

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

Carlsbad Field Office
FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018
5. Lease Serial No.
NMNM114988

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No. SEAWOLF 1-12 FED 82H
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY Contact: REBECCA DEAL Email: Rebecca.Deal@devon.com		9. API Well No. 30-025-43763
3a. Address 333 WEST SHERIDAN AVENUE OKLAHOMA CITY, OK 73102	3b. Phone No. (include area code) Ph: 405-228-8429	10. Field and Pool or Exploratory Area WC-025 G-09 S253336D;U WC
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 1 T26S R33E NWNW 200FNL 390FWL		11. County or Parish, State LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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

Devon Energy respectfully requests an annular exception and the following changes to the original APD:

Target TVD from 12,574' to 12,507'
Production Hole Size Change from 8 3/4" to 6 3/4"
Production Casing Connect Change

Please see attached revised AC Report, Drilling Plan, BOPE schematic, Production Hole Document and Annular Preventer Document.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

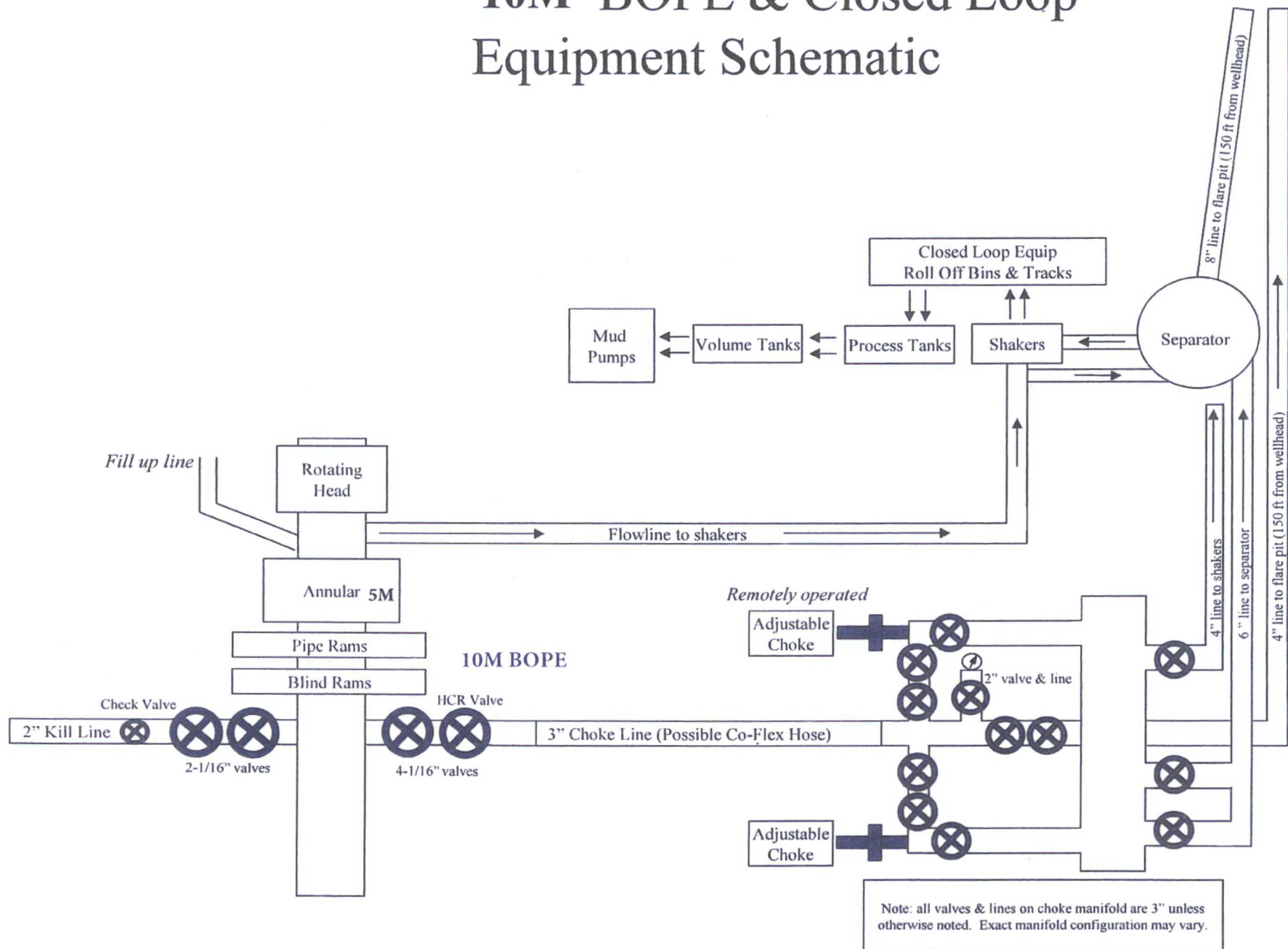
14. I hereby certify that the foregoing is true and correct. Electronic Submission #390970 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION COMPANY, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 11/07/2017 ()	
Name (Printed/Typed) REBECCA DEAL	Title REGULATORY COMPLIANCE PROFESSI
Signature (Electronic Submission)	Date 10/05/2017
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By <u>Mustafa Hagel</u>	Title <u>PETROLEUM ENGINEER</u> BUREAU OF LAND MANAGEMENT CARLSBAD FIELD OFFICE
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office <u>CFO</u>

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

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

10M BOPE & Closed Loop Equipment Schematic



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1. Component and Preventer Compatibility Table

The table below, which covers the drilling and casing of the 10M MASP portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

6-3/4" Production hole section, 10M requirement

Component	OD	Preventer	RWP
Drillpipe	4.5"	Fixed lower 4.5" Upper 3.5-5.5" VBR	10M
HWDP	4.5"	Fixed lower 4.5" Upper 3.5-5.5" VBR	10M
Drill collars and MWD tools	4.75"	Upper 3.5-5.5" VBR	10M
Mud Motor	4.75"	Upper 3.5-5.5" VBR	10M
Production casing	5.5"	Upper 3.5-5.5" VBR	10M
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

VBR = Variable Bore Ram. Compatible range listed in chart.

2. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. The pressure at which control is swapped from the annular to another compatible ram is variable, but the operator will document in the submission their operating pressure limit. The operator may chose an operating pressure less than or equal to RWP, but in no case will it exceed the RWP of the annular preventer.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

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General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close
3. Space out drill string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

General Procedure While Running Casing

1. Sound alarm (alert crew)
2. Stab crossover and full opening safety valve and close
3. Space out string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to compatible pipe ram.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams or BSR. (HCR and choke will already be in the closed position.)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
 - a. SICP
 - b. Pit gain
 - c. Time
6. Regroup and identify forward plan

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General Procedures While Pulling BHA thru Stack

1. PRIOR to pulling last joint of drillpipe thru the stack.
 - a. Perform flowcheck, if flowing:
 - b. Sound alarm (alert crew)
 - c. Stab full opening safety valve and close
 - d. Space out drill string with tool joint just beneath the upper pipe ram.
 - e. Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
 - f. Confirm shut-in
 - g. Notify toolpusher/company representative
 - h. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - i. Regroup and identify forward plan
2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
 - a. Sound alarm (alert crew)
 - b. Stab crossover and full opening safety valve and close
 - c. Space out drill string with upset just beneath the compatible pipe ram.
 - d. Shut-in using compatible pipe ram. (HCR and choke will already be in the closed position.)
 - e. Confirm shut-in
 - f. Notify toolpusher/company representative
 - g. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - h. Regroup and identify forward plan
3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
 - a. Sound alarm (alert crew)
 - b. If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
 - c. If impossible to pick up high enough to pull the string clear of the stack:
 - d. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
 - e. Space out drill string with tooljoint just beneath the upper pipe ram.
 - f. Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
 - g. Confirm shut-in
 - h. Notify toolpusher/company representative
 - i. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - j. Regroup and identify forward plan

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1. Geologic Formations

TVD of target	12,507'	Pilot hole depth	N/A
MD at TD:	22,325'	Deepest expected fresh water:	746'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	976		
Top of Salt	1329		
Base of Salt	5159		
Delaware	5159		
Lower Brushy Canyon	9157		
1st BSPG Lime	9320		
1st BSPG Sand	10269		
2nd BSPG Lime	10516		
2nd BSPG Sand	10817		
3rd BSPG Lime	11278		
3rd BSPG Sand	11901		
Wolfcamp	12353		
Wolfcamp X	12379		
Wolfcamp Y	12457		
Wolfcamp 110	12533		
Wolfcamp 120	12654		
Wolfcamp 130	12749		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

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2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
6.75"	0	12,440'	5.5"	20	P110	Vam Top HT	1.125	1.25	1.6
6.75"	12,440'	22,325'	5.5"	20	P110	Vam SG	1.125	1.25	1.6

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

A variance is requested to wave the centralizer requirement for 5-1/2" SF/Flush casing in the 6-3/4" hole.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

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3. Cementing Program

Casing	# Sks	Wt. lb/gal	H ₂ O gal/sk	Yld ft ³ /sack	Slurry Description
5-1/2" Production	852	14.8	6.32	1.33	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
5-1/2" Production Casing	12,440'	25%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
6-3/4"	13-5/8"	10M	Annular (5M)	X	50% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram	X	
			Double Ram	X	
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

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BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
Y	A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi 10,000 (10M) psi - Wellhead will be installed by wellhead representatives. - If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. - Wellhead representative will install the test plug for the initial BOP test. - Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. - If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. - Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. - Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

Devon Energy, Seawolf 1-12 82H

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

13-5/8" BOP/BOPE system will have been tested to 10M rating prior to drilling out 7 5/8" casing.

