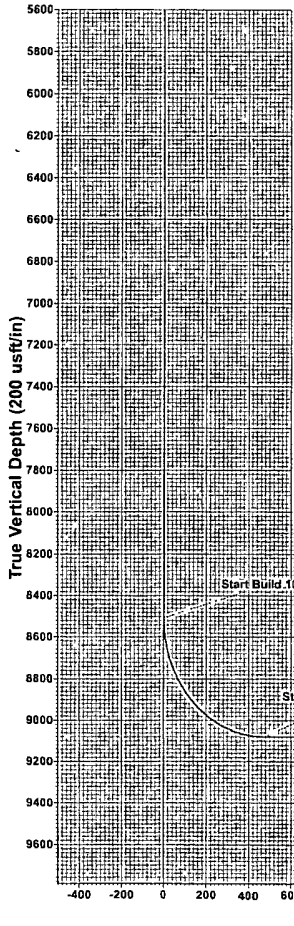
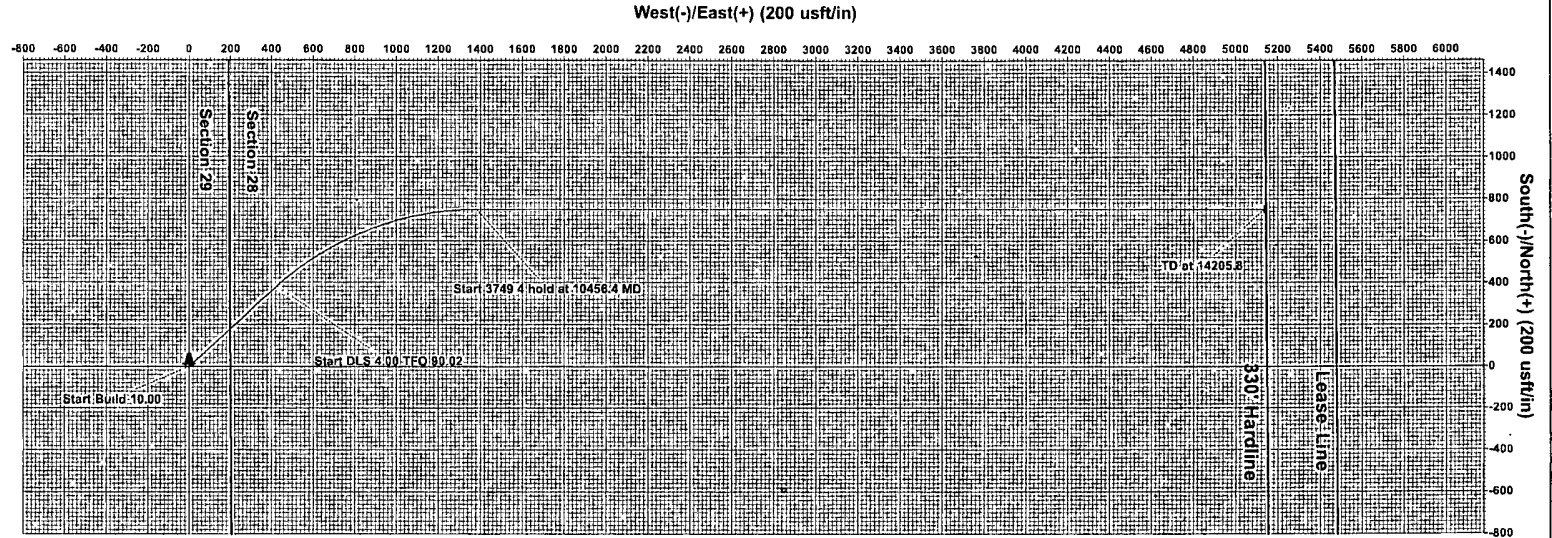


PROJECT DETAILS: Eddy County  
 Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Eastern Zone  
 System Datum: Mean Sea Level  
 Local North: Grid



A Schlumberger Company

Project: Eddy County  
 Site: Bellatrix "28" Federal Com  
 Well: #3H  
 Wellbore: OH  
 Plan: Plan #1 (#3H/OH)



**WELL DETAILS: #3H**

Ground Elevation: 3482.3  
 RKB Elevation: KB = 26 @ 3508 Jusft (H&P 300)  
 Rig Name: H&P 300

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	592647.160	679842.640	32°37'42.351 N	103°53'0.354 W	

**WELLBORE TARGET DETAILS (MAP CO-ORDINATES)**

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (Bellatrix #3H)	9085.0	750.9	5133.2	593398.040	684975.810	Point

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.0	
2	8507.0	0.00	0.00	8507.0	0.0	0.0	0.00	0.00	0.0	
3	9405.4	89.94	48.00	9080.0	383.0	425.3	10.00	48.00	476.3	
4	10456.4	89.94	90.00	9081.1	750.9	1383.8	4.00	90.02	1477.9	
5	14205.8	89.94	90.00	9085.0	750.9	5133.2	0.00	0.00	5187.8	PBHL (Bellatrix #3H)



Azimuths to Grid North  
 True North: -0.24°  
 Magnetic North: 7.43°

Magnetic Field  
 Strength: 48802.2snT  
 Dip Angle: 60.52°  
 Date: 1/25/2012  
 Model: IGRF200510

