

HOBBS OCD

Form 3160-3
(March 2012)

MAY 08 2013

OCD Hobbs

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

RECEIVED

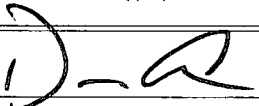
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMLC-061842
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Devon Energy Production Company, L.P.		7. If Unit or CA Agreement, Name and No.
3a. Address 333 W. Sheridan Ave. Oklahoma City, OK 73102		8. Lease Name and Well No. BAE 14 FED COM 4H <398167>
3b. Phone No. (include area code) 405-552-7848		9. API Well No. 30-025-41165
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 2120 FNL & 200 FEL Unit H PP: 1930 FNL & 530 FEL At proposed prod. zone 1930 FNL & 330 FWL Unit E		10. Field and Pool, or Exploratory Maljamar Yeso West <44500>
14. Distance in miles and direction from nearest town or post office* Approximately 5 miles southeast of Maljamar, NM		11. Sec., T. R. M. or Blk. and Survey or Area 14-17S-32E
15. Distance from proposed* 330' location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease 320 acres	17. Spacing Unit dedicated to this well 160 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map	19. Proposed Depth TVD: 6,731' MD: 11,384'	20. BLM/BIA Bond No. on file CO-1104 & NMB-000801
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4,096.9' GL	22. Approximate date work will start* 05/31/2013	23. Estimated duration 45 days
24. Attachments To Be Pad Drilled w/ BAE 14 Fed Com 3H		

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

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

25. Signature 	Name (Printed/Typed) David H. Cook	Date 3/8/2013
Title Regulatory Specialist		
Approved by (Signature) /s/George MacDonell	Name (Printed/Typed)	Date MAY 7 2013
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

Roswell Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

MAY 20 2013

DRILLING PROGRAM

Devon Energy Production Company, LP
BAE 14 Fed Com 4H

Surface Location: 2120 FNL & 200 FEL, Unit H, Sec 14 T17S R32E, Lea, NM
Bottom Hole Location: 1930 FNL & 330 FWL, Unit E, Sec 14 T17S R32E, Lea, NM

1. Geologic Name of Surface Formation

a. Quaternary

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

a. Fresh Water	70'	
b. Rustler	1,030'	
c. Top of Salt	1,275'	
d. Base of Salt	2,410'	
e. Yates	2,420'	
f. Seven Rivers	2,760'	
g. Queen	3,360'	Oil
h. Grayburg	3,800'	Oil
i. San Andres	4,010'	Oil
j. Glorieta	5,610'	Oil
k. Yeso	5,725'	Oil

Total Depth 11,384' MD 6,731' TVD

3. Casing Program: (All casing is new and API approved.)

Kurtis Schmitz

<u>Hole</u> <u>Size</u>	<u>Hole</u> <u>Interval</u>	<u>OD Csg</u>	<u>Casing</u> <u>Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0 – 1,100'	13-3/8"	0 – 1,100'	48#	STC	H-40
12-1/4"	1,100' – 2,550'	9-5/8"	0 – 2,550'	36#	LTC	J-55
8-3/4"	2,550' – 6,100'	5-1/2"	0 – 6,100'	17#	LTC	HCP-110
8-3/4"	6,100' – 11,384'	5-1/2"	6,100' – 11,384'	17#	BTC	HCP-110

MAXIMUM LATERAL TVD **6,870'**

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design</u>	<u>Burst Design</u>	<u>Tension Design</u>
	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>
13 3/8"	1.65	3.70	6.71
9 5/8"	1.55	2.71	5.03
5 1/2"	2.32	3.31	2.30
5 1/2"	3.01	3.73	6.32

Cement Program: (cement volumes Surface 100%/ Intermediate 50% Production based on at least 25% excess):

13 3/8" Surface Lead: 480 sx Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.1% Fresh Water, 13.5 ppg, Yield: 1.75 cf/sk.

TOC @ surface

Tail: 515 sx Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg, Yield: 1.35 cf/sk.

9-5/8" Intermediate Lead: 400 sx (65:35) Class C Cement:Poz (Fly Ash): + 5% bwow Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 6% bwoc Bentonite + 70.9% Fresh Water, 12.9 ppg, Yield: 1.85 cf/sk

TOC @ surface

Tail: 360 sx Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Water, 14.8 ppg, Yield: 1.33 cf/sk

5-1/2" Production Lead: 720 sx (65:35) Class H Cement:Poz (Fly Ash) + 6% bwoc Bentonite + 0.2% bwoc HR-601 + 74.1% Fresh Water, 12.5 ppg, Yield: 1.95 cf/sk.

Tail: 1300 sx (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg, Yield: 1.22 cf/sk

TOC @ 2050 ft

The above cement volumes could be revised pending the caliper measurement from the open hole logs.

4. Pressure Control Equipment

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the surface casing shoe. The BOP system used to drill the intermediate hole will be tested per BLM Onshore Oil and Gas Order 2.

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the intermediate casing shoe. The BOP system used to drill the production hole will be tested per BLM Onshore Oil and Gas Order 2.

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.

5. Proposed Mud Circulation System

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0 – 1,100	8.4-9.0	30-34	N/C	FW
1,100 – 2,550	9.8-10.0	28-32	N/C	Brine
²⁴⁰⁰ 2,550 – 11,384	8.6-9.0	28-32	N/C-12	FW

The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed.

6. Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

7. Logging, Coring, and Testing Program:

- a. Drill stem tests will be based on geological sample shows.
- b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
- c. The open hole electrical logging program will be:
 - 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.

8. 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 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 2,300 psi and Estimated BHT 110°. No H₂S is anticipated to be encountered.

See COA

9. 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 20 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.

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
 Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Site: BAE 14 Fed Corn
 Well: 4H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 4H
 TVD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 MD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	BAE 14 Fed Corn		
Site Position:	From: Map	Northing:	668,346.18 usft
		Easting:	726,910.45 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 50' 9.064 N
		Longitude:	103° 43' 44.930 W
		Grid Convergence:	0.33 °

Well:	4H		
Well Position	+N/-S	49.98 usft	Northing:
	+E/-W	-0.30 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level:
			4,097.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	02/07/13	7.50
			Dip Angle
			60.68
			Field Strength
			48,797

Design:	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			272.67

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,319.87	3.00	2.07	1,319.81	3.13	0.11	2.50	2.50	0.00	2.07	
2,156.38	3.00	2.07	2,155.19	46.84	1.69	0.00	0.00	0.00	0.00	
2,276.25	0.00	0.00	2,275.00	49.97	1.80	2.50	-2.50	0.00	180.00	
6,298.61	0.00	0.00	6,297.36	49.97	1.80	0.00	0.00	0.00	0.00	
7,217.73	91.91	272.07	6,870.00	71.32	-589.88	10.00	10.00	-9.57	272.07	
11,384.37	91.91	272.07	6,731.00	221.46	-4,751.50	0.00	0.00	0.00	0.00	PBHL(B-14-FC 4H)

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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
13 3/8"										
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 2.50										
1,300.00	2.50	2.07	1,299.97	2.18	0.08	0.02	2.50	2.50	0.00	
1,319.87	3.00	2.07	1,319.81	3.13	0.11	0.03	2.50	2.50	0.00	
Start 836.52 hold at 1319.87 MD										
1,400.00	3.00	2.07	1,399.84	7.32	0.26	0.08	0.00	0.00	0.00	
1,500.00	3.00	2.07	1,499.70	12.54	0.45	0.13	0.00	0.00	0.00	
1,600.00	3.00	2.07	1,599.56	17.77	0.64	0.19	0.00	0.00	0.00	
1,700.00	3.00	2.07	1,699.43	22.99	0.83	0.24	0.00	0.00	0.00	
1,800.00	3.00	2.07	1,799.29	28.22	1.02	0.30	0.00	0.00	0.00	
1,900.00	3.00	2.07	1,899.15	33.44	1.21	0.35	0.00	0.00	0.00	
2,000.00	3.00	2.07	1,999.02	38.67	1.40	0.41	0.00	0.00	0.00	
2,100.00	3.00	2.07	2,098.88	43.89	1.58	0.46	0.00	0.00	0.00	
2,156.38	3.00	2.07	2,155.19	46.84	1.69	0.49	0.00	0.00	0.00	
Start Drop -2.50										
2,200.00	1.91	2.07	2,198.76	48.70	1.76	0.51	2.50	-2.50	0.00	
2,276.25	0.00	0.00	2,275.00	49.97	1.80	0.53	2.50	-2.50	0.00	
Start 4022.36 hold at 2276.25 MD										
2,300.00	0.00	0.00	2,298.75	49.97	1.80	0.53	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,398.75	49.97	1.80	0.53	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,498.75	49.97	1.80	0.53	0.00	0.00	0.00	
2,551.25	0.00	0.00	2,550.00	49.97	1.80	0.53	0.00	0.00	0.00	
9 5/8"										
2,600.00	0.00	0.00	2,598.75	49.97	1.80	0.53	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,698.75	49.97	1.80	0.53	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,798.75	49.97	1.80	0.53	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,898.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,000.00	0.00	0.00	2,998.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,098.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,198.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,298.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,398.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,498.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,598.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,698.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,798.75	49.97	1.80	0.53	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,898.75	49.97	1.80	0.53	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,998.75	49.97	1.80	0.53	0.00	0.00	0.00	
4,100.00	0.00	0.00	4,098.75	49.97	1.80	0.53	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,198.75	49.97	1.80	0.53	0.00	0.00	0.00	