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's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron.

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. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
12,640'	22,325'	Oil Based Mud	9.5-12	45-65	N/C - 6

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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Devon Energy, Seawolf 1-12 82H

6. Logging and Testing Procedures

Logging, Coring and Testing.	
x	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned	Interval
Resistivity	Int. shoe to KOP
Density	Int. shoe to KOP
X CBL	Production casing
X Mud log	Intermediate shoe to TD
PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7200 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H ₂ S is present
Y	H ₂ S Plan attached

Attachments

 x Directional Plan
 Other, describe



devon

Devon Energy Corporation

Lea Co., NM
SeaWolf 1-12
Fed 82H

OH
PN2

HOBBS OCD

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Anticollision Report

14 August, 2017



NABORS



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Reference PN2

Filter type: NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method: Stations
Depth Range: Unlimited
Results Limited by: Maximum center-center distance of 10,000.00 ft
Warning Levels Evaluated at: 2.00 Sigma
Error Model: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Pedal Curve
Casing Method: Not applied

Survey Tool Program Date 8/14/2017

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	22,325.03	PN2 (OH)	MWD+HRGM	OWSG MWD + HRGM

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SeaWolf 1-12						
Fed 102H - OH - PN2	2,000.00	2,000.40	30.02	15.59	2.080	CC, ES
Fed 102H - OH - PN2	11,971.51	11,969.19	150.25	63.89	1.740	SF
Fed 81H - OH - PN1	2,741.70	2,742.87	29.94	10.42	1.534	CC
Fed 81H - OH - PN1	2,800.00	2,801.15	30.26	10.35	1.520	ES, SF
Fed 91H - OH - PN2	2,438.41	2,439.67	49.02	31.55	2.807	CC, ES
Fed 91H - OH - PN2	2,500.00	2,500.90	49.48	31.58	2.765	SF
Fed 92H - OH - PN2	1,500.00	1,499.90	60.01	48.98	5.440	CC, ES
Fed 92H - OH - PN2	22,325.03	22,648.88	706.93	411.80	2.395	SF

Offset Design SeaWolf 1-12 - Fed 102H - OH - PN2

Survey Program: 0-MWD+HRGM												Offset Site Error: 0.00 ft	
												Offset Well Error: 2.00 ft	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.40	0.40	2.00	2.00	89.52	0.25	30.02	30.02				
100.00	100.00	100.40	100.40	2.00	2.00	89.52	0.25	30.02	30.02	26.01	4.01	7.491	
200.00	200.00	200.40	200.40	2.06	2.06	89.52	0.25	30.02	30.02	25.91	4.11	7.297	
300.00	300.00	300.40	300.40	2.17	2.17	89.52	0.25	30.02	30.02	25.68	4.34	6.920	
400.00	400.00	400.40	400.40	2.33	2.33	89.52	0.25	30.02	30.02	25.36	4.66	6.439	
500.00	500.00	500.40	500.40	2.53	2.53	89.52	0.25	30.02	30.02	24.95	5.07	5.923	
600.00	600.00	600.40	600.40	2.77	2.77	89.52	0.25	30.02	30.02	24.48	5.54	5.421	
700.00	700.00	700.40	700.40	3.03	3.03	89.52	0.25	30.02	30.02	23.97	6.06	4.957	
800.00	800.00	800.40	800.40	3.31	3.31	89.52	0.25	30.02	30.02	23.41	6.61	4.541	
900.00	900.00	900.40	900.40	3.60	3.60	89.52	0.25	30.02	30.02	22.83	7.20	4.172	
1,000.00	1,000.00	1,000.40	1,000.40	3.90	3.90	89.52	0.25	30.02	30.02	22.22	7.80	3.848	
1,100.00	1,100.00	1,100.40	1,100.40	4.21	4.21	89.52	0.25	30.02	30.02	21.60	8.42	3.563	
1,200.00	1,200.00	1,200.40	1,200.40	4.53	4.53	89.52	0.25	30.02	30.02	20.96	9.06	3.313	
1,300.00	1,300.00	1,300.40	1,300.40	4.85	4.86	89.52	0.25	30.02	30.02	20.31	9.71	3.092	
1,400.00	1,400.00	1,400.40	1,400.40	5.18	5.18	89.52	0.25	30.02	30.02	19.65	10.37	2.896	
1,500.00	1,500.00	1,500.40	1,500.40	5.52	5.52	89.52	0.25	30.02	30.02	18.99	11.03	2.721	
1,600.00	1,600.00	1,600.40	1,600.40	5.85	5.85	89.52	0.25	30.02	30.02	18.32	11.70	2.565	
1,700.00	1,700.00	1,700.40	1,700.40	6.19	6.19	89.52	0.25	30.02	30.02	17.64	12.38	2.425	
1,800.00	1,800.00	1,800.40	1,800.40	6.53	6.53	89.52	0.25	30.02	30.02	16.96	13.06	2.299	
1,900.00	1,900.00	1,900.40	1,900.40	6.87	6.87	89.52	0.25	30.02	30.02	16.28	13.75	2.184	