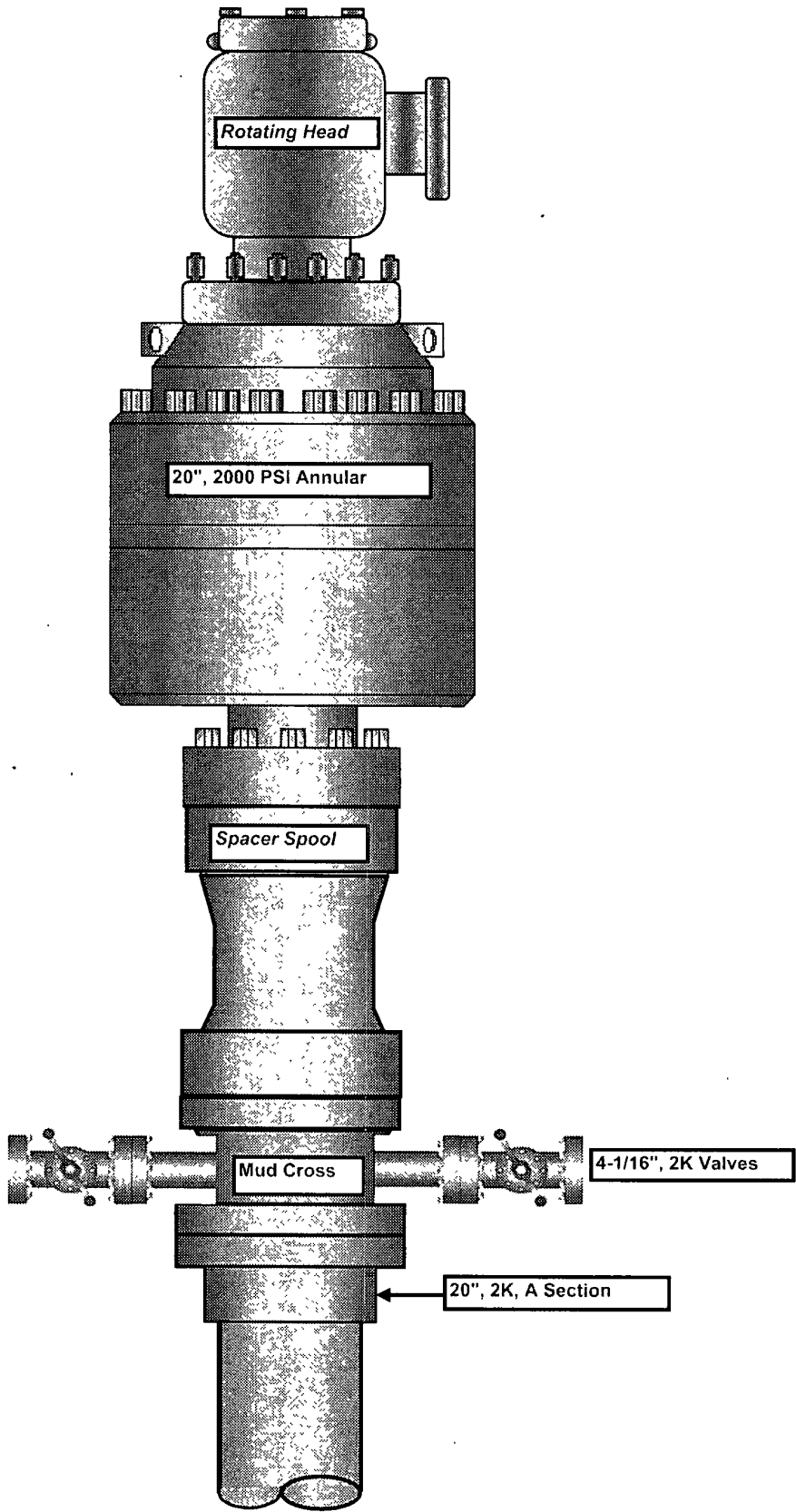
Plan Plan #1 (#3H/OH)