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Planning Report

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Design: Plan #1

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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)
4,300.00	0.00	0.00	4,298.75	49.97	1.80	0.53	0.00	0.00	0.00
4,400.00	0.00	0.00	4,398.75	49.97	1.80	0.53	0.00	0.00	0.00
4,500.00	0.00	0.00	4,498.75	49.97	1.80	0.53	0.00	0.00	0.00
4,600.00	0.00	0.00	4,598.75	49.97	1.80	0.53	0.00	0.00	0.00
4,700.00	0.00	0.00	4,698.75	49.97	1.80	0.53	0.00	0.00	0.00
4,800.00	0.00	0.00	4,798.75	49.97	1.80	0.53	0.00	0.00	0.00
4,900.00	0.00	0.00	4,898.75	49.97	1.80	0.53	0.00	0.00	0.00
5,000.00	0.00	0.00	4,998.75	49.97	1.80	0.53	0.00	0.00	0.00
5,100.00	0.00	0.00	5,098.75	49.97	1.80	0.53	0.00	0.00	0.00
5,200.00	0.00	0.00	5,198.75	49.97	1.80	0.53	0.00	0.00	0.00
5,300.00	0.00	0.00	5,298.75	49.97	1.80	0.53	0.00	0.00	0.00
5,400.00	0.00	0.00	5,398.75	49.97	1.80	0.53	0.00	0.00	0.00
5,500.00	0.00	0.00	5,498.75	49.97	1.80	0.53	0.00	0.00	0.00
5,600.00	0.00	0.00	5,598.75	49.97	1.80	0.53	0.00	0.00	0.00
5,700.00	0.00	0.00	5,698.75	49.97	1.80	0.53	0.00	0.00	0.00
5,800.00	0.00	0.00	5,798.75	49.97	1.80	0.53	0.00	0.00	0.00
5,900.00	0.00	0.00	5,898.75	49.97	1.80	0.53	0.00	0.00	0.00
6,000.00	0.00	0.00	5,998.75	49.97	1.80	0.53	0.00	0.00	0.00
6,100.00	0.00	0.00	6,098.75	49.97	1.80	0.53	0.00	0.00	0.00
6,200.00	0.00	0.00	6,198.75	49.97	1.80	0.53	0.00	0.00	0.00
6,298.61	0.00	0.00	6,297.36	49.97	1.80	0.53	0.00	0.00	0.00
KOP: Start DLS 10.00 TFO 272.07									
6,300.00	0.14	272.07	6,298.75	49.97	1.80	0.53	10.00	10.00	0.00
6,350.00	5.14	272.07	6,348.68	50.05	-0.50	2.83	10.00	10.00	0.00
6,400.00	10.14	272.07	6,398.22	50.29	-7.14	9.47	10.00	10.00	0.00
6,450.00	15.14	272.07	6,446.99	50.68	-18.07	20.41	10.00	10.00	0.00
6,500.00	20.14	272.07	6,494.63	51.23	-33.20	35.55	10.00	10.00	0.00
6,550.00	25.14	272.07	6,540.76	51.92	-52.43	54.79	10.00	10.00	0.00
6,600.00	30.14	272.07	6,585.04	52.76	-75.60	77.98	10.00	10.00	0.00
6,650.00	35.14	272.07	6,627.13	53.73	-102.54	104.93	10.00	10.00	0.00
6,700.00	40.14	272.07	6,666.71	54.83	-133.05	135.46	10.00	10.00	0.00
6,750.00	45.14	272.07	6,703.48	56.05	-166.88	169.31	10.00	10.00	0.00
6,800.00	50.14	272.07	6,737.16	57.39	-203.79	206.25	10.00	10.00	0.00
6,850.00	55.14	272.07	6,767.49	58.82	-243.50	245.97	10.00	10.00	0.00
6,900.00	60.14	272.07	6,794.25	60.34	-285.69	288.19	10.00	10.00	0.00
6,950.00	65.14	272.07	6,817.22	61.94	-330.05	332.58	10.00	10.00	0.00
7,000.00	70.14	272.07	6,836.24	63.61	-376.25	378.80	10.00	10.00	0.00
7,050.00	75.14	272.07	6,851.15	65.33	-423.93	426.51	10.00	10.00	0.00
7,100.00	80.14	272.07	6,861.85	67.09	-472.72	475.33	10.00	10.00	0.00
7,150.00	85.14	272.07	6,868.26	68.88	-522.26	524.90	10.00	10.00	0.00
7,200.00	90.14	272.07	6,870.32	70.68	-572.17	574.84	10.00	10.00	0.00
7,217.73	91.91	272.07	6,870.00	71.32	-589.88	592.56	10.00	10.00	0.00
EOC: Start 4166.64 hold at 7217.73 MD									
7,300.00	91.91	272.07	6,867.25	74.28	-672.05	674.78	0.00	0.00	0.00
7,400.00	91.91	272.07	6,863.92	77.88	-771.93	774.72	0.00	0.00	0.00
7,500.00	91.91	272.07	6,860.58	81.49	-871.81	874.66	0.00	0.00	0.00
7,600.00	91.91	272.07	6,857.25	85.09	-971.69	974.60	0.00	0.00	0.00
7,700.00	91.91	272.07	6,853.91	88.69	-1,071.57	1,074.54	0.00	0.00	0.00
7,800.00	91.91	272.07	6,850.57	92.30	-1,171.45	1,174.48	0.00	0.00	0.00
7,900.00	91.91	272.07	6,847.24	95.90	-1,271.33	1,274.42	0.00	0.00	0.00
8,000.00	91.91	272.07	6,843.90	99.50	-1,371.21	1,374.36	0.00	0.00	0.00
8,100.00	91.91	272.07	6,840.57	103.11	-1,471.09	1,474.29	0.00	0.00	0.00
8,200.00	91.91	272.07	6,837.23	106.71	-1,570.97	1,574.23	0.00	0.00	0.00
8,300.00	91.91	272.07	6,833.89	110.32	-1,670.85	1,674.17	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
 Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Site: BAE 14 Fed Com
 Well: 4H
 Wellbore: OH
 Design: Plan #1

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

Well 4H
 GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,400.00	91.91	272.07	6,830.56	113.92	-1,770.73	1,774.11	0.00	0.00	0.00
8,500.00	91.91	272.07	6,827.22	117.52	-1,870.61	1,874.05	0.00	0.00	0.00
8,600.00	91.91	272.07	6,823.89	121.13	-1,970.49	1,973.99	0.00	0.00	0.00
8,700.00	91.91	272.07	6,820.55	124.73	-2,070.36	2,073.93	0.00	0.00	0.00
8,800.00	91.91	272.07	6,817.21	128.33	-2,170.24	2,173.87	0.00	0.00	0.00
8,900.00	91.91	272.07	6,813.88	131.94	-2,270.12	2,273.80	0.00	0.00	0.00
9,000.00	91.91	272.07	6,810.54	135.54	-2,370.00	2,373.74	0.00	0.00	0.00
9,100.00	91.91	272.07	6,807.21	139.14	-2,469.88	2,473.68	0.00	0.00	0.00
9,200.00	91.91	272.07	6,803.87	142.75	-2,569.76	2,573.62	0.00	0.00	0.00
9,300.00	91.91	272.07	6,800.53	146.35	-2,669.64	2,673.56	0.00	0.00	0.00
9,400.00	91.91	272.07	6,797.20	149.96	-2,769.52	2,773.50	0.00	0.00	0.00
9,500.00	91.91	272.07	6,793.86	153.56	-2,869.40	2,873.44	0.00	0.00	0.00
9,600.00	91.91	272.07	6,790.53	157.16	-2,969.28	2,973.38	0.00	0.00	0.00
9,700.00	91.91	272.07	6,787.19	160.77	-3,069.16	3,073.32	0.00	0.00	0.00
9,800.00	91.91	272.07	6,783.85	164.37	-3,169.04	3,173.25	0.00	0.00	0.00
9,900.00	91.91	272.07	6,780.52	167.97	-3,268.92	3,273.19	0.00	0.00	0.00
10,000.00	91.91	272.07	6,777.18	171.58	-3,368.80	3,373.13	0.00	0.00	0.00
10,100.00	91.91	272.07	6,773.85	175.18	-3,468.68	3,473.07	0.00	0.00	0.00
10,200.00	91.91	272.07	6,770.51	178.78	-3,568.56	3,573.01	0.00	0.00	0.00
10,300.00	91.91	272.07	6,767.17	182.39	-3,668.43	3,672.95	0.00	0.00	0.00
10,400.00	91.91	272.07	6,763.84	185.99	-3,768.31	3,772.89	0.00	0.00	0.00
10,500.00	91.91	272.07	6,760.50	189.59	-3,868.19	3,872.83	0.00	0.00	0.00
10,600.00	91.91	272.07	6,757.17	193.20	-3,968.07	3,972.76	0.00	0.00	0.00
10,700.00	91.91	272.07	6,753.83	196.80	-4,067.95	4,072.70	0.00	0.00	0.00
10,800.00	91.91	272.07	6,750.49	200.41	-4,167.83	4,172.64	0.00	0.00	0.00
10,900.00	91.91	272.07	6,747.16	204.01	-4,267.71	4,272.58	0.00	0.00	0.00
11,000.00	91.91	272.07	6,743.82	207.61	-4,367.59	4,372.52	0.00	0.00	0.00
11,100.00	91.91	272.07	6,740.49	211.22	-4,467.47	4,472.46	0.00	0.00	0.00
11,200.00	91.91	272.07	6,737.15	214.82	-4,567.35	4,572.40	0.00	0.00	0.00
11,300.00	91.91	272.07	6,733.81	218.42	-4,667.23	4,672.34	0.00	0.00	0.00
11,384.37	91.91	272.07	6,731.00	221.46	-4,751.50	4,756.66	0.00	0.00	0.00