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design													SeaWolf 1-12 - Fed 102H - OH - PN2		Offset Site Error: 0.00 ft	
Survey Program: 0-MWD+HRGM													Offset Well Error: 2.00 ft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	Offset Wellbore Centre +E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)					
2,000.00	2,000.00	2,000.40	2,000.40	7.22	7.22	89.52	0.25	30.02	30.02	15.59	14.43	2.080	CC, ES			
2,100.00	2,100.00	2,099.88	2,099.87	7.56	7.55	89.16	0.45	30.87	30.87	15.76	15.11	2.043				
2,200.00	2,200.00	2,199.30	2,199.26	7.91	7.89	88.20	1.05	33.39	33.43	17.64	15.78	2.118				
2,300.00	2,300.00	2,298.60	2,298.47	8.25	8.22	86.89	2.04	37.59	37.70	21.24	16.45	2.291				
2,400.00	2,400.00	2,397.72	2,397.41	8.60	8.56	85.49	3.43	43.45	43.69	26.56	17.12	2.551				
2,500.00	2,500.00	2,496.61	2,495.99	8.95	8.90	84.17	5.20	50.95	51.41	33.62	17.79	2.890				
2,600.00	2,599.99	2,595.28	2,594.21	9.29	9.24	-7.08	7.36	60.09	59.99	41.55	18.44	3.254				
2,700.00	2,699.96	2,705.49	2,692.85	9.63	9.62	-8.32	9.86	70.62	68.27	49.13	19.14	3.567				
2,800.00	2,799.86	2,805.73	2,792.00	9.96	9.98	-9.53	12.39	81.34	74.98	55.17	19.81	3.784				
2,900.00	2,899.68	2,905.87	2,891.25	10.30	10.33	-10.76	14.93	92.07	80.01	59.52	20.50	3.904				
3,000.00	2,999.37	2,994.06	2,990.56	10.64	10.65	-12.10	17.47	102.81	83.37	62.23	21.14	3.944				
3,100.00	3,098.90	3,105.98	3,089.91	10.99	11.05	-13.60	20.01	113.55	85.08	63.21	21.87	3.890				
3,173.20	3,171.65	3,167.19	3,162.64	11.24	11.27	-14.86	21.87	121.41	85.29	62.96	22.33	3.819				
3,200.00	3,198.27	3,206.02	3,189.27	11.34	11.41	-15.34	22.55	124.29	85.22	62.66	22.56	3.777				
3,300.00	3,297.58	3,306.06	3,288.62	11.69	11.78	-17.17	25.09	135.03	84.99	61.73	23.26	3.654				
3,400.00	3,396.89	3,393.91	3,387.97	12.04	12.10	-19.01	27.63	145.77	84.84	60.93	23.92	3.548				
3,500.00	3,496.20	3,506.13	3,487.32	12.40	12.51	-20.85	30.17	156.51	84.79	60.13	24.66	3.438				
3,513.86	3,509.96	3,507.72	3,501.09	12.45	12.51	-21.10	30.52	157.99	84.79	60.07	24.72	3.430				
3,600.00	3,595.51	3,606.17	3,586.67	12.76	12.87	-22.69	32.71	167.25	84.82	59.45	25.37	3.343				
3,700.00	3,694.82	3,706.20	3,686.02	13.12	13.24	-24.52	35.25	177.99	84.94	58.86	26.08	3.257				
3,800.00	3,794.13	3,793.76	3,785.38	13.48	13.57	-26.35	37.79	188.73	85.15	58.39	26.75	3.183				
3,900.00	3,893.44	3,893.72	3,884.73	13.84	13.94	-28.17	40.34	199.47	85.44	57.97	27.47	3.110				
4,000.00	3,992.75	4,006.32	3,984.08	14.21	14.35	-29.98	42.88	210.21	85.82	57.58	28.24	3.039				
4,100.00	4,092.06	4,106.35	4,083.43	14.57	14.73	-31.76	45.42	220.95	86.28	57.32	28.96	2.979				
4,200.00	4,191.37	4,193.61	4,182.78	14.94	15.05	-33.53	47.96	231.69	86.82	57.18	29.65	2.929				
4,300.00	4,290.68	4,306.43	4,282.13	15.31	15.47	-35.27	50.50	242.43	87.45	57.03	30.42	2.874				
4,400.00	4,389.99	4,406.46	4,381.49	15.68	15.85	-36.99	53.04	253.17	88.16	57.00	31.16	2.829				
4,500.00	4,489.30	4,493.50	4,480.84	16.05	16.18	-38.68	55.58	263.91	88.94	57.09	31.85	2.792				
4,600.00	4,588.61	4,593.46	4,580.19	16.43	16.55	-40.33	58.12	274.65	89.80	57.21	32.60	2.755				
4,700.00	4,687.93	4,706.58	4,679.54	16.80	16.98	-41.96	60.66	285.39	90.74	57.35	33.39	2.718				
4,800.00	4,787.24	4,806.61	4,778.89	17.17	17.35	-43.55	63.20	296.13	91.74	57.61	34.14	2.687				
4,900.00	4,886.55	4,906.65	4,878.25	17.55	17.73	-45.10	65.74	306.87	92.82	57.93	34.89	2.660				
5,000.00	4,985.86	4,993.31	4,977.60	17.92	18.06	-46.62	68.28	317.61	93.96	58.37	35.59	2.640				
5,100.00	5,085.17	5,093.28	5,076.95	18.30	18.44	-48.10	70.82	328.35	95.16	58.82	36.35	2.618				
5,200.00	5,184.48	5,206.76	5,176.30	18.68	18.87	-49.54	73.37	339.09	96.43	59.28	37.16	2.595				
5,300.00	5,283.79	5,306.80	5,275.65	19.06	19.25	-50.94	75.91	349.83	97.76	59.84	37.92	2.578				
5,400.00	5,383.10	5,406.84	5,375.00	19.43	19.63	-52.31	78.45	360.57	99.14	60.46	38.68	2.563				
5,500.00	5,482.41	5,506.87	5,474.36	19.81	20.01	-53.64	80.99	371.31	100.58	61.14	39.44	2.550				
5,600.00	5,581.72	5,606.91	5,573.71	20.19	20.39	-54.93	83.53	382.05	102.07	61.87	40.21	2.539				
5,700.00	5,681.03	5,706.95	5,673.06	20.57	20.77	-56.18	86.07	392.79	103.62	62.64	40.98	2.529				
5,800.00	5,780.34	5,806.98	5,772.41	20.95	21.15	-57.39	88.61	403.53	105.21	63.46	41.74	2.520				
5,900.00	5,879.65	5,907.02	5,871.76	21.33	21.53	-58.57	91.15	414.27	106.84	64.33	42.51	2.513				
6,000.00	5,978.96	6,007.06	5,971.11	21.72	21.91	-59.71	93.69	425.01	108.52	65.24	43.28	2.507				
6,100.00	6,078.27	6,107.09	6,070.47	22.10	22.29	-60.82	96.23	435.75	110.24	66.19	44.06	2.502				
6,200.00	6,177.58	6,207.13	6,169.82	22.48	22.67	-61.89	98.77	446.49	112.00	67.17	44.83	2.498				
6,300.00	6,276.89	6,307.17	6,269.17	22.86	23.05	-62.93	101.31	457.23	113.80	68.20	45.60	2.496				
6,400.00	6,376.20	6,392.79	6,368.52	23.24	23.38	-63.93	103.85	467.97	115.64	69.31	46.32	2.496				
6,500.00	6,475.52	6,507.24	6,467.87	23.63	23.82	-64.91	106.40	478.71	117.50	70.35	47.15	2.492				
6,600.00	6,574.83	6,607.28	6,567.23	24.01	24.20	-65.85	108.94	489.45	119.41	71.48	47.92	2.492				
6,700.00	6,674.14	6,707.32	6,666.58	24.39	24.58	-66.76	111.48	500.19	121.34	72.64	48.70	2.492				
6,800.00	6,773.45	6,807.35	6,765.93	24.78	24.97	-67.65	114.02	510.93	123.30	73.83	49.48	2.492				
6,900.00	6,872.76	6,907.39	6,865.28	25.16	25.35	-68.50	116.56	521.67	125.30	75.04	50.25	2.493				