Created By: Sam Bliffe Date: 10/31, January 25 2012

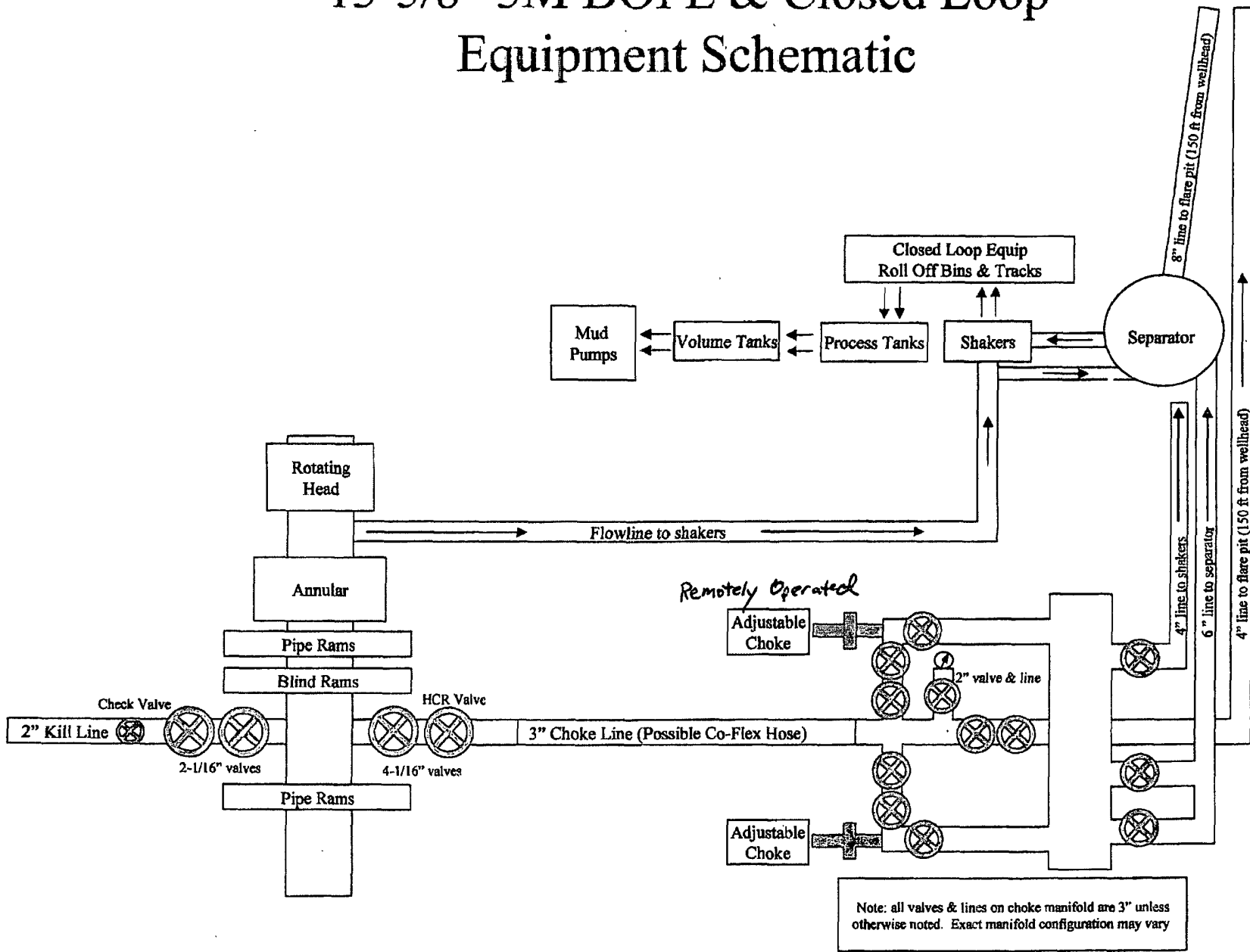
Checked: \_\_\_\_\_ Date: \_\_\_\_\_

Original Scale: 1/4" = 100'  
 Eddy County, NM  
 Bellatrix "28" Federal Com  
 Well: #3H  
 H&P 300  
 Plan #1

20" 2K Annular



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



Attachment to Exhibit #1  
NOTES REGARDING BLOWOUT PREVENTERS  
Devon Energy Production Company, LP  
**Bellatrix 28 Fed Com 3H**

Surface Location: 1560' FSL & 200' FEL, Unit I, Sec 29 T19S R31E, Eddy, NM  
Bottom hole Location: 2280' FSL & 340' FEL, Unit I, Sec 28 T19S R31E, Eddy, 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 3000 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.



Fluid Technology

ContiTech Beattie Corp.  
Website: [www.contitechbeattie.com](http://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.

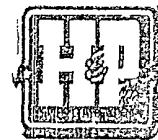
Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

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

Best regards,

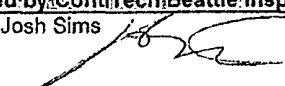
Robin Hodgson  
Sales Manager  
ContiTech Beattie Corp

ContiTech Beattie Corp,  
11535 Brittmoore Park Drive,  
Houston, TX 77041  
Phone: +1 (832) 327-0141  
Fax: +1 (832) 327-0148  
[www.contitechbeattie.com](http://www.contitechbeattie.com)