TD at 11384.37' MD

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
SHL(B-14-FC 4H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	668,396.16	726,910.15	32° 50' 9.559 N	103° 43' 44.930 W
PBHL(B-14-FC 4H) - plan hits target center - Point	0.00	0.00	6,731.00	221.46	-4,751.50	668,617.63	722,158.65	32° 50' 12.015 N	103° 44' 40.605 W

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
 Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Site: BAE 14 Fed Com
 Well: 4H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 4H
 TVD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 MD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,100.00	1,100.00	13 3/8"	13-3/8	17-1/2	
2,551.25	2,550.00	9 5/8"	9-5/8	12-1/4	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,200.00	1,200.00	0.00	0.00	Start Build 2.50	
1,319.87	1,319.81	3.13	0.11	Start 836.52 hold at 1319.87 MD	
2,156.38	2,155.19	46.84	1.69	Start Drop -2.50	
2,276.25	2,275.00	49.97	1.80	Start 4022.36 hold at 2276.25 MD	
6,298.61	6,297.36	49.97	1.80	KOP: Start DLS 10.00 TFO 272.07	
7,217.73	6,870.00	71.32	-589.88	EOC: Start 4166.64 hold at 7217.73 MD	
11,384.37	6,731.00	221.46	-4,751.50	TD at 11384.37' MD	

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD-83)	TVD Reference:	GE 4097' + KB 18' @ 4115.00usft (McVay 8)
Reference Site:	BAE 14 Fed Com	MD Reference:	GE 4097' + KB 18' @ 4115.00usft (McVay 8)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 50.00usft	Error Model:	ISCWSA
Depth Range:	0.00 to 11,384.37usft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	02/07/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	11,384.37	Plan #1 (OH)	LEAM MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
BAE 14 Fed Com						
3H - OH - Plan #1	1,200.00	1,200.00	49.98	44.85	9.744	CC, ES
3H - OH - Plan #1	5,500.00	5,496.83	100.85	76.48	4.138	SF

BAE 14 Fed Com - 3H - OH - Plan #1											Offset Site Error: 0.00 usft		
Survey Program: 0-LEAM MWD											Offset Well Error: 0.00 usft		
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
0.00	0.00	0.00	0.00	0.00	0.00	179.66	-49.98	0.30	49.98				
50.00	50.00	50.00	50.00	0.04	0.05	179.66	-49.98	0.30	49.98	49.90	0.08	609.228	
100.00	100.00	100.00	100.00	0.09	0.09	179.66	-49.98	0.30	49.98	49.80	0.18	271.181	
150.00	150.00	150.00	150.00	0.20	0.20	179.66	-49.98	0.30	49.98	49.57	0.41	122.180	
200.00	200.00	200.00	200.00	0.32	0.32	179.66	-49.98	0.30	49.98	49.35	0.63	78.854	
250.00	250.00	250.00	250.00	0.43	0.43	179.66	-49.98	0.30	49.98	49.12	0.86	58.212	
300.00	300.00	300.00	300.00	0.54	0.54	179.66	-49.98	0.30	49.98	48.90	1.08	46.135	
350.00	350.00	350.00	350.00	0.65	0.65	179.66	-49.98	0.30	49.98	48.67	1.31	38.208	
400.00	400.00	400.00	400.00	0.77	0.77	179.66	-49.98	0.30	49.98	48.45	1.53	32.605	
450.00	450.00	450.00	450.00	0.88	0.88	179.66	-49.98	0.30	49.98	48.22	1.76	28.436	
500.00	500.00	500.00	500.00	0.99	0.99	179.66	-49.98	0.30	49.98	48.00	1.98	25.212	
550.00	550.00	550.00	550.00	1.10	1.10	179.66	-49.98	0.30	49.98	47.77	2.21	22.644	
600.00	600.00	600.00	600.00	1.22	1.22	179.66	-49.98	0.30	49.98	47.55	2.43	20.552	
650.00	650.00	650.00	650.00	1.33	1.33	179.66	-49.98	0.30	49.98	47.32	2.66	18.813	
700.00	700.00	700.00	700.00	1.44	1.44	179.66	-49.98	0.30	49.98	47.10	2.88	17.345	
750.00	750.00	750.00	750.00	1.55	1.55	179.66	-49.98	0.30	49.98	46.87	3.11	16.090	
800.00	800.00	800.00	800.00	1.67	1.67	179.66	-49.98	0.30	49.98	46.65	3.33	15.005	
850.00	850.00	850.00	850.00	1.78	1.78	179.66	-49.98	0.30	49.98	46.43	3.56	14.056	
900.00	900.00	900.00	900.00	1.89	1.89	179.66	-49.98	0.30	49.98	46.20	3.78	13.220	
950.00	950.00	950.00	950.00	2.00	2.00	179.66	-49.98	0.30	49.98	45.98	4.01	12.479	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	179.66	-49.98	0.30	49.98	45.75	4.23	11.816	
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	179.66	-49.98	0.30	49.98	45.53	4.45	11.219	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	179.66	-49.98	0.30	49.98	45.30	4.68	10.681	
1,150.00	1,150.00	1,150.00	1,150.00	2.45	2.45	179.66	-49.98	0.30	49.98	45.08	4.90	10.191	
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	179.66	-49.98	0.30	49.98	44.85	5.13	9.744	CC, ES

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Reference Site: BAE 14 Fed Com
 Site Error: 0.00 usft
 Reference Well: 4H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 4H
 TVD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 MD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Reference Datum