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

Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
7,000.00	6,972.07	7,007.43	6,964.63	25.55	25.73	-69.33	119.10	532.41	127.32	76.29	51.03	2.495		
7,100.00	7,071.38	7,107.47	7,063.98	25.93	26.12	-70.14	121.64	543.15	129.36	77.55	51.81	2.497		
7,200.00	7,170.69	7,207.50	7,163.34	26.32	26.50	-70.92	124.18	553.89	131.43	78.85	52.58	2.499		
7,300.00	7,270.00	7,292.46	7,262.69	26.70	26.82	-71.67	126.72	564.63	133.52	80.22	53.30	2.505		
7,400.00	7,369.31	7,392.42	7,362.04	27.09	27.21	-72.40	129.26	575.37	135.64	81.56	54.08	2.508		
7,500.00	7,468.62	7,507.61	7,461.39	27.47	27.65	-73.11	131.80	586.11	137.78	82.86	54.92	2.509		
7,600.00	7,567.93	7,607.65	7,560.74	27.86	28.03	-73.80	134.34	596.85	139.93	84.24	55.69	2.513		
7,700.00	7,667.24	7,707.69	7,660.09	28.24	28.42	-74.46	136.88	607.59	142.11	85.64	56.47	2.517		
7,800.00	7,766.55	7,792.27	7,759.45	28.63	28.74	-75.11	139.43	618.33	144.31	87.12	57.19	2.523		
7,900.00	7,865.86	7,892.24	7,858.80	29.02	29.13	-75.73	141.97	629.07	146.52	88.55	57.97	2.528		
8,000.00	7,965.17	7,993.28	7,959.30	29.40	29.51	-76.60	144.36	639.21	148.42	89.66	58.76	2.526		
8,100.00	8,064.48	8,094.35	8,060.00	29.79	29.89	-78.06	146.35	647.63	149.59	90.05	59.55	2.512		
8,164.31	8,128.35	8,159.28	8,124.76	30.04	30.13	-79.32	147.42	652.12	150.02	89.97	60.05	2.498		
8,200.00	8,163.81	8,195.29	8,160.71	30.18	30.26	-80.08	147.94	654.31	150.18	89.85	60.33	2.489		
8,300.00	8,263.28	8,296.14	8,261.42	30.56	30.62	-82.18	149.11	659.26	150.51	89.40	61.10	2.463		
8,400.00	8,362.92	8,396.91	8,362.13	30.93	30.98	-84.24	149.87	662.48	150.63	88.78	61.85	2.435		
8,500.00	8,462.69	8,497.59	8,462.80	31.30	31.33	-86.26	150.22	663.97	150.54	87.96	62.58	2.405		
8,600.00	8,562.56	8,602.26	8,562.96	31.66	31.68	-88.13	150.25	664.09	150.33	87.02	63.31	2.375		
8,700.00	8,662.51	8,702.31	8,662.91	32.01	32.02	-89.37	150.25	664.09	150.26	86.26	64.00	2.348		
8,800.00	8,762.49	8,802.32	8,762.89	32.36	32.36	-89.95	150.25	664.09	150.25	85.56	64.69	2.323		
8,825.01	8,787.50	8,822.68	8,787.90	32.44	32.43	-89.99	150.25	664.09	150.25	85.41	64.84	2.317		
8,837.51	8,800.00	8,835.18	8,800.40	32.49	32.47	0.01	150.25	664.09	150.25	85.32	64.93	2.314		
8,900.00	8,862.49	8,902.32	8,862.89	32.69	32.69	0.01	150.25	664.09	150.25	84.89	65.36	2.299		
9,000.00	8,962.49	9,002.32	8,962.89	33.03	33.03	0.01	150.25	664.09	150.25	84.21	66.04	2.275		
9,100.00	9,062.49	9,102.32	9,062.89	33.37	33.37	0.01	150.25	664.09	150.25	83.54	66.71	2.252		
9,200.00	9,162.49	9,202.32	9,162.89	33.70	33.71	0.01	150.25	664.09	150.25	82.86	67.39	2.230		
9,300.00	9,262.49	9,302.32	9,262.89	34.04	34.05	0.01	150.25	664.09	150.25	82.19	68.06	2.207		
9,400.00	9,362.49	9,402.32	9,362.89	34.38	34.39	0.01	150.25	664.09	150.25	81.51	68.74	2.186		
9,500.00	9,462.49	9,502.32	9,462.89	34.71	34.73	0.01	150.25	664.09	150.25	80.83	69.42	2.164		
9,600.00	9,562.49	9,602.32	9,562.89	35.05	35.07	0.01	150.25	664.09	150.25	80.15	70.10	2.143		
9,700.00	9,662.49	9,702.32	9,662.89	35.39	35.41	0.01	150.25	664.09	150.25	79.47	70.78	2.123		
9,800.00	9,762.49	9,802.32	9,762.89	35.73	35.75	0.01	150.25	664.09	150.25	78.79	71.46	2.103		
9,900.00	9,862.49	9,902.32	9,862.89	36.07	36.09	0.01	150.25	664.09	150.25	78.11	72.14	2.083		
10,000.00	9,962.49	10,002.32	9,962.89	36.41	36.43	0.01	150.25	664.09	150.25	77.43	72.82	2.063		
10,100.00	10,062.49	10,102.32	10,062.89	36.75	36.78	0.01	150.25	664.09	150.25	76.75	73.50	2.044		
10,200.00	10,162.49	10,202.32	10,162.89	37.09	37.12	0.01	150.25	664.09	150.25	76.06	74.19	2.025		
10,300.00	10,262.49	10,302.32	10,262.89	37.43	37.46	0.01	150.25	664.09	150.25	75.38	74.87	2.007		
10,400.00	10,362.49	10,402.32	10,362.89	37.77	37.81	0.01	150.25	664.09	150.25	74.70	75.55	1.989		
10,500.00	10,462.49	10,502.32	10,462.89	38.11	38.15	0.01	150.25	664.09	150.25	74.01	76.24	1.971		
10,600.00	10,562.49	10,602.32	10,562.89	38.46	38.49	0.01	150.25	664.09	150.25	73.32	76.93	1.953		
10,700.00	10,662.49	10,702.32	10,662.89	38.80	38.84	0.01	150.25	664.09	150.25	72.64	77.61	1.936		
10,800.00	10,762.49	10,802.32	10,762.89	39.14	39.18	0.01	150.25	664.09	150.25	71.95	78.30	1.919		
10,900.00	10,862.49	10,902.32	10,862.89	39.48	39.52	0.01	150.25	664.09	150.25	71.26	78.99	1.902		
11,000.00	10,962.49	11,002.32	10,962.89	39.83	39.87	0.01	150.25	664.09	150.25	70.58	79.67	1.886		
11,100.00	11,062.49	11,102.32	11,062.89	40.17	40.21	0.01	150.25	664.09	150.25	69.89	80.36	1.870		
11,200.00	11,162.49	11,202.32	11,162.89	40.51	40.56	0.01	150.25	664.09	150.25	69.20	81.05	1.854		
11,300.00	11,262.49	11,302.32	11,262.89	40.86	40.90	0.01	150.25	664.09	150.25	68.51	81.74	1.838		
11,400.00	11,362.49	11,402.32	11,362.89	41.20	41.25	0.01	150.25	664.09	150.25	67.82	82.43	1.823		
11,500.00	11,462.49	11,502.32	11,462.89	41.54	41.60	0.01	150.25	664.09	150.25	67.13	83.12	1.808		
11,600.00	11,562.49	11,602.32	11,562.89	41.89	41.94	0.01	150.25	664.09	150.25	66.44	83.81	1.793		
11,700.00	11,662.49	11,702.32	11,662.89	42.23	42.29	0.01	150.25	664.09	150.25	65.75	84.50	1.778		
11,800.00	11,762.49	11,802.32	11,762.89	42.58	42.63	0.01	150.25	664.09	150.25	65.06	85.19	1.764		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 102H - OH - PN2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
11,900.00	11,862.49	11,902.32	11,862.89	42.92	42.98	0.01	150.25	664.09	150.25	64.37	85.88	1.749		
11,971.51	11,934.00	11,969.19	11,934.40	43.17	43.21	0.01	150.25	664.09	150.25	63.89	86.36	1.740 SF		
12,000.00	11,962.48	12,002.34	11,962.88	43.27	43.33	180.00	150.25	664.09	150.96	64.39	86.57	1.744		
12,050.00	12,012.25	12,047.43	12,012.65	43.43	43.48	180.00	150.25	664.09	155.62	68.73	86.89	1.791		
12,100.00	12,061.42	12,103.40	12,061.82	43.59	43.68	180.00	150.25	664.09	164.60	77.35	87.24	1.887		
12,150.00	12,109.62	12,144.80	12,110.02	43.74	43.82	180.00	150.25	664.09	177.83	90.29	87.54	2.031		
12,200.00	12,156.48	12,208.33	12,156.88	43.89	44.04	180.00	150.25	664.09	195.21	107.30	87.91	2.221		
12,250.00	12,201.86	12,236.84	12,202.06	44.04	44.14	180.00	150.25	664.09	216.61	128.46	88.15	2.457		
12,300.00	12,244.79	12,279.97	12,245.19	44.17	44.29	180.00	150.25	664.09	241.87	153.44	88.43	2.735		
12,350.00	12,285.56	12,320.74	12,285.96	44.30	44.43	180.00	150.25	664.09	270.78	182.10	88.69	3.053		
12,400.00	12,323.65	12,358.84	12,324.05	44.41	44.57	180.00	150.25	664.09	303.15	214.22	88.92	3.409		
12,450.00	12,358.78	12,406.04	12,359.18	44.52	44.73	180.00	150.25	664.09	338.71	249.53	89.18	3.798		
12,500.00	12,390.68	12,425.86	12,391.08	44.63	44.80	180.00	150.25	664.09	377.19	287.86	89.33	4.223		
12,550.00	12,419.10	12,454.28	12,419.50	44.73	44.90	180.00	150.25	664.09	418.31	328.82	89.49	4.674		
12,600.00	12,443.82	12,479.01	12,444.22	44.82	44.98	180.00	150.25	664.09	461.75	372.11	89.63	5.151		
12,650.00	12,464.67	12,583.87	12,548.65	44.92	45.32	180.00	142.39	664.09	506.26	417.06	89.20	5.676		
12,700.00	12,481.48	13,050.00	12,929.71	45.03	46.38	180.00	-103.27	664.09	539.43	470.15	69.29	7.786		
12,750.00	12,494.12	13,421.82	13,026.82	45.14	46.95	180.00	-455.69	664.09	532.31	474.65	57.66	9.231		
12,800.00	12,502.50	13,471.05	13,026.52	45.25	47.06	180.00	-504.91	664.09	523.62	465.84	57.79	9.061		
12,850.00	12,506.55	13,520.84	13,026.20	45.38	47.18	180.00	-554.70	664.09	519.26	461.35	57.91	8.966		
12,869.87	12,506.96	13,540.70	13,026.08	45.43	47.23	180.00	-574.56	664.09	518.73	460.77	57.96	8.949		
12,900.00	12,507.04	13,570.83	13,025.89	45.50	47.32	180.00	-604.69	664.09	518.46	460.42	58.04	8.932		
13,000.00	12,507.33	13,670.83	13,025.27	45.79	47.61	180.00	-704.68	664.09	517.55	459.22	58.33	8.873		
13,100.00	12,507.61	13,770.82	13,024.64	46.12	47.95	180.00	-804.68	664.09	516.64	457.98	58.66	8.808		
13,200.00	12,507.90	13,870.82	13,024.02	46.50	48.33	180.00	-904.67	664.09	515.73	456.70	59.03	8.737		
13,300.00	12,508.19	13,970.81	13,023.39	46.91	48.75	180.00	-1,004.67	664.09	514.82	455.38	59.43	8.662		
13,400.00	12,508.47	14,070.81	13,022.77	47.36	49.20	180.00	-1,104.66	664.09	513.90	454.02	59.88	8.582		
13,500.00	12,508.76	14,170.81	13,022.14	47.85	49.69	180.00	-1,204.65	664.09	512.99	452.63	60.36	8.498		