# Hydrostatic Test Certificate

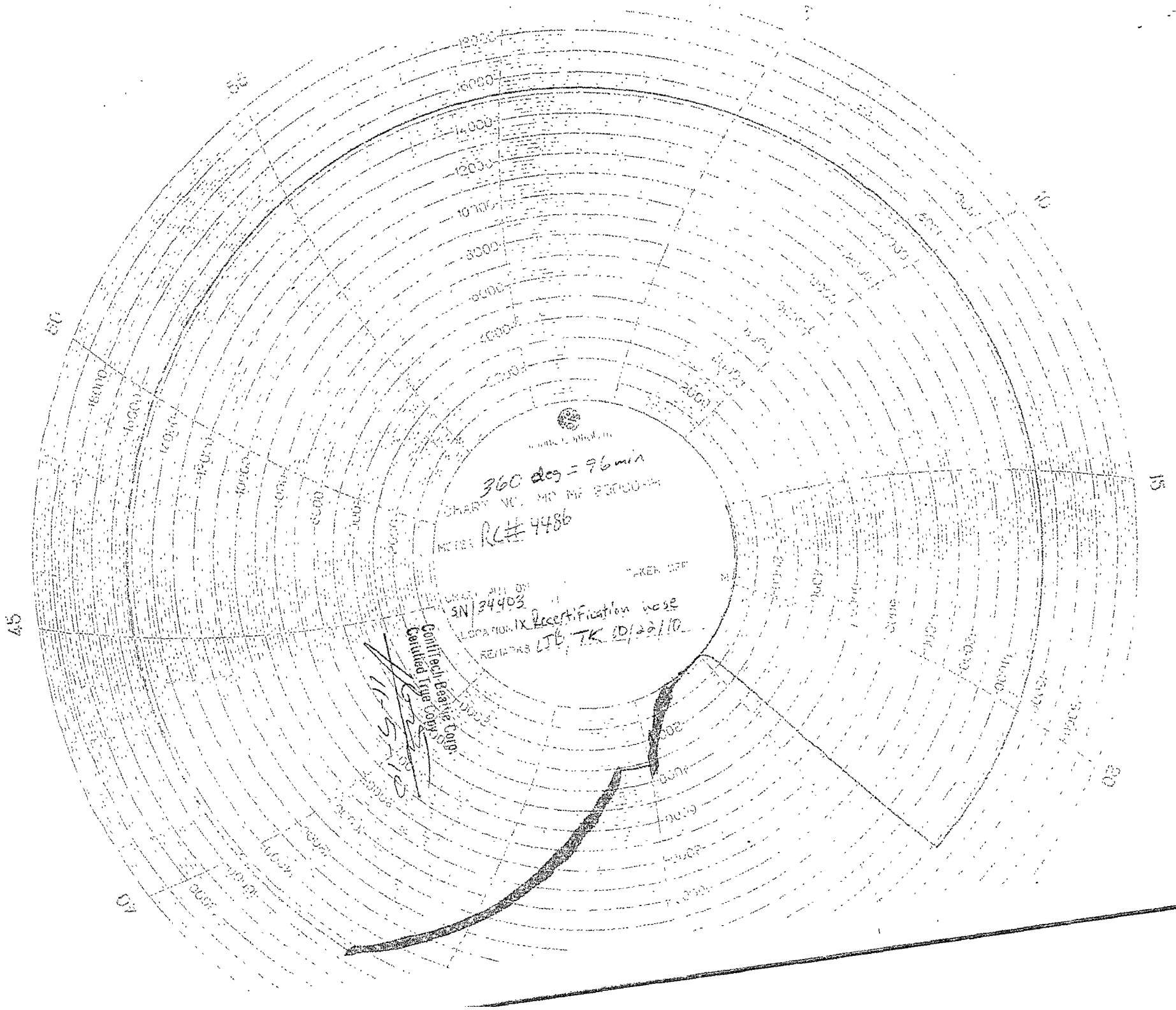


Certificate Number: 4520	PBC No: 10321	<b>Customer Name &amp; Address</b>	
Customer Purchase Order No: RIG 300	Project:	HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119	
<b>Test Centre Address</b>		<b>Accepted by ContiTech Beattie Inspection</b>	<b>Accepted by Client Inspection</b>
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	Qty	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