Offset Design BAE 14 Fed Com - 3H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance		Minimum		Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor		
1,250.00	1,250.00	1,250.00	1,250.00	2.68	2.68	177.62	-49.98	0.30	50.53	45.17	5.35	9.437		
1,300.00	1,299.97	1,299.97	1,299.97	2.79	2.79	177.69	-49.98	0.30	52.16	46.58	5.58	9.354		
1,319.87	1,319.81	1,319.81	1,319.81	2.84	2.83	177.73	-49.98	0.30	53.11	47.45	5.66	9.377		
1,350.00	1,349.90	1,349.90	1,349.90	2.90	2.90	177.79	-49.98	0.30	54.69	48.89	5.80	9.429		
1,400.00	1,399.84	1,399.84	1,399.84	3.02	3.01	177.89	-49.98	0.30	57.30	51.27	6.02	9.512		
1,450.00	1,449.77	1,449.77	1,449.77	3.13	3.13	177.99	-49.98	0.30	59.91	53.66	6.25	9.588		
1,500.00	1,499.70	1,499.70	1,499.70	3.24	3.24	178.07	-49.98	0.30	62.52	56.05	6.47	9.659		
1,550.00	1,549.63	1,549.63	1,549.63	3.35	3.35	178.15	-49.98	0.30	65.14	58.44	6.70	9.725		
1,600.00	1,599.56	1,599.56	1,599.56	3.47	3.46	178.22	-49.98	0.30	67.75	60.83	6.92	9.786		
1,650.00	1,649.49	1,649.49	1,649.49	3.58	3.57	178.29	-49.98	0.30	70.36	63.21	7.15	9.844		
1,700.00	1,699.43	1,699.43	1,699.43	3.70	3.69	178.35	-49.98	0.30	72.97	65.60	7.37	9.898		
1,750.00	1,749.36	1,749.36	1,749.36	3.81	3.80	178.40	-49.98	0.30	75.59	67.99	7.60	9.949		
1,800.00	1,799.29	1,799.29	1,799.29	3.93	3.91	178.46	-49.98	0.30	78.20	70.38	7.82	9.996		
1,850.00	1,849.22	1,849.22	1,849.22	4.05	4.02	178.51	-49.98	0.30	80.81	72.76	8.05	10.041		
1,900.00	1,899.15	1,899.15	1,899.15	4.16	4.14	178.55	-49.98	0.30	83.43	75.15	8.27	10.084		
1,950.00	1,949.08	1,949.08	1,949.08	4.28	4.25	178.60	-49.98	0.30	86.04	77.54	8.50	10.124		
2,000.00	1,999.02	1,999.02	1,999.02	4.40	4.36	178.64	-49.98	0.30	88.65	79.93	8.72	10.162		
2,050.00	2,048.95	2,048.95	2,048.95	4.51	4.47	178.68	-49.98	0.30	91.27	82.32	8.95	10.199		
2,100.00	2,098.88	2,098.88	2,098.88	4.63	4.58	178.72	-49.98	0.30	93.88	84.70	9.17	10.233		
2,150.00	2,148.81	2,148.81	2,148.81	4.75	4.70	178.75	-49.98	0.30	96.49	87.09	9.40	10.266		
2,156.38	2,155.19	2,155.19	2,155.19	4.76	4.71	178.75	-49.98	0.30	96.83	87.40	9.43	10.270		
2,200.00	2,198.76	2,198.76	2,198.76	4.85	4.81	178.78	-49.98	0.30	98.69	89.07	9.62	10.262		
2,250.00	2,248.75	2,248.75	2,248.75	4.94	4.92	178.79	-49.98	0.30	99.81	89.99	9.82	10.168		
2,276.25	2,275.00	2,275.00	2,275.00	4.98	4.98	-179.14	-49.98	0.30	99.96	89.99	9.96	10.031		
2,300.00	2,298.75	2,298.75	2,298.75	5.03	5.03	-179.14	-49.98	0.30	99.96	89.99	10.06	9.932		
2,350.00	2,348.75	2,348.75	2,348.75	5.14	5.15	-179.14	-49.98	0.30	99.96	89.67	10.29	9.716		
2,400.00	2,398.75	2,398.75	2,398.75	5.25	5.26	-179.14	-49.98	0.30	99.96	89.45	10.51	9.510		
2,450.00	2,448.75	2,448.75	2,448.75	5.36	5.37	-179.14	-49.98	0.30	99.96	89.23	10.73	9.313		
2,500.00	2,498.75	2,498.75	2,498.75	5.47	5.48	-179.14	-49.98	0.30	99.96	89.00	10.96	9.123		
2,550.00	2,548.75	2,548.75	2,548.75	5.58	5.60	-179.14	-49.98	0.30	99.96	88.78	11.18	8.941		
2,600.00	2,598.75	2,598.75	2,598.75	5.69	5.71	-179.14	-49.98	0.30	99.96	88.56	11.40	8.766		
2,650.00	2,648.75	2,648.75	2,648.75	5.81	5.82	-179.14	-49.98	0.30	99.96	88.33	11.63	8.598		
2,700.00	2,698.75	2,698.75	2,698.75	5.92	5.93	-179.14	-49.98	0.30	99.96	88.11	11.85	8.436		
2,750.00	2,748.75	2,748.75	2,748.75	6.03	6.05	-179.14	-49.98	0.30	99.96	87.89	12.07	8.279		
2,800.00	2,798.75	2,798.75	2,798.75	6.14	6.16	-179.14	-49.98	0.30	99.96	87.66	12.30	8.129		
2,850.00	2,848.75	2,848.75	2,848.75	6.25	6.27	-179.14	-49.98	0.30	99.96	87.44	12.52	7.984		
2,900.00	2,898.75	2,898.75	2,898.75	6.36	6.38	-179.14	-49.98	0.30	99.96	87.22	12.74	7.844		
2,950.00	2,948.75	2,948.75	2,948.75	6.47	6.50	-179.14	-49.98	0.30	99.96	86.99	12.97	7.709		
3,000.00	2,998.75	2,998.75	2,998.75	6.58	6.61	-179.14	-49.98	0.30	99.96	86.77	13.19	7.578		
3,050.00	3,048.75	3,048.75	3,048.75	6.69	6.72	-179.14	-49.98	0.30	99.96	86.54	13.41	7.451		
3,100.00	3,098.75	3,098.75	3,098.75	6.81	6.83	-179.14	-49.98	0.30	99.96	86.32	13.64	7.329		
3,150.00	3,148.75	3,148.75	3,148.75	6.92	6.94	-179.14	-49.98	0.30	99.96	86.10	13.86	7.211		
3,200.00	3,198.75	3,198.75	3,198.75	7.03	7.06	-179.14	-49.98	0.30	99.96	85.87	14.09	7.096		
3,250.00	3,248.75	3,248.75	3,248.75	7.14	7.17	-179.14	-49.98	0.30	99.96	85.65	14.31	6.985		
3,300.00	3,298.75	3,298.75	3,298.75	7.25	7.28	-179.14	-49.98	0.30	99.96	85.43	14.53	6.878		
3,350.00	3,348.75	3,348.75	3,348.75	7.36	7.39	-179.14	-49.98	0.30	99.96	85.20	14.76	6.774		
3,400.00	3,398.75	3,398.75	3,398.75	7.47	7.51	-179.14	-49.98	0.30	99.96	84.98	14.98	6.672		
3,450.00	3,448.75	3,448.75	3,448.75	7.59	7.62	-179.14	-49.98	0.30	99.96	84.75	15.21	6.574		
3,500.00	3,498.75	3,498.75	3,498.75	7.70	7.73	-179.14	-49.98	0.30	99.96	84.53	15.43	6.479		
3,550.00	3,548.75	3,548.75	3,548.75	7.81	7.84	-179.14	-49.98	0.30	99.96	84.31	15.65	6.386		
3,600.00	3,598.75	3,598.75	3,598.75	7.92	7.96	-179.14	-49.98	0.30	99.96	84.08	15.88	6.296		
3,650.00	3,648.75	3,648.75	3,648.75	8.03	8.07	-179.14	-49.98	0.30	99.96	83.86	16.10	6.208		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: BAE 14 Fed Com
Site Error: 0.00 usft
Reference Well: 4H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 4H
TVD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
MD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Offset Design BAE 14 Fed Com - 3H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD														Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
3,700.00	3,698.75	3,698.75	3,698.75	8.14	8.18	-179.14	-49.98	0.30	99.96	83.63	16.33	6.123		
3,750.00	3,748.75	3,748.75	3,748.75	8.26	8.29	-179.14	-49.98	0.30	99.96	83.41	16.55	6.040		
3,800.00	3,798.75	3,798.75	3,798.75	8.37	8.41	-179.14	-49.98	0.30	99.96	83.19	16.77	5.959		
3,850.00	3,848.75	3,848.75	3,848.75	8.48	8.52	-179.14	-49.98	0.30	99.96	82.96	17.00	5.881		
3,900.00	3,898.75	3,898.75	3,898.75	8.59	8.63	-179.14	-49.98	0.30	99.96	82.74	17.22	5.804		
3,950.00	3,948.75	3,948.75	3,948.75	8.70	8.74	-179.14	-49.98	0.30	99.96	82.51	17.45	5.730		
4,000.00	3,998.75	3,998.75	3,998.75	8.81	8.86	-179.14	-49.98	0.30	99.96	82.29	17.67	5.657		
4,050.00	4,048.75	4,048.75	4,048.75	8.93	8.97	-179.14	-49.98	0.30	99.96	82.07	17.89	5.586		
4,100.00	4,098.75	4,098.75	4,098.75	9.04	9.08	-179.14	-49.98	0.30	99.96	81.84	18.12	5.517		
4,150.00	4,148.75	4,148.75	4,148.75	9.15	9.19	-179.14	-49.98	0.30	99.96	81.62	18.34	5.450		
4,200.00	4,198.75	4,198.75	4,198.75	9.26	9.30	-179.14	-49.98	0.30	99.96	81.39	18.57	5.384		
4,250.00	4,248.75	4,248.75	4,248.75	9.37	9.42	-179.14	-49.98	0.30	99.96	81.17	18.79	5.320		
4,300.00	4,298.75	4,298.75	4,298.75	9.49	9.53	-179.14	-49.98	0.30	99.96	80.94	19.01	5.257		
4,350.00	4,348.75	4,348.75	4,348.75	9.60	9.64	-179.14	-49.98	0.30	99.96	80.72	19.24	5.196		
4,400.00	4,398.75	4,398.75	4,398.75	9.71	9.75	-179.14	-49.98	0.30	99.96	80.50	19.46	5.136		
4,450.00	4,448.75	4,448.75	4,448.75	9.82	9.87	-179.14	-49.98	0.30	99.96	80.27	19.69	5.077		
4,500.00	4,498.75	4,498.75	4,498.75	9.93	9.98	-179.14	-49.98	0.30	99.96	80.05	19.91	5.020		
4,550.00	4,548.75	4,548.75	4,548.75	10.04	10.09	-179.14	-49.98	0.30	99.96	79.82	20.14	4.964		
4,600.00	4,598.75	4,598.75	4,598.75	10.16	10.20	-179.14	-49.98	0.30	99.96	79.60	20.36	4.909		
4,650.00	4,648.75	4,648.75	4,648.75	10.27	10.32	-179.14	-49.98	0.30	99.96	79.37	20.58	4.856		
4,700.00	4,698.75	4,698.75	4,698.75	10.38	10.43	-179.14	-49.98	0.30	99.96	79.15	20.81	4.804		
4,750.00	4,748.75	4,748.75	4,748.75	10.49	10.54	-179.14	-49.98	0.30	99.96	78.93	21.03	4.752		
4,800.00	4,798.75	4,798.75	4,798.75	10.60	10.65	-179.14	-49.98	0.30	99.96	78.70	21.26	4.702		
4,850.00	4,848.75	4,848.75	4,848.75	10.72	10.77	-179.14	-49.98	0.30	99.96	78.48	21.48	4.653		
4,900.00	4,898.75	4,898.75	4,898.75	10.83	10.88	-179.14	-49.98	0.30	99.96	78.25	21.71	4.605		
4,950.00	4,948.75	4,948.75	4,948.75	10.94	10.99	-179.14	-49.98	0.30	99.96	78.03	21.93	4.558		
5,000.00	4,998.75	4,998.75	4,998.75	11.05	11.10	-179.14	-49.98	0.30	99.96	77.80	22.16	4.512		
5,050.00	5,048.75	5,048.75	5,048.75	11.16	11.22	-179.14	-49.98	0.30	99.96	77.58	22.38	4.467		
5,100.00	5,098.75	5,098.75	5,098.75	11.28	11.33	-179.14	-49.98	0.30	99.96	77.35	22.60	4.422		
5,150.00	5,148.75	5,148.75	5,148.75	11.39	11.44	-179.14	-49.98	0.30	99.96	77.13	22.83	4.379		
5,200.00	5,198.75	5,198.75	5,198.75	11.50	11.55	-179.14	-49.98	0.30	99.96	76.91	23.05	4.336		
5,250.00	5,248.75	5,248.75	5,248.75	11.61	11.66	-179.14	-49.98	0.30	99.96	76.68	23.28	4.294		
5,300.00	5,298.75	5,298.75	5,298.75	11.72	11.78	-179.14	-49.98	0.30	99.96	76.46	23.50	4.253		
5,350.00	5,348.75	5,348.75	5,348.75	11.84	11.89	-179.14	-49.98	0.30	99.96	76.23	23.73	4.213		
5,400.00	5,398.75	5,398.83	5,398.81	11.95	12.00	-178.54	-49.94	-0.74	99.94	76.00	23.95	4.174		
5,414.58	5,413.33	5,413.39	5,413.33	11.98	12.03	-177.93	-49.90	-1.80	99.94	75.93	24.01	4.163		
5,450.00	5,448.75	5,448.45	5,448.15	12.06	12.10	-175.60	-49.76	-5.86	100.02	75.86	24.16	4.140		
5,500.00	5,498.75	5,498.83	5,495.65	12.17	12.20	-170.43	-49.43	-14.95	100.85	76.48	24.37	4.138 SF		
5,550.00	5,548.75	5,543.36	5,540.46	12.28	12.30	-163.54	-48.98	-27.43	103.51	78.93	24.58	4.212		
5,600.00	5,598.75	5,587.58	5,581.97	12.40	12.41	-155.70	-48.43	-42.63	109.26	84.48	24.78	4.409		
5,650.00	5,648.75	5,629.16	5,619.83	12.51	12.52	-147.79	-47.81	-59.80	119.13	94.15	24.98	4.769		
5,700.00	5,698.75	5,667.95	5,653.93	12.62	12.63	-140.50	-47.15	-78.24	133.59	108.39	25.20	5.301		
5,750.00	5,748.75	5,700.00	5,681.12	12.73	12.74	-134.85	-46.53	-95.20	152.63	127.19	25.44	6.000		
5,800.00	5,798.75	5,737.03	5,711.29	12.84	12.88	-128.95	-45.76	-116.64	175.62	149.89	25.73	6.825		
5,850.00	5,848.75	5,767.49	5,735.03	12.96	13.01	-124.65	-45.07	-135.72	202.18	176.15	26.02	7.769		
5,900.00	5,898.75	5,800.00	5,759.21	13.07	13.17	-120.62	-44.29	-157.43	231.76	205.40	26.35	8.794		
5,950.00	5,948.75	5,821.04	5,774.18	13.18	13.29	-118.31	-43.76	-172.20	263.69	237.05	26.64	9.899		
6,000.00	5,998.75	5,850.00	5,793.88	13.29	13.46	-115.46	-42.99	-193.40	297.85	270.86	27.00	11.033		
6,050.00	6,048.75	5,866.01	5,804.31	13.41	13.57	-114.05	-42.55	-205.54	333.82	306.35	27.27	12.234		
6,100.00	6,098.75	5,885.74	5,816.68	13.52	13.71	-112.44	-42.00	-220.90	370.97	343.38	27.58	13.448		
6,150.00	6,148.75	5,900.00	5,825.29	13.63	13.82	-111.36	-41.59	-232.26	409.62	381.78	27.85	14.711		
6,200.00	6,198.75	5,920.53	5,837.19	13.74	13.99	-109.93	-40.99	-248.99	449.33	421.12	28.21	15.930		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: BAE 14 Fed Com
Site Error: 0.00 usft
Reference Well: 4H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: 1 Well 4H
TVD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
MD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Offset Design BAE 14 Fed Com - 3H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,250.00	6,248.75	5,935.90	5,845.69	13.85	14.12	-108.95	-40.53	-261.78	490.02	481.51	28.51	17.189	
6,298.61	6,297.36	5,950.00	5,853.19	13.96	14.24	-108.10	-40.10	-273.71	530.38	501.59	28.79	18.422	