13,600.00	12,509.04	14,270.80	13,021.52	48.38	50.22	180.00	-1,304.65	664.09	512.08	451.20	60.88	8.411		
13,700.00	12,509.33	14,370.80	13,020.89	48.95	50.78	180.00	-1,404.64	664.09	511.17	449.73	61.44	8.320		
13,800.00	12,509.62	14,470.79	13,020.27	49.55	51.37	180.00	-1,504.64	664.09	510.26	448.23	62.03	8.226		
13,900.00	12,509.90	14,570.79	13,019.64	50.18	52.00	180.00	-1,604.63	664.09	509.35	446.70	62.65	8.130		
14,000.00	12,510.19	14,670.79	13,019.02	50.84	52.66	180.00	-1,704.62	664.09	508.44	445.13	63.31	8.031		
14,100.00	12,510.47	14,770.78	13,018.39	51.54	53.35	180.00	-1,804.62	664.09	507.53	443.53	64.00	7.930		
14,200.00	12,510.76	14,870.78	13,017.77	52.27	54.07	180.00	-1,904.61	664.09	506.62	441.90	64.72	7.828		
14,300.00	12,511.05	14,970.77	13,017.14	53.02	54.81	180.00	-2,004.61	664.09	505.71	440.24	65.47	7.724		
14,400.00	12,511.33	15,070.77	13,016.52	53.81	55.59	180.00	-2,104.60	664.09	504.79	438.55	66.25	7.620		
14,500.00	12,511.62	15,170.76	13,015.89	54.62	56.39	180.00	-2,204.59	664.09	503.88	436.83	67.05	7.515		
14,600.00	12,511.90	15,270.76	13,015.27	55.45	57.21	180.00	-2,304.59	664.09	502.97	435.09	67.89	7.409		
14,700.00	12,512.19	15,370.76	13,014.64	56.31	58.06	180.00	-2,404.58	664.09	502.06	433.32	68.74	7.303		
14,800.00	12,512.48	15,470.75	13,014.02	57.19	58.93	180.00	-2,504.57	664.09	501.15	431.52	69.63	7.198		
14,900.00	12,512.76	15,570.75	13,013.39	58.10	59.82	180.00	-2,604.57	664.09	500.24	429.70	70.54	7.092		
15,000.00	12,513.05	15,670.74	13,012.77	59.02	60.73	180.00	-2,704.56	664.09	499.33	427.86	71.47	6.987		
15,100.00	12,513.33	15,770.74	13,012.14	59.96	61.66	180.00	-2,804.56	664.09	498.42	426.00	72.42	6.883		
15,200.00	12,513.62	15,870.74	13,011.52	60.93	62.61	180.00	-2,904.55	664.09	497.51	424.11	73.39	6.779		
15,300.00	12,513.91	15,970.73	13,010.89	61.91	63.58	180.00	-3,004.54	664.09	496.59	422.21	74.38	6.676		
15,400.00	12,514.19	16,070.73	13,010.27	62.91	64.57	180.00	-3,104.54	664.09	495.68	420.28	75.40	6.574		
15,500.00	12,514.48	16,170.72	13,009.64	63.93	65.57	180.00	-3,204.53	664.09	494.77	418.34	76.43	6.473		
15,600.00	12,514.76	16,270.72	13,009.02	64.96	66.59	180.00	-3,304.53	664.09	493.86	416.38	77.48	6.374		
15,700.00	12,515.05	16,370.72	13,008.39	66.00	67.62	180.00	-3,404.52	664.09	492.95	414.40	78.55	6.276		
15,800.00	12,515.34	16,470.71	13,007.77	67.07	68.67	180.00	-3,504.51	664.09	492.04	412.41	79.63	6.179		
15,900.00	12,515.62	16,570.71	13,007.14	68.14	69.73	180.00	-3,604.51	664.09	491.13	410.39	80.73	6.083		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 102H - OH - PN2													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error: 2.00 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
16,000.00	12,515.91	16,670.70	13,006.52	69.23	70.80	180.00	-3,704.50	664.09	490.22	408.37	81.85	5.989	
16,100.00	12,516.19	16,770.70	13,005.89	70.33	71.89	180.00	-3,804.50	664.09	489.31	406.33	82.98	5.897	
16,200.00	12,516.48	16,870.69	13,005.27	71.44	72.99	180.00	-3,904.49	664.09	488.39	404.27	84.12	5.806	
16,300.00	12,516.77	16,970.69	13,004.64	72.56	74.10	180.00	-4,004.48	664.09	487.48	402.20	85.28	5.716	
16,400.00	12,517.05	17,070.69	13,004.02	73.70	75.22	180.00	-4,104.48	664.09	486.57	400.12	86.45	5.628	
16,500.00	12,517.34	17,170.68	13,003.39	74.84	76.35	180.00	-4,204.47	664.09	485.66	398.03	87.64	5.542	
16,600.00	12,517.63	17,270.68	13,002.77	76.00	77.50	180.00	-4,304.46	664.09	484.75	395.92	88.83	5.457	
16,700.00	12,517.91	17,370.67	13,002.14	77.16	78.65	180.00	-4,404.46	664.09	483.84	393.80	90.04	5.374	
16,800.00	12,518.20	17,470.67	13,001.52	78.33	79.81	180.00	-4,504.45	664.09	482.93	391.67	91.26	5.292	
16,900.00	12,518.48	17,570.67	13,000.89	79.51	80.98	180.00	-4,604.45	664.09	482.02	389.53	92.48	5.212	
17,000.00	12,518.77	17,670.66	13,000.27	80.70	82.15	180.00	-4,704.44	664.09	481.11	387.38	93.72	5.133	
17,100.00	12,519.06	17,770.66	12,999.64	81.90	83.34	180.00	-4,804.43	664.09	480.20	385.22	94.97	5.056	
17,200.00	12,519.34	17,870.65	12,999.02	83.11	84.53	180.00	-4,904.43	664.09	479.28	383.06	96.23	4.981	
17,300.00	12,519.63	17,970.65	12,998.39	84.32	85.73	180.00	-5,004.42	664.09	478.37	380.88	97.50	4.907	
17,400.00	12,519.91	18,070.64	12,997.77	85.54	86.94	180.00	-5,104.42	664.09	477.46	378.69	98.77	4.834	
17,500.00	12,520.20	18,170.64	12,997.14	86.76	88.16	180.00	-5,204.41	664.09	476.55	376.50	100.05	4.763	
17,600.00	12,520.49	18,270.64	12,996.52	87.99	89.38	180.00	-5,304.40	664.09	475.64	374.29	101.35	4.693	
17,700.00	12,520.77	18,370.63	12,995.89	89.23	90.60	180.00	-5,404.40	664.09	474.73	372.08	102.65	4.625	
17,800.00	12,521.06	18,470.63	12,995.27	90.47	91.84	180.00	-5,504.39	664.09	473.82	369.86	103.95	4.558	
17,900.00	12,521.34	18,570.62	12,994.64	91.72	93.08	180.00	-5,604.39	664.09	472.91	367.64	105.27	4.492	
18,000.00	12,521.63	18,670.62	12,994.02	92.98	94.32	180.00	-5,704.38	664.09	472.00	365.41	106.59	4.428	
18,100.00	12,521.92	18,770.62	12,993.39	94.24	95.57	180.00	-5,804.37	664.09	471.08	363.17	107.92	4.365	
18,200.00	12,522.20	18,870.61	12,992.77	95.50	96.83	180.00	-5,904.37	664.09	470.17	360.92	109.25	4.304	
18,300.00	12,522.49	18,970.61	12,992.14	96.77	98.08	180.00	-6,004.36	664.09	469.26	358.67	110.59	4.243	
18,400.00	12,522.77	19,070.60	12,991.52	98.04	99.35	180.00	-6,104.35	664.09	468.35	356.41	111.94	4.184	
18,500.00	12,523.06	19,170.60	12,990.89	99.32	100.62	180.00	-6,204.35	664.09	467.44	354.15	113.29	4.126	
18,600.00	12,523.35	19,270.59	12,990.27	100.61	101.89	180.00	-6,304.34	664.09	466.53	351.88	114.65	4.069	
18,700.00	12,523.63	19,370.59	12,989.64	101.89	103.17	180.00	-6,404.34	664.09	465.62	349.61	116.01	4.014	
18,800.00	12,523.92	19,470.59	12,989.02	103.18	104.45	180.00	-6,504.33	664.09	464.71	347.33	117.38	3.959	
18,900.00	12,524.20	19,570.58	12,988.39	104.48	105.74	180.00	-6,604.32	664.09	463.80	345.04	118.75	3.906	
19,000.00	12,524.49	19,670.58	12,987.77	105.77	107.03	180.00	-6,704.32	664.09	462.88	342.76	120.13	3.853	
19,100.00	12,524.78	19,770.57	12,987.14	107.07	108.32	180.00	-6,804.31	664.09	461.97	340.46	121.51	3.802	
19,200.00	12,525.06	19,870.57	12,986.52	108.38	109.62	180.00	-6,904.31	664.09	461.06	338.16	122.90	3.752	
19,300.00	12,525.35	19,970.57	12,985.89	109.69	110.92	180.00	-7,004.30	664.09	460.15	335.86	124.29	3.702	
19,400.00	12,525.63	20,070.56	12,985.27	111.00	112.22	180.00	-7,104.29	664.09	459.24	333.55	125.69	3.654	
19,500.00	12,525.92	20,170.56	12,984.64	112.31	113.52	180.00	-7,204.29	664.09	458.33	331.24	127.09	3.606	
19,600.00	12,526.21	20,270.55	12,984.02	113.63	114.83	180.00	-7,304.28	664.09	457.42	328.93	128.49	3.560	
19,700.00	12,526.49	20,370.55	12,983.39	114.95	116.15	180.00	-7,404.28	664.09	456.51	326.61	129.90	3.514	
19,800.00	12,526.78	20,470.55	12,982.77	116.27	117.46	180.00	-7,504.27	664.09	455.60	324.29	131.31	3.470	
19,900.00	12,527.06	20,570.54	12,982.14	117.59	118.78	180.00	-7,604.26	664.09	454.69	321.96	132.72	3.426	
20,000.00	12,527.35	20,670.54	12,981.52	118.92	120.10	180.00	-7,704.26	664.09	453.77	319.63	134.14	3.383	
20,100.00	12,527.64	20,770.53	12,980.89	120.25	121.42	180.00	-7,804.25	664.09	452.86	317.30	135.56	3.341	
20,200.00	12,527.92	20,870.53	12,980.27	121.58	122.75	180.00	-7,904.25	664.09	451.95	314.97	136.99	3.299	
20,300.00	12,528.21	20,970.52	12,979.64	122.92	124.08	180.00	-8,004.24	664.09	451.04	312.63	138.41	3.259	
20,400.00	12,528.49	21,070.52	12,979.02	124.26	125.41	180.00	-8,104.23	664.09	450.13	310.29	139.84	3.219	
20,500.00	12,528.78	21,170.52	12,978.39	125.59	126.74	180.00	-8,204.23	664.09	449.22	307.94	141.28	3.180	
20,600.00	12,529.07	21,270.51	12,977.77	126.94	128.07	180.00	-8,304.22	664.09	448.31	305.59	142.72	3.141	
20,700.00	12,529.35	21,370.51	12,977.14	128.28	129.41	180.00	-8,404.21	664.09	447.40	303.24	144.15	3.104	
20,800.00	12,529.64	21,470.50	12,976.52	129.62	130.75	180.00	-8,504.21	664.09	446.49	300.89	145.60	3.067	
20,900.00	12,529.92	21,570.50	12,975.89	130.97	132.09	180.00	-8,604.20	664.09	445.57	298.53	147.04	3.030	
21,000.00	12,530.21	21,670.50	12,975.27	132.32	133.43	180.00	-8,704.20	664.09	444.66	296.18	148.49	2.995	
21,100.00	12,530.50	21,770.49	12,974.64	133.67	134.78	180.00	-8,804.19	664.09	443.75	293.81	149.94	2.960	