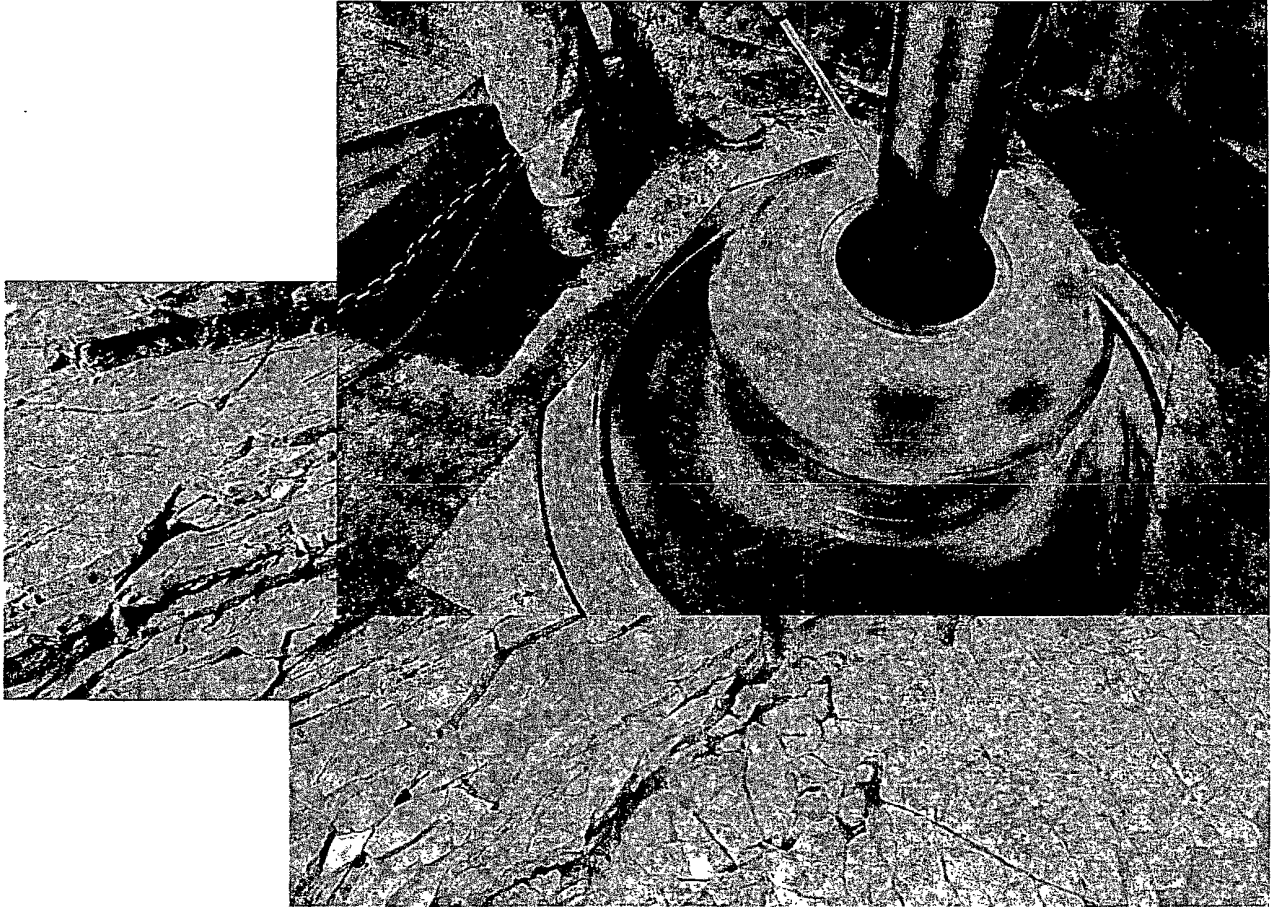
360 deg = 96 min  
RC# 4486

SN 34403  
REMARKS LIB TK 10/22/10

Center Frequency Coupled Line Coupler



Commitment Runs Deep



Design Plan  
Operation and Maintenance Plan  
Closure Plan

SENM - Closed Loop Systems  
June 2008



## 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.

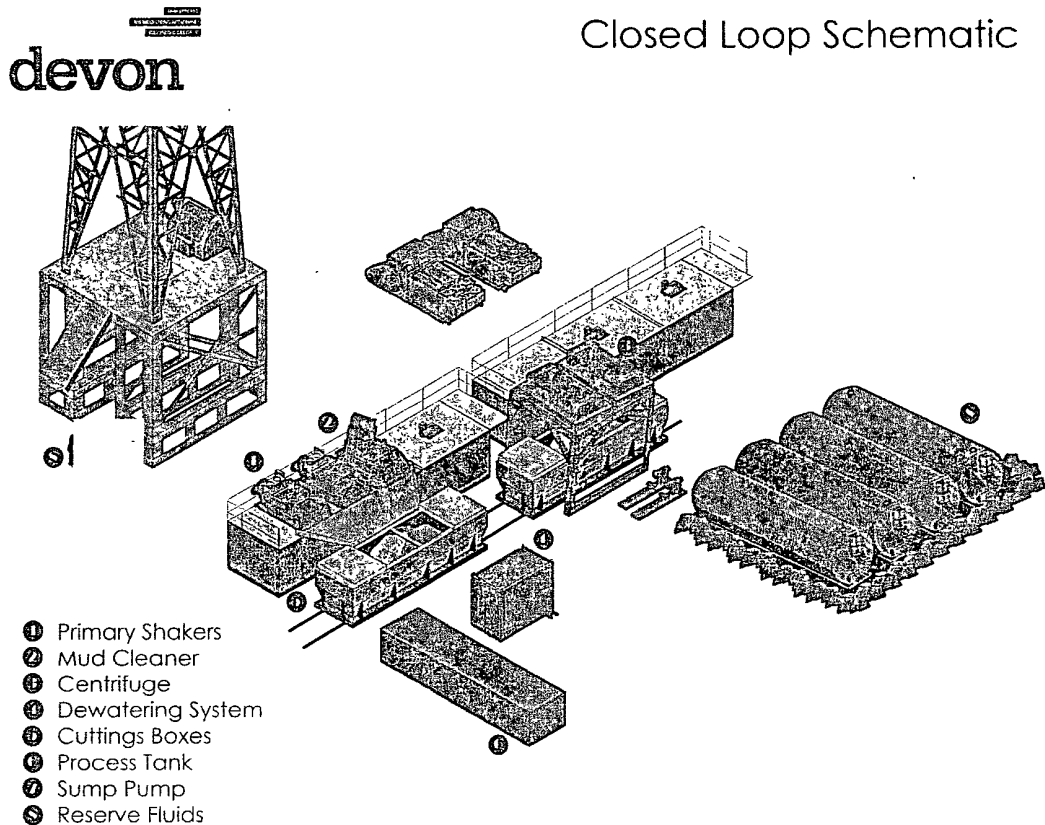
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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.