6,300.00	6,298.75	5,950.00	5,853.19	13.97	14.24	-20.10	-40.10	-273.71	531.54	504.41	27.13	19.593	
6,350.00	6,348.68	5,964.20	5,860.45	14.07	14.38	-17.11	-39.65	-285.91	572.60	545.45	27.15	21.091	
6,400.00	6,398.22	5,979.07	5,867.72	14.17	14.53	-14.84	-39.19	-298.87	612.00	585.00	27.00	22.665	
6,450.00	6,446.99	6,000.00	5,877.37	14.28	14.74	-12.95	-38.52	-317.43	649.65	622.96	26.69	24.343	
6,500.00	6,494.63	6,000.00	5,877.37	14.39	14.74	-11.85	-38.52	-317.43	685.45	659.29	26.15	26.208	
6,550.00	6,540.76	6,027.24	5,888.91	14.52	15.06	-10.56	-37.63	-342.08	718.90	693.41	25.49	28.199	
6,600.00	6,585.04	6,050.00	5,897.65	14.65	15.32	-9.60	-36.87	-363.08	750.46	725.80	24.66	30.436	
6,650.00	6,627.13	6,050.00	5,897.65	14.81	15.32	-9.01	-36.87	-363.08	779.90	756.28	23.61	33.031	
6,700.00	6,666.71	6,079.25	5,907.63	15.01	15.70	-8.32	-35.88	-390.55	806.68	784.20	22.48	35.884	
6,750.00	6,703.48	6,100.00	5,913.86	15.24	15.97	-7.81	-35.17	-410.33	831.32	810.12	21.20	39.211	
6,800.00	6,737.16	6,115.36	5,918.01	15.52	16.20	-7.41	-34.63	-425.12	853.50	833.70	19.80	43.117	
6,850.00	6,767.49	6,133.74	5,922.45	15.86	16.46	-7.07	-33.99	-442.94	873.21	854.90	18.31	47.689	
6,900.00	6,794.25	6,150.00	5,925.89	16.26	16.70	-6.80	-33.42	-458.82	890.39	873.63	16.76	53.114	
6,950.00	6,817.22	6,170.97	5,929.67	16.74	17.02	-6.58	-32.67	-479.43	904.99	889.77	15.22	59.464	
7,000.00	6,836.24	6,200.00	5,933.65	17.28	17.48	-6.39	-31.64	-508.16	917.13	903.38	13.75	66.696	
7,050.00	6,851.15	6,200.00	5,933.65	17.89	17.48	-6.28	-31.64	-508.16	926.45	914.17	12.28	75.472	
7,100.00	6,861.85	6,227.61	5,936.08	18.57	17.94	-6.18	-30.65	-535.65	933.04	921.90	11.14	83.747	
7,150.00	6,868.26	6,250.00	5,937.08	19.30	18.31	-6.13	-29.84	-558.00	937.08	926.75	10.32	90.776	
7,200.00	6,870.32	6,265.63	5,937.26	20.08	18.58	-6.11	-29.28	-573.61	938.40	928.47	9.93	94.494	
7,217.73	6,870.00	6,281.36	5,937.00	20.37	18.85	-6.12	-28.71	-589.33	938.34	928.37	9.97	94.081	
7,250.00	6,868.92	6,290.01	5,936.75	20.91	19.00	-6.12	-28.40	-597.98	937.93	927.72	10.21	91.894	
7,300.00	6,867.25	6,340.01	5,935.26	21.76	19.92	-6.12	-26.60	-647.92	937.75	926.96	10.79	86.893	
7,350.00	6,865.59	6,390.01	5,933.77	22.68	20.85	-6.12	-24.79	-697.87	937.57	926.17	11.40	82.237	
7,400.00	6,863.92	6,440.01	5,932.28	23.59	21.82	-6.12	-22.99	-747.81	937.39	925.37	12.02	77.957	
7,450.00	6,862.25	6,490.01	5,930.79	24.56	22.81	-6.12	-21.19	-797.76	937.21	924.54	12.67	73.978	
7,500.00	6,860.58	6,540.01	5,929.31	25.53	23.84	-6.12	-19.39	-847.70	937.04	923.71	13.32	70.328	
7,550.00	6,858.91	6,590.01	5,927.82	26.55	24.88	-6.12	-17.59	-897.65	936.86	922.86	13.99	66.947	
7,600.00	6,857.25	6,640.01	5,926.33	27.57	25.95	-6.12	-15.78	-947.59	936.68	922.01	14.67	63.841	
7,650.00	6,855.58	6,690.01	5,924.84	28.62	27.02	-6.13	-13.98	-997.54	936.50	921.14	15.36	60.963	
7,700.00	6,853.91	6,740.01	5,923.35	29.68	28.12	-6.13	-12.18	-1,047.48	936.32	920.26	16.06	58.312	
7,750.00	6,852.24	6,790.01	5,921.86	30.76	29.22	-6.13	-10.38	-1,097.43	936.14	919.38	16.76	55.851	
7,800.00	6,850.57	6,840.01	5,920.38	31.84	30.34	-6.13	-8.58	-1,147.37	935.96	918.49	17.47	53.575	
7,850.00	6,848.91	6,890.01	5,918.89	32.95	31.47	-6.13	-6.78	-1,197.32	935.78	917.60	18.19	51.457	
7,900.00	6,847.24	6,940.01	5,917.40	34.06	32.61	-6.13	-4.97	-1,247.26	935.60	916.70	18.90	49.491	
7,950.00	6,845.57	6,990.01	5,915.91	35.18	33.75	-6.13	-3.17	-1,297.21	935.43	915.80	19.63	47.655	
8,000.00	6,843.90	7,040.01	5,914.42	36.31	34.91	-6.13	-1.37	-1,347.15	935.25	914.89	20.36	45.943	
8,050.00	6,842.23	7,090.01	5,912.93	37.45	36.06	-6.14	0.43	-1,397.10	935.07	913.98	21.09	44.341	
8,100.00	6,840.57	7,140.01	5,911.45	38.59	37.23	-6.14	2.23	-1,447.04	934.89	913.07	21.82	42.841	
8,150.00	6,838.90	7,190.01	5,909.96	39.75	38.40	-6.14	4.04	-1,496.99	934.71	912.15	22.56	41.433	
8,200.00	6,837.23	7,240.01	5,908.47	40.90	39.58	-6.14	5.84	-1,546.93	934.53	911.23	23.30	40.111	
8,250.00	6,835.56	7,290.01	5,906.98	42.07	40.76	-6.14	7.64	-1,596.88	934.35	910.31	24.04	38.865	
8,300.00	6,833.89	7,340.01	5,905.49	43.24	41.95	-6.14	9.44	-1,646.82	934.17	909.39	24.78	37.691	
8,350.00	6,832.23	7,390.01	5,904.01	44.41	43.14	-6.14	11.24	-1,696.77	934.00	908.46	25.53	36.583	
8,400.00	6,830.56	7,440.01	5,902.52	45.59	44.33	-6.14	13.04	-1,746.71	933.82	907.54	26.28	35.535	
8,450.00	6,828.89	7,490.01	5,901.03	46.77	45.53	-6.15	14.85	-1,796.66	933.64	906.61	27.03	34.543	
8,500.00	6,827.22	7,540.01	5,899.54	47.95	46.73	-6.15	16.65	-1,846.60	933.46	905.68	27.78	33.603	
8,550.00	6,825.55	7,590.01	5,898.05	49.14	47.93	-6.15	18.45	-1,896.55	933.28	904.75	28.53	32.711	
8,600.00	6,823.89	7,640.01	5,896.56	50.33	49.14	-6.15	20.25	-1,946.49	933.10	903.82	29.28	31.863	
8,650.00	6,822.22	7,690.01	5,895.08	51.53	50.34	-6.15	22.05	-1,996.44	932.92	902.88	30.04	31.057	
8,700.00	6,820.55	7,740.01	5,893.59	52.73	51.55	-6.15	23.85	-2,046.38	932.74	901.95	30.79	30.289	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: BAE 14 Fed Com
Site Error: 0.00 usft
Reference Well: 4H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 4H
TVD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
MD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Offset Design BAE 14 Fed Com - 3H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
8,750.00	6,818.88	7,790.01	5,892.10	53.93	52.76	-6.15	25.66	-2,096.33	932.57	901.01	31.55	29.557	
8,800.00	6,817.21	7,840.00	5,890.61	55.13	53.98	-6.15	27.46	-2,146.27	932.39	900.08	32.31	28.858	
8,850.00	6,815.55	7,890.00	5,889.12	56.34	55.19	-6.15	29.26	-2,196.22	932.21	899.14	33.07	28.191	
8,900.00	6,813.88	7,940.00	5,887.63	57.54	56.41	-6.16	31.06	-2,246.16	932.03	898.20	33.83	27.553	
8,950.00	6,812.21	7,990.00	5,886.15	58.75	57.63	-6.16	32.86	-2,296.11	931.85	897.26	34.59	26.942	
9,000.00	6,810.54	8,040.00	5,884.66	59.96	58.85	-6.16	34.67	-2,346.05	931.67	896.32	35.35	26.357	
9,050.00	6,808.87	8,090.00	5,883.17	61.18	60.07	-6.16	36.47	-2,396.00	931.49	895.38	36.11	25.796	
9,100.00	6,807.21	8,140.00	5,881.68	62.39	61.30	-6.16	38.27	-2,445.94	931.31	894.44	36.87	25.258	
9,150.00	6,805.54	8,190.00	5,880.19	63.61	62.52	-6.16	40.07	-2,495.89	931.14	893.50	37.63	24.741	
9,200.00	6,803.87	8,240.00	5,878.70	64.83	63.75	-6.16	41.87	-2,545.83	930.96	892.56	38.40	24.245	
9,250.00	6,802.20	8,290.00	5,877.22	66.05	64.97	-6.16	43.67	-2,595.78	930.78	891.62	39.16	23.767	
9,300.00	6,800.53	8,340.00	5,875.73	67.26	66.20	-6.17	45.48	-2,645.72	930.60	890.67	39.93	23.308	
9,350.00	6,798.87	8,390.00	5,874.24	68.49	67.43	-6.17	47.28	-2,695.67	930.42	889.73	40.69	22.865	
9,400.00	6,797.20	8,440.00	5,872.75	69.71	68.66	-6.17	49.08	-2,745.61	930.24	888.78	41.46	22.439	
9,450.00	6,795.53	8,490.00	5,871.26	70.93	69.89	-6.17	50.88	-2,795.56	930.06	887.84	42.22	22.028	
9,500.00	6,793.86	8,540.00	5,869.78	72.16	71.12	-6.17	52.68	-2,845.50	929.88	886.90	42.99	21.631	
9,550.00	6,792.19	8,590.00	5,868.29	73.38	72.36	-6.17	54.48	-2,895.45	929.71	885.95	43.76	21.248	
9,600.00	6,790.53	8,640.00	5,866.80	74.61	73.59	-6.17	56.29	-2,945.39	929.53	885.00	44.52	20.878	
9,650.00	6,788.86	8,690.00	5,865.31	75.84	74.82	-6.17	58.09	-2,995.34	929.35	884.06	45.29	20.520	
9,700.00	6,787.19	8,740.00	5,863.82	77.07	76.06	-6.18	59.89	-3,045.28	929.17	883.11	46.06	20.174	
9,750.00	6,785.52	8,790.00	5,862.33	78.30	77.29	-6.18	61.69	-3,095.23	928.99	882.16	46.83	19.840	
9,800.00	6,783.85	8,840.00	5,860.85	79.53	78.53	-6.18	63.49	-3,145.17	928.81	881.22	47.59	19.516	
9,850.00	6,782.19	8,890.00	5,859.36	80.76	79.77	-6.18	65.30	-3,195.12	928.63	880.27	48.36	19.202	
9,900.00	6,780.52	8,940.00	5,857.87	81.99	81.00	-6.18	67.10	-3,245.06	928.45	879.32	49.13	18.898	
9,950.00	6,778.85	8,990.00	5,856.38	83.22	82.24	-6.18	68.90	-3,295.01	928.27	878.37	49.90	18.603	
10,000.00	6,777.18	9,040.00	5,854.89	84.46	83.48	-6.18	70.70	-3,344.95	928.10	877.43	50.67	18.317	
10,050.00	6,775.51	9,090.00	5,853.40	85.69	84.72	-6.18	72.50	-3,394.90	927.92	876.48	51.44	18.039	
10,100.00	6,773.85	9,140.00	5,851.92	86.92	85.96	-6.18	74.30	-3,444.84	927.74	875.53	52.21	17.770	
10,150.00	6,772.18	9,190.00	5,850.43	88.16	87.20	-6.19	76.11	-3,494.79	927.56	874.58	52.98	17.508	
10,200.00	6,770.51	9,240.00	5,848.94	89.39	88.44	-6.19	77.91	-3,544.73	927.38	873.63	53.75	17.254	
10,250.00	6,768.84	9,290.00	5,847.45	90.63	89.68	-6.19	79.71	-3,594.68	927.20	872.68	54.52	17.007	
10,300.00	6,767.17	9,340.00	5,845.96	91.87	90.92	-6.19	81.51	-3,644.62	927.02	871.73	55.29	16.766	
10,350.00	6,765.51	9,390.00	5,844.48	93.10	92.16	-6.19	83.31	-3,694.57	926.84	870.78	56.06	16.532	
10,400.00	6,763.84	9,439.99	5,842.99	94.34	93.40	-6.19	85.12	-3,744.51	926.67	869.83	56.83	16.305	
10,450.00	6,762.17	9,489.99	5,841.50	95.58	94.64	-6.19	86.92	-3,794.46	926.49	868.88	57.60	16.083	
10,500.00	6,760.50	9,539.99	5,840.01	96.82	95.88	-6.19	88.72	-3,844.40	926.31	867.93	58.38	15.868	
10,550.00	6,758.83	9,589.99	5,838.52	98.06	97.13	-6.20	90.52	-3,894.35	926.13	866.98	59.15	15.658	
10,600.00	6,757.17	9,639.99	5,837.03	99.29	98.37	-6.20	92.32	-3,944.29	925.95	866.03	59.92	15.453	
10,650.00	6,755.50	9,689.99	5,835.55	100.53	99.61	-6.20	94.12	-3,994.24	925.77	865.08	60.69	15.254	
10,700.00	6,753.83	9,739.99	5,834.06	101.77	100.86	-6.20	95.93	-4,044.18	925.59	864.13	61.46	15.059	
10,750.00	6,752.16	9,789.99	5,832.57	103.01	102.10	-6.20	97.73	-4,094.13	925.41	863.18	62.24	14.869	
10,800.00	6,750.49	9,839.99	5,831.08	104.25	103.34	-6.20	99.53	-4,144.07	925.24	862.23	63.01	14.684	
10,850.00	6,748.83	9,889.99	5,829.59	105.50	104.59	-6.20	101.33	-4,194.02	925.06	861.27	63.78	14.503	
10,900.00	6,747.16	9,939.99	5,828.10	106.74	105.83	-6.20	103.13	-4,243.96	924.88	860.32	64.56	14.327	
10,950.00	6,745.49	9,989.99	5,826.62	107.98	107.08	-6.21	104.93	-4,293.91	924.70	859.37	65.33	14.155	
11,000.00	6,743.82	10,039.99	5,825.13	109.22	108.32	-6.21	106.74	-4,343.85	924.52	858.42	66.10	13.986	
11,050.00	6,742.15	10,089.99	5,823.64	110.46	109.57	-6.21	108.54	-4,393.80	924.34	857.47	66.87	13.822	
11,100.00	6,740.49	10,139.99	5,822.15	111.71	110.81	-6.21	110.34	-4,443.74	924.16	856.52	67.65	13.661	
11,150.00	6,738.82	10,189.99	5,820.66	112.95	112.06	-6.21	112.14	-4,493.69	923.98	855.56	68.42	13.504	
11,200.00	6,737.15	10,239.99	5,819.18	114.19	113.30	-6.21	113.94	-4,543.63	923.81	854.61	69.20	13.351	
11,250.00	6,735.48	10,289.99	5,817.69	115.43	114.55	-6.21	115.75	-4,593.58	923.63	853.66	69.97	13.200	
11,300.00	6,733.81	10,339.99	5,816.20	116.68	115.80	-6.21	117.55	-4,643.52	923.45	852.71	70.74	13.054	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Reference Site: BAE 14 Fed Com
 Site Error: 0.00 usft
 Reference Well: 4H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 4H
 TVD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 MD Reference: GE 4097' + KB 18' @ 4115.00usft (McVay 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Reference Datum