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 102H - OH - PN2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
21,200.00	12,530.78	21,870.49	12,974.02	135.02	136.12	180.00	-8,904.18	664.09	442.84	291.45	151.39	2.925		
21,300.00	12,531.07	21,970.48	12,973.39	136.38	137.47	180.00	-9,004.18	664.09	441.93	289.09	152.84	2.891		
21,400.00	12,531.35	22,070.48	12,972.77	137.73	138.82	180.00	-9,104.17	664.09	441.02	286.72	154.30	2.858		
21,500.00	12,531.64	22,170.47	12,972.14	139.09	140.17	180.00	-9,204.17	664.09	440.11	284.35	155.76	2.826		
21,600.00	12,531.93	22,270.47	12,971.51	140.45	141.53	180.00	-9,304.16	664.09	439.20	281.98	157.22	2.794		
21,700.00	12,532.21	22,370.47	12,970.89	141.81	142.88	180.00	-9,404.15	664.09	438.29	279.60	158.68	2.762		
21,800.00	12,532.50	22,470.46	12,970.26	143.17	144.24	180.00	-9,504.15	664.09	437.37	277.23	160.15	2.731		
21,900.00	12,532.78	22,570.46	12,969.64	144.53	145.60	180.00	-9,604.14	664.09	436.46	274.85	161.62	2.701		
22,000.00	12,533.07	22,670.45	12,969.01	145.90	146.96	180.00	-9,704.14	664.09	435.55	272.47	163.08	2.671		
22,100.00	12,533.36	22,770.45	12,968.39	147.26	148.32	180.00	-9,804.13	664.09	434.64	270.09	164.56	2.641		
22,200.00	12,533.64	22,870.45	12,967.76	148.63	149.68	180.00	-9,904.12	664.09	433.73	267.70	166.03	2.612		
22,300.00	12,533.93	22,970.44	12,967.14	150.00	151.04	180.00	-10,004.12	664.09	432.82	265.32	167.50	2.584		
22,325.03	12,534.00	22,995.47	12,966.98	150.34	151.38	180.00	-10,029.14	664.09	432.59	264.72	167.87	2.577		