**Devon Energy Corporation  
20 North Broadway  
Oklahoma City, Oklahoma 73102-8260**

# **Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan**

**For**

**Bellatrix “28” Federal Com 3H**

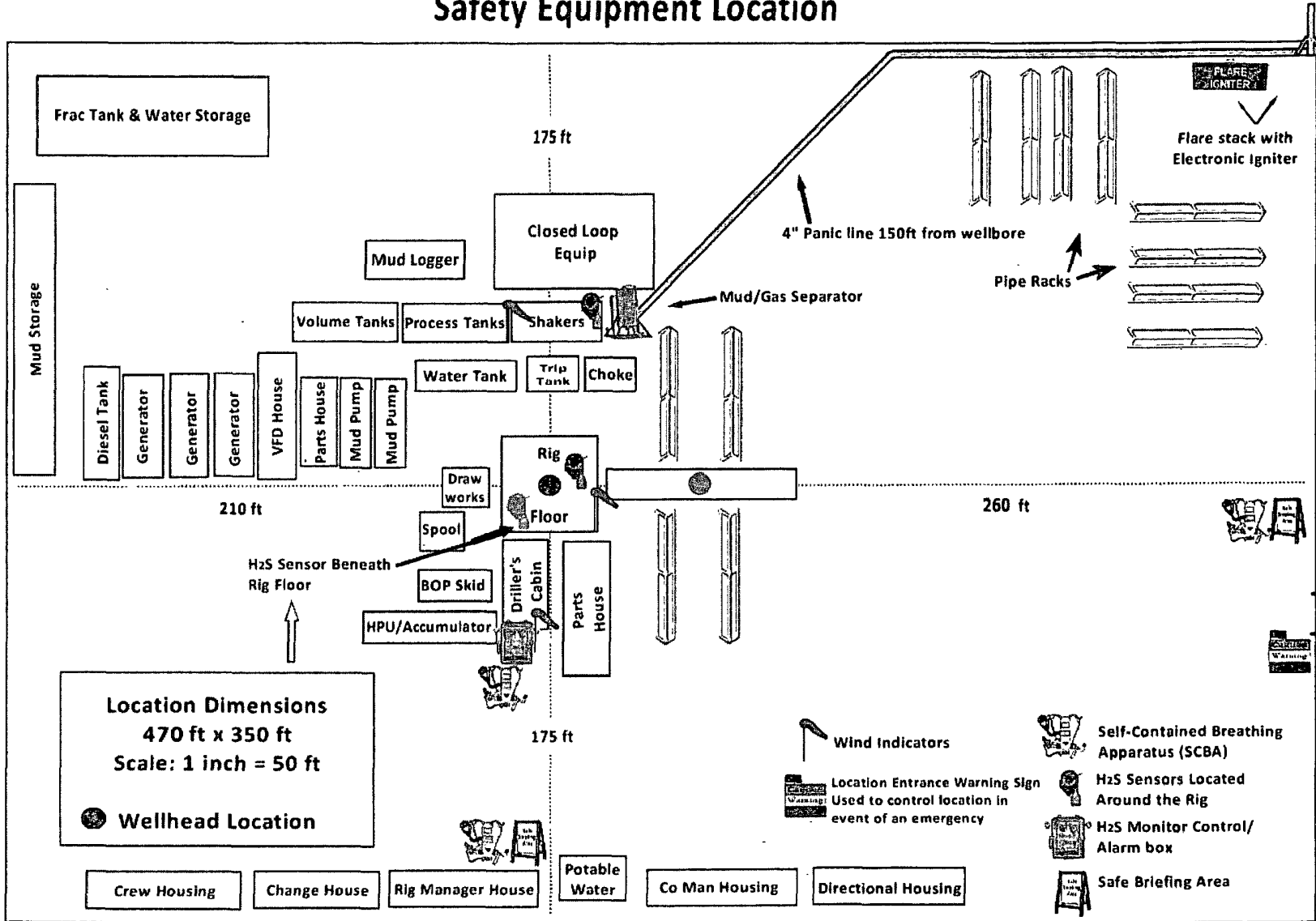
**Sec-29, T-19S R-31E  
1560’ FSL & 200’ FEL,  
LAT. = 32.6284308’N (NAD83)  
LONG = 103.8834317’W**