Offset Design BAE 14 Fed Com - 3H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
11,350.00	6,732.15	10,389.99	5,814.71	117.92	117.04	-6.22	119.35	-4,693.47	923.27	851.75	71.52	12.910		
11,384.37	6,731.00	10,424.36	5,813.69	118.78	117.90	-6.22	120.59	-4,727.81	923.15	851.10	72.05	12.813		

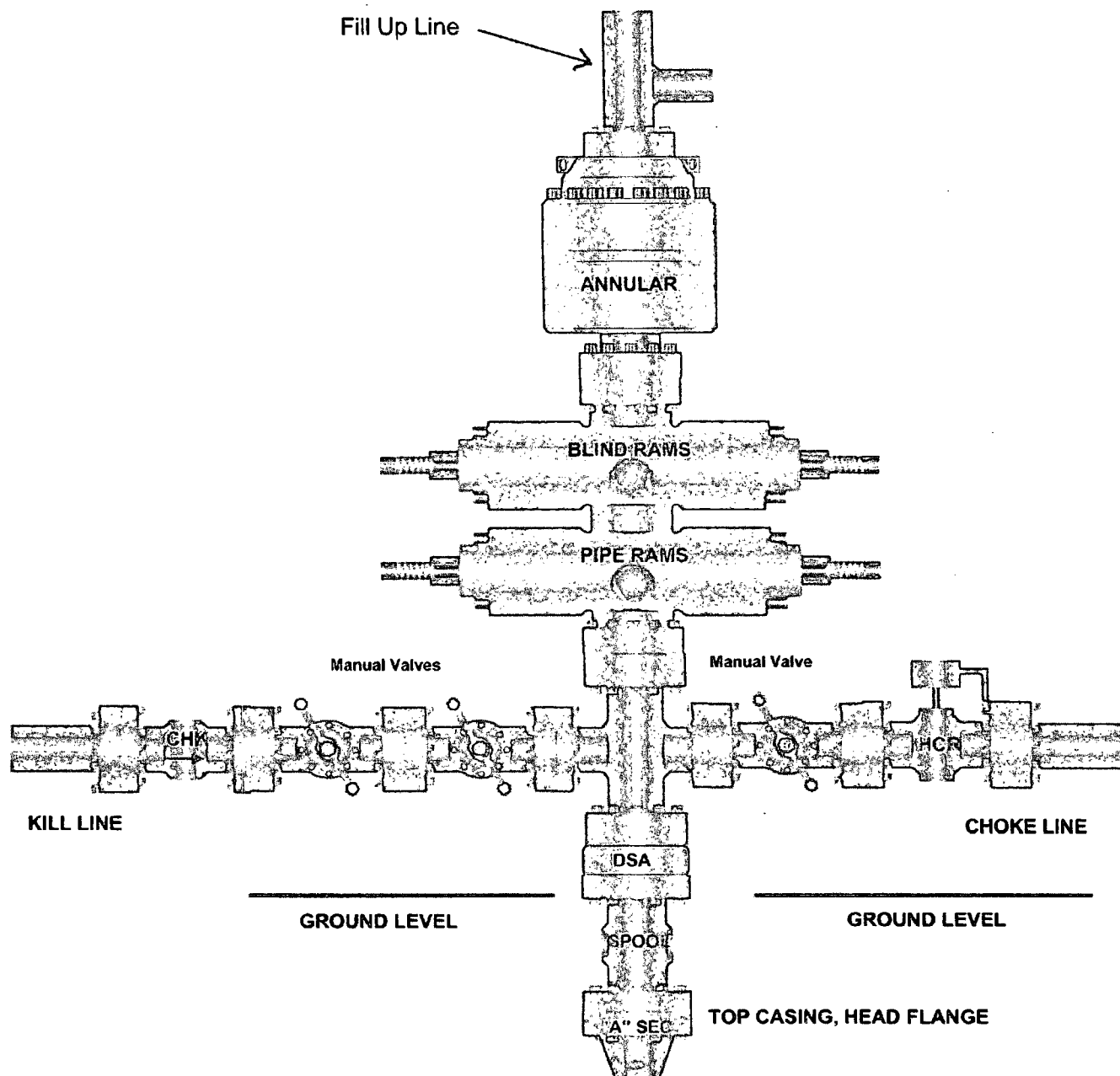
NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, LP
BAE 14 Fed Com 4H