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design													SeaWolf 1-12 - Fed 81H - OH - PN1		Offset Site Error: 0.00 ft	
Survey Program: 0-MWD+HRGM													Offset Well Error: 2.00 ft			
Reference		Offset		Semi Major Axis			Distance		Between		Minimum Separation	Separation Factor	Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses							
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
0.00	0.00	0.10	-0.10	2.00	2.00	-90.46	-0.24	-29.96	29.96							
100.00	100.00	100.10	99.90	2.00	2.00	-90.46	-0.24	-29.96	29.96	25.95	4.01	7.476				
200.00	200.00	200.10	199.90	2.06	2.06	-90.46	-0.24	-29.96	29.96	25.85	4.11	7.283				
300.00	300.00	300.10	299.90	2.17	2.17	-90.46	-0.24	-29.96	29.96	25.62	4.34	6.907				
400.00	400.00	400.10	399.90	2.33	2.33	-90.46	-0.24	-29.96	29.96	25.30	4.66	6.426				
500.00	500.00	500.10	499.90	2.53	2.53	-90.46	-0.24	-29.96	29.96	24.89	5.07	5.912				
600.00	600.00	600.10	599.90	2.77	2.77	-90.46	-0.24	-29.96	29.96	24.42	5.54	5.411				
700.00	700.00	700.10	699.90	3.03	3.03	-90.46	-0.24	-29.96	29.96	23.91	6.06	4.948				
800.00	800.00	800.10	799.90	3.31	3.31	-90.46	-0.24	-29.96	29.96	23.35	6.61	4.532				
900.00	900.00	900.10	899.90	3.60	3.60	-90.46	-0.24	-29.96	29.96	22.77	7.19	4.165				
1,000.00	1,000.00	1,000.10	999.90	3.90	3.90	-90.46	-0.24	-29.96	29.96	22.16	7.80	3.841				
1,100.00	1,100.00	1,100.10	1,099.90	4.21	4.21	-90.46	-0.24	-29.96	29.96	21.54	8.42	3.557				
1,200.00	1,200.00	1,200.10	1,199.90	4.53	4.53	-90.46	-0.24	-29.96	29.96	20.90	9.06	3.307				
1,300.00	1,300.00	1,300.10	1,299.90	4.85	4.85	-90.46	-0.24	-29.96	29.96	20.25	9.71	3.086				
1,400.00	1,400.00	1,400.10	1,399.90	5.18	5.18	-90.46	-0.24	-29.96	29.96	19.59	10.37	2.890				
1,500.00	1,500.00	1,500.10	1,499.90	5.52	5.52	-90.46	-0.24	-29.96	29.96	18.93	11.03	2.716				
1,600.00	1,600.00	1,600.10	1,599.90	5.85	5.85	-90.46	-0.24	-29.96	29.96	18.26	11.70	2.560				
1,700.00	1,700.00	1,700.10	1,699.90	6.19	6.19	-90.46	-0.24	-29.96	29.96	17.58	12.38	2.420				
1,800.00	1,800.00	1,800.10	1,799.90	6.53	6.53	-90.46	-0.24	-29.96	29.96	16.90	13.06	2.294				
1,900.00	1,900.00	1,900.10	1,899.90	6.87	6.87	-90.46	-0.24	-29.96	29.96	16.22	13.74	2.180				
2,000.00	2,000.00	2,000.10	1,999.90	7.22	7.22	-90.46	-0.24	-29.96	29.96	15.53	14.43	2.076				
2,100.00	2,100.00	2,100.10	2,099.90	7.56	7.56	-90.46	-0.24	-29.96	29.96	14.84	15.12	1.981				
2,200.00	2,200.00	2,200.10	2,199.90	7.91	7.91	-90.46	-0.24	-29.96	29.96	14.15	15.81	1.895				
2,300.00	2,300.00	2,300.10	2,299.90	8.25	8.25	-90.46	-0.24	-29.96	29.96	13.45	16.51	1.815				
2,400.00	2,400.00	2,400.10	2,399.90	8.60	8.60	-90.46	-0.24	-29.96	29.96	12.76	17.21	1.741				
2,500.00	2,500.00	2,499.90	2,499.90	8.95	8.95	-90.46	-0.24	-29.96	29.96	12.06	17.90	1.674				
2,600.00	2,599.99	2,600.43	2,600.42	9.29	9.29	179.54	-0.24	-29.08	29.96	11.37	18.58	1.612				
2,700.00	2,699.96	2,700.95	2,700.91	9.63	9.63	179.54	-0.24	-26.44	29.95	10.70	19.24	1.556				
2,741.70	2,741.63	2,742.87	2,742.80	9.77	9.77	179.54	-0.24	-24.81	29.94	10.42	19.52	1.534 CC				
2,800.00	2,799.86	2,801.15	2,801.02	9.96	9.97	179.55	-0.24	-22.39	30.26	10.35	19.91	1.520 ES, SF				
2,900.00	2,899.68	2,901.13	2,900.92	10.30	10.31	179.57	-0.24	-18.22	32.20	11.62	20.59	1.564				
3,000.00	2,999.37	3,001.06	3,000.76	10.64	10.65	179.62	-0.24	-14.05	35.89	14.63	21.26	1.688				
3,100.00	3,098.90	3,100.91	3,100.53	10.99	10.99	179.67	-0.24	-9.89	41.31	19.37	21.94	1.883				
3,173.20	3,171.65	3,173.93	3,173.49	11.24	11.24	179.70	-0.24	-6.85	46.39	23.95	22.44	2.068				
3,200.00	3,198.27	3,200.66	3,200.19	11.34	11.33	179.72	-0.24	-5.73	48.42	25.80	22.62	2.141				
3,300.00	3,297.58	3,300.37	3,299.81	11.69	11.67	179.75	-0.24	-1.58	55.99	32.69	23.30	2.403				
3,400.00	3,396.89	3,400.08	3,399.44	12.04	12.02	179.78	-0.24	2.58	63.57	39.58	23.99	2.650				
3,500.00	3,496.20	3,500.21	3,499.06	12.40	12.36	179.81	-0.24	6.74	71.14	46.46	24.68	2.883				
3,600.00	3,595.51	3,600.49	3,598.69	12.76	12.71	179.82	-0.24	10.89	78.71	53.34	25.37	3.103				
3,700.00	3,694.82	3,700.78	3,698.32	13.12	13.06	179.84	-0.24	15.05	86.28	60.22	26.06	3.311				
3,800.00	3,794.13	3,801.07	3,797.94	13.48	13.41	179.85	-0.24	19.21	93.86	67.10	26.76	3.508				
3,900.00	3,893.44	3,901.35	3,897.57	13.84	13.76	179.86	-0.24	23.36	101.43	73.98	27.45	3.695				
4,000.00	3,992.75	4,001.64	3,997.20	14.21	14.11	179.87	-0.24	27.52	109.00	80.85	28.15	3.872				
4,100.00	4,092.06	4,101.93	4,096.82	14.57	14.46	179.88	-0.24	31.67	116.58	87.72	28.85	4.041				
4,200.00	4,191.37	4,197.78	4,196.45	14.94	14.80	179.89	-0.24	35.83	124.15	94.61	29.54	4.203				
4,300.00	4,290.68	4,297.10	4,295.67	15.31	15.15	179.90	-0.24	39.94	131.75	101.51	30.24	4.357				
4,400.00	4,389.99	4,394.40	4,392.94	15.68	15.49	179.90	-0.24	42.88	140.47	109.54	30.93	4.542				
4,500.00	4,489.30	4,491.39	4,489.92	16.05	15.83	179.91	-0.24	44.16	150.88	119.27	31.62	4.772				
4,600.00	4,588.61	4,589.99	4,588.51	16.43	16.18	179.91	-0.24	44.22	162.54	130.23	32.31	5.030				
4,700.00	4,687.93	4,689.30	4,687.83	16.80	16.53	179.92	-0.24	44.22	174.26	141.25	33.01	5.278				
4,800.00	4,787.24	4,788.61	4,787.14	17.17	16.87	179.93	-0.24	44.22	185.99	152.27	33.72	5.516				
4,900.00	4,886.55	4,887.92	4,886.45	17.55	17.22	179.93	-0.24	44.22	197.71	163.28	34.42	5.743				