**Eddy County NM**

# Devon Energy - 2 Well Pad

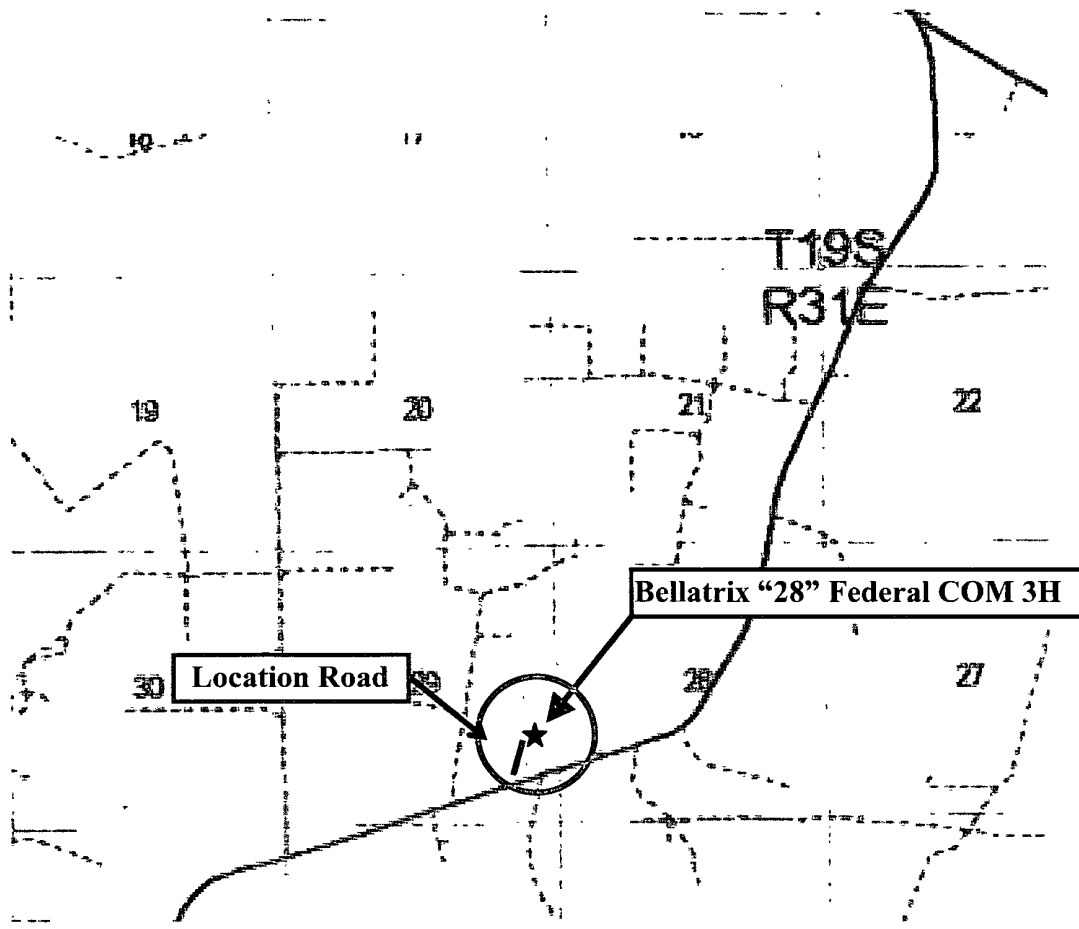
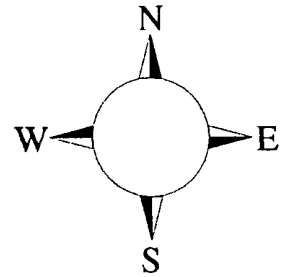
## Rig Location Layout

### Safety Equipment Location



## Bellatrix "28" Federal COM 3H

This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.



Assumed 100 ppm 3000' ( )  
100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

### Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated Southward on lease road and the East or West on main road.. Crews should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There is a home and road within or near the ROE. Steps should be taken, in the case of a gas release, to warn and protect those properties.

**Assumed 100 ppm ROE = 3000'**

**100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.**

## Emergency Procedures

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the “buddy system” to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - Detection of H<sub>2</sub>S, and
  - Measures for protection against the gas,
  - Equipment used for protection and emergency response.

### **Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

### **Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

<b>Common Name</b>	<b>Chemical Formula</b>	<b>Specific Gravity</b>	<b>Threshold Limit</b>	<b>Hazardous Limit</b>	<b>Lethal Concentration</b>
<b>Hydrogen Sulfide</b>	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
<b>Sulfur Dioxide</b>	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

### **Contacting Authorities**

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico’s ‘Hazardous Materials Emergency Response Plan’ (HMER)



**Devon Energy Corp. Company Call List**

<u>Artesia (575)</u>	<u>Cellular</u>	<u>Office</u>	<u>Home</u>
Foreman – Roger Hernandez .	748-0169 .....	748-5238.....	746-2991
Asst. Foreman –Tommy Polly.	748-5290.....	748-0165 .....	748-2846
Don Mayberry .....	748-5235 .....	748-0164.....	746-4945
Brian Schultz .....	(505) 325-5623 .....	746-9072.....	746-4945
Engineer – Steven Jones .....	(405) 596-8041.....	(405) 552-7994	

**Agency Call List**

<u>Lea County (575)</u>	<u>Hobbs</u>	
	State Police .....	392-5588
	City Police .....	397-9265
	Sheriff's Office .....	393-2515
	Ambulance.....	911
	Fire Department.....	397-9308
	LEPC (Local Emergency Planning Committee).....	393-2870
	NMOCD .....	393-6161
	US Bureau of Land Management .....	393-3612

<u>Eddy County (575)</u>	<u>Carlsbad</u>	
	State Police .....	885-3137
	City Police .....	885-2111
	Sheriff's Office .....	887-7551
	Ambulance.....	911
	Fire Department.....	885-2111
	LEPC (Local Emergency Planning Committee).....	887-3798
	US Bureau of Land Management .....	887-6544
	New Mexico Emergency Response Commission (Santa Fe) ...	(505)476-9600
	24 HR .....	(505) 827-9126
	National Emergency Response Center (Washington, DC) ..	(800) 424-8802