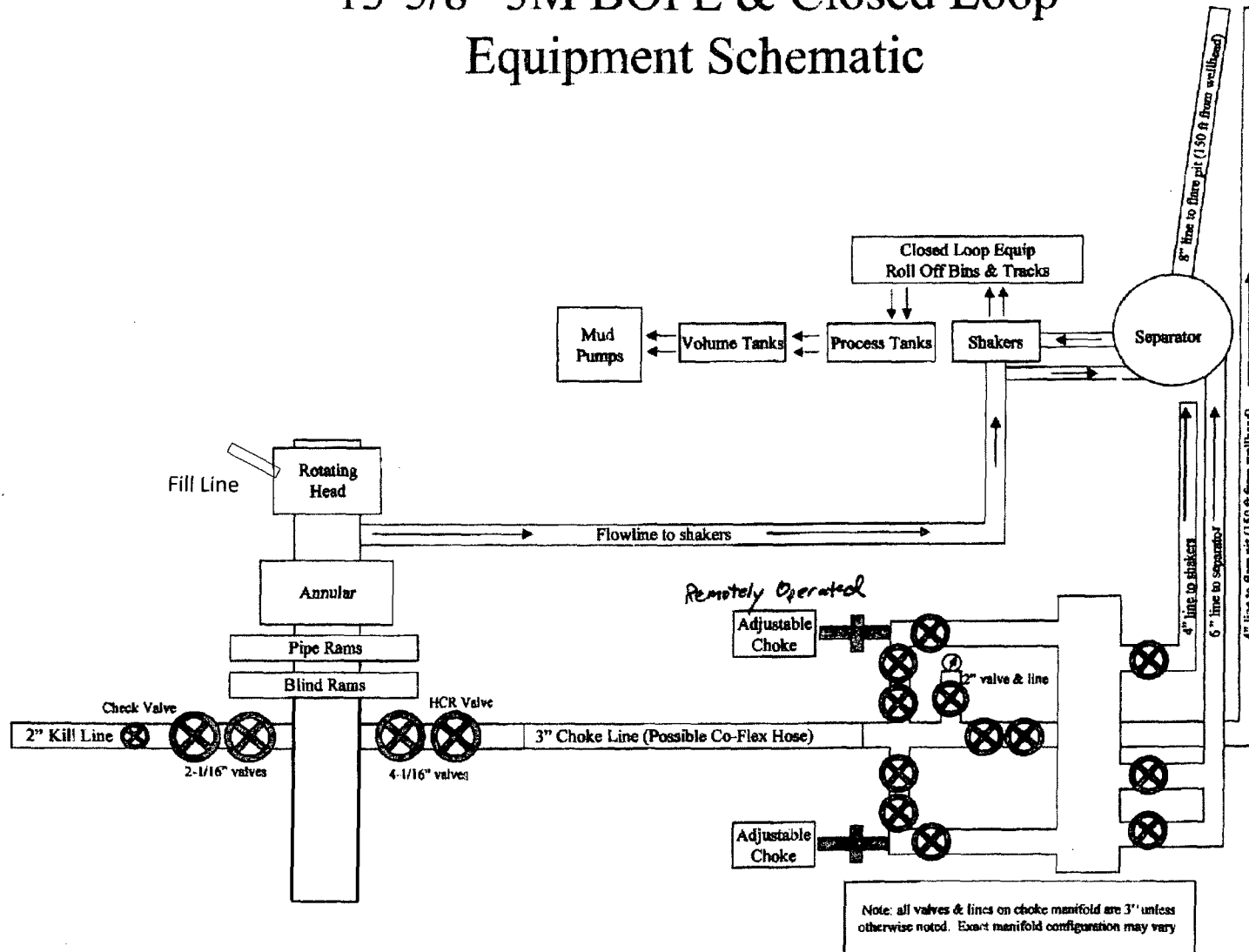
Surface Location: 2120 FNL & 200 FEL, Unit H, Sec 14 T17S R32E, Lea, NM
Bottom Hole Location: 1930 FNL & 330 FWL, Unit E, Sec 14 T17S R32E, Lea, NM

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 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.

13-5/8" x 3,000 psi BOP Stack



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





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.

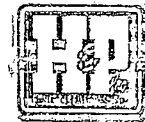
Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

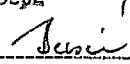
ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

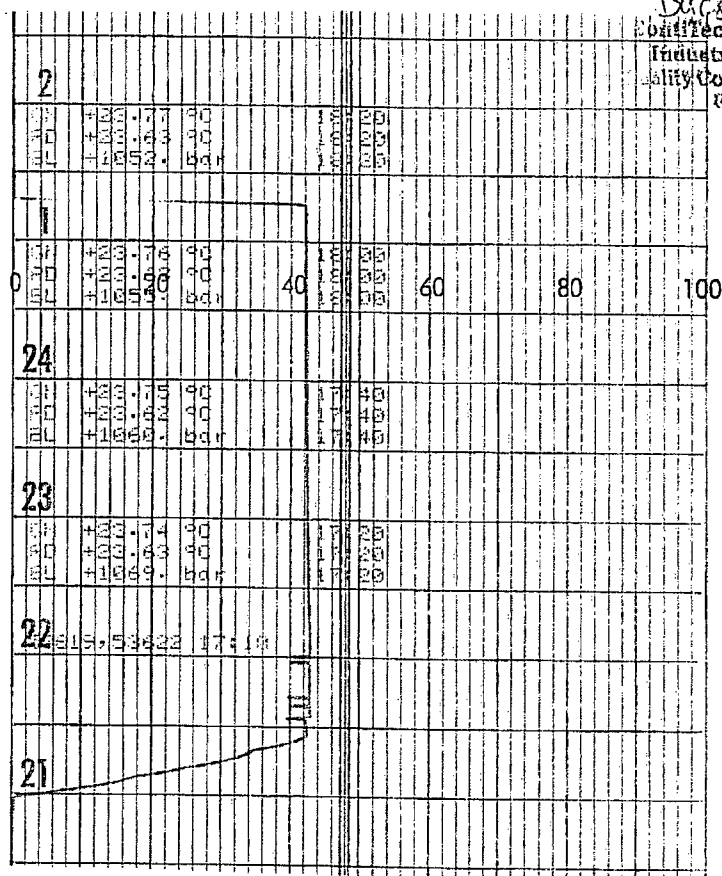
Robin Hodgson
Sales Manager
ContiTech Beattie Corp

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



QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 1713	
PURCHASER: ContiTech Beattie Co.				P.O. N°: 002808	
CONTITECH ORDER N°: 426127		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 53622		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		5503 2029		AISI 4130 AISI 4130	
				Heat N° N1590P 27566	
INFOCHIP INSTALLED				API Spec 16 C Temperature rate:"B"	
All metal parts are flawless				Hose conform to NACE MR 01-75	
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date: 25. August. 2008		Inspector		Quality Control ContiTech Rubber Industrial Kft. Quality Control Dept.  	

HARTMANN &



ContiTech Rubber
Industrial Kft.
Quality Control Dept.

H&P Flex Rig Location Layout

2 Well Pad