**Emergency Services**

	Boots & Coots IWC .....	1-800-256-9688 or (281) 931-8884
	Cudd Pressure Control.....	(915) 699-0139 or (915) 563-3356
	Halliburton .....	(575) 746-2757
	B. J. Services.....	(575) 746-3569
<i>Give</i>	Flight For Life - Lubbock, TX .....	(806) 743-9911
<i>GPS</i>	Aerocare - Lubbock, TX .....	(806) 747-8923
<i>position:</i>	Med Flight Air Amb - Albuquerque, NM .....	(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM .....	(575) 272-3115

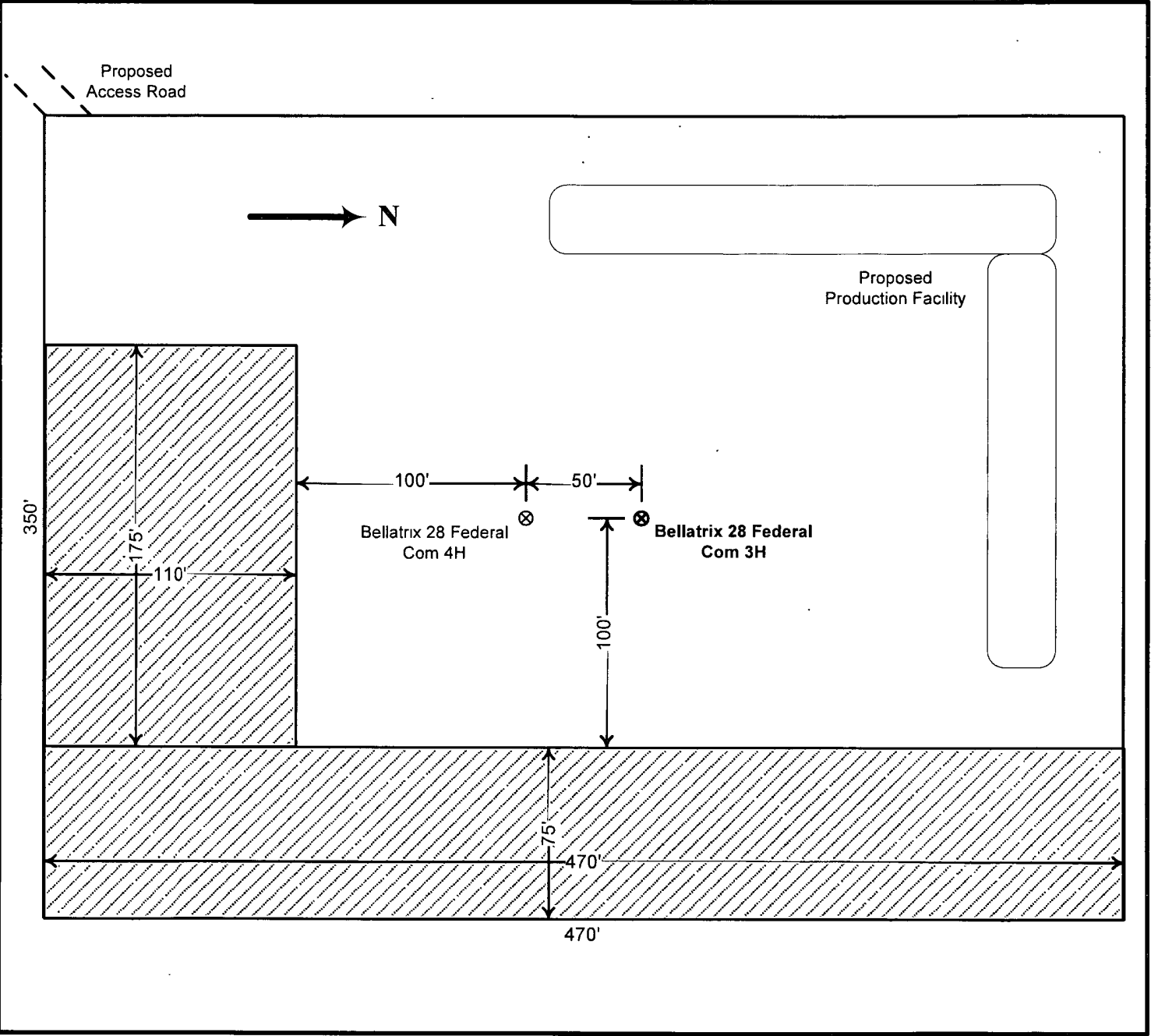
Prepared in conjunction with  
Wade Rohloff






### Proposed Interim Site Reclamation

Devon Energy Production Co.  
Bellatrix 28 Federal Com 3H  
1560' FSL & 200' FEL  
Sec. 29-T19S-R31E  
Eddy County, NM



 Proposed Reclamation Area

  
Scale: 1in = 60ft.

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	NM101113
WELL NAME & NO.:	3H BELLATRIX 28 FED COM
SURFACE HOLE FOOTAGE:	1560' FSL & 200' FEL
BOTTOM HOLE FOOTAGE:	2280' FSL & 340' FEL (Sec. 28)
LOCATION:	Section 29, T.19 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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