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 81H - OH - PN1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,985.86	4,987.23	4,985.76	17.92	17.58	179.93	-0.24	44.22	209.43	174.30	35.13	5.962		
5,100.00	5,085.17	5,086.55	5,085.07	18.30	17.93	179.94	-0.24	44.22	221.15	185.32	35.84	6.171		
5,200.00	5,184.48	5,185.86	5,184.38	18.68	18.28	179.94	-0.24	44.22	232.88	196.33	36.54	6.373		
5,300.00	5,283.79	5,285.17	5,283.69	19.06	18.63	179.94	-0.24	44.22	244.60	207.35	37.25	6.567		
5,400.00	5,383.10	5,384.48	5,383.00	19.43	18.98	179.95	-0.24	44.22	256.32	218.36	37.96	6.753		
5,500.00	5,482.41	5,483.79	5,482.31	19.81	19.33	179.95	-0.24	44.22	268.04	229.38	38.67	6.932		
5,600.00	5,581.72	5,583.10	5,581.62	20.19	19.68	179.95	-0.24	44.22	279.77	240.39	39.37	7.105		
5,700.00	5,681.03	5,682.41	5,680.93	20.57	20.03	179.95	-0.24	44.22	291.49	251.40	40.08	7.272		
5,800.00	5,780.34	5,781.72	5,780.24	20.95	20.38	179.95	-0.24	44.22	303.21	262.42	40.79	7.433		
5,900.00	5,879.65	5,881.03	5,879.55	21.33	20.74	179.96	-0.24	44.22	314.93	273.43	41.50	7.588		
6,000.00	5,978.96	5,980.34	5,978.86	21.72	21.09	179.96	-0.24	44.22	326.66	284.44	42.21	7.738		
6,100.00	6,078.27	6,079.65	6,078.17	22.10	21.44	179.96	-0.24	44.22	338.38	295.45	42.93	7.883		
6,200.00	6,177.58	6,178.96	6,177.48	22.48	21.79	179.96	-0.24	44.22	350.10	306.46	43.64	8.023		
6,300.00	6,276.89	6,278.27	6,276.79	22.86	22.14	179.96	-0.24	44.22	361.82	317.47	44.35	8.159		
6,400.00	6,376.20	6,377.58	6,376.10	23.24	22.50	179.96	-0.24	44.22	373.55	328.48	45.06	8.290		
6,500.00	6,475.52	6,476.89	6,475.42	23.63	22.85	179.96	-0.24	44.22	385.27	339.49	45.77	8.417		
6,600.00	6,574.83	6,576.20	6,574.73	24.01	23.20	179.97	-0.24	44.22	396.99	350.50	46.49	8.540		
6,700.00	6,674.14	6,675.51	6,674.04	24.39	23.56	179.97	-0.24	44.22	408.71	361.51	47.20	8.659		
6,800.00	6,773.45	6,774.82	6,773.35	24.78	23.91	179.97	-0.24	44.22	420.44	372.52	47.91	8.775		
6,900.00	6,872.76	6,874.13	6,872.66	25.16	24.26	179.97	-0.24	44.22	432.16	383.53	48.63	8.887		
7,000.00	6,972.07	6,973.45	6,971.97	25.55	24.61	179.97	-0.24	44.22	443.88	394.54	49.34	8.996		
7,100.00	7,071.38	7,072.76	7,071.28	25.93	24.97	179.97	-0.24	44.22	455.60	405.55	50.06	9.102		
7,200.00	7,170.69	7,172.07	7,170.59	26.32	25.32	179.97	-0.24	44.22	467.33	416.56	50.77	9.205		
7,300.00	7,270.00	7,271.38	7,269.90	26.70	25.67	179.97	-0.24	44.22	479.05	427.56	51.48	9.305		
7,400.00	7,369.31	7,370.69	7,369.21	27.09	26.03	179.97	-0.24	44.22	490.77	438.57	52.20	9.402		
7,500.00	7,468.62	7,470.00	7,468.52	27.47	26.38	179.97	-0.24	44.22	502.49	449.58	52.91	9.496		
7,600.00	7,567.93	7,569.31	7,567.83	27.86	26.73	179.97	-0.24	44.22	514.22	460.59	53.63	9.588		
7,700.00	7,667.24	7,668.62	7,667.14	28.24	27.09	179.97	-0.24	44.22	525.94	471.59	54.35	9.678		
7,800.00	7,766.55	7,767.93	7,766.45	28.63	27.44	179.97	-0.24	44.22	537.66	482.60	55.06	9.765		
7,900.00	7,865.86	7,867.24	7,865.76	29.02	27.80	179.97	-0.24	44.22	549.38	493.61	55.78	9.850		
8,000.00	7,965.17	7,966.55	7,965.07	29.40	28.15	179.98	-0.24	44.22	561.11	504.61	56.49	9.932		
8,100.00	8,064.48	8,065.86	8,064.38	29.79	28.50	179.98	-0.24	44.22	572.83	515.62	57.21	10.013		
8,164.31	8,128.35	8,129.73	8,128.25	30.04	28.73	179.98	-0.24	44.22	580.37	522.70	57.67	10.063		
8,200.00	8,163.81	8,165.18	8,163.71	30.18	28.86	179.98	-0.24	44.22	584.44	526.51	57.93	10.089		
8,300.00	8,263.28	8,264.66	8,263.18	30.56	29.21	179.98	-0.24	44.22	594.68	536.03	58.64	10.141		
8,400.00	8,362.92	8,364.29	8,362.82	30.93	29.57	179.98	-0.24	44.22	603.18	543.82	59.36	10.162		
8,500.00	8,462.69	8,464.07	8,462.59	31.30	29.92	179.98	-0.24	44.22	609.93	549.86	60.07	10.153		
8,600.00	8,562.56	8,563.94	8,562.46	31.66	30.28	179.98	-0.24	44.22	614.95	554.16	60.79	10.117		
8,700.00	8,662.51	8,663.88	8,662.41	32.01	30.63	179.98	-0.24	44.22	618.22	556.72	61.50	10.053		
8,800.00	8,762.49	8,763.87	8,762.39	32.36	30.99	179.98	-0.24	44.22	619.75	557.54	62.21	9.963		
8,837.51	8,800.00	8,801.38	8,799.90	32.49	31.13	-90.02	-0.24	44.22	619.87	557.40	62.47	9.923		
8,900.00	8,862.49	8,863.87	8,862.39	32.69	31.35	-90.02	-0.24	44.22	619.87	556.96	62.91	9.854		
9,000.00	8,962.49	8,963.87	8,962.39	33.03	31.70	-90.02	-0.24	44.22	619.87	556.26	63.61	9.745		
9,100.00	9,062.49	9,063.87	9,062.39	33.37	32.06	-90.02	-0.24	44.22	619.87	555.56	64.31	9.639		
9,200.00	9,162.49	9,163.87	9,162.39	33.70	32.42	-90.02	-0.24	44.22	619.87	554.86	65.01	9.535		
9,300.00	9,262.49	9,263.87	9,262.39	34.04	32.78	-90.02	-0.24	44.22	619.87	554.16	65.71	9.433		
9,400.00	9,362.49	9,363.87	9,362.39	34.38	33.13	-90.02	-0.24	44.22	619.87	553.46	66.41	9.334		
9,500.00	9,462.49	9,463.87	9,462.39	34.71	33.49	-90.02	-0.24	44.22	619.87	552.76	67.11	9.236		
9,600.00	9,562.49	9,563.87	9,562.39	35.05	33.85	-90.02	-0.24	44.22	619.87	552.06	67.82	9.140		
9,700.00	9,662.49	9,663.87	9,662.39	35.39	34.20	-90.02	-0.24	44.22	619.87	551.35	68.52	9.047		
9,800.00	9,762.49	9,763.87	9,762.39	35.73	34.56	-90.02	-0.24	44.22	619.87	550.65	69.22	8.955		
9,900.00	9,862.49	9,863.87	9,862.39	36.07	34.92	-90.02	-0.24	44.22	619.87	549.95	69.92	8.865		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 81H - OH - PN1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error: 2.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
10,000.00	9,962.49	9,963.87	9,962.39	36.41	35.27	-90.02	-0.24	44.22	619.87	549.24	70.63	8.777	
10,100.00	10,062.49	10,063.87	10,062.39	36.75	35.63	-90.02	-0.24	44.22	619.87	548.54	71.33	8.890	
10,200.00	10,162.49	10,163.87	10,162.39	37.09	35.99	-90.02	-0.24	44.22	619.87	547.84	72.04	8.605	
10,300.00	10,262.49	10,263.87	10,262.39	37.43	36.35	-90.02	-0.24	44.22	619.87	547.13	72.74	8.522	
10,400.00	10,362.49	10,363.87	10,362.39	37.77	36.70	-90.02	-0.24	44.22	619.87	546.43	73.44	8.440	
10,500.00	10,462.49	10,463.87	10,462.39	38.11	37.06	-90.02	-0.24	44.22	619.87	545.72	74.15	8.360	
10,600.00	10,562.49	10,563.87	10,562.39	38.46	37.42	-90.02	-0.24	44.22	619.87	545.02	74.85	8.281	
10,700.00	10,662.49	10,663.87	10,662.39	38.80	37.77	-90.02	-0.24	44.22	619.87	544.31	75.56	8.204	
10,800.00	10,762.49	10,763.87	10,762.39	39.14	38.13	-90.02	-0.24	44.22	619.87	543.61	76.26	8.128	
10,900.00	10,862.49	10,863.87	10,862.39	39.48	38.49	-90.02	-0.24	44.22	619.87	542.90	76.97	8.054	
11,000.00	10,962.49	10,963.87	10,962.39	39.83	38.85	-90.02	-0.24	44.22	619.87	542.20	77.67	7.980	
11,100.00	11,062.49	11,063.87	11,062.39	40.17	39.20	-90.02	-0.24	44.22	619.87	541.49	78.38	7.908	
11,200.00	11,162.49	11,163.87	11,162.39	40.51	39.56	-90.02	-0.24	44.22	619.87	540.78	79.09	7.838	
11,300.00	11,262.49	11,263.87	11,262.39	40.86	39.92	-90.02	-0.24	44.22	619.87	540.08	79.79	7.768	
11,400.00	11,362.49	11,363.87	11,362.39	41.20	40.28	-90.02	-0.24	44.22	619.87	539.37	80.50	7.700	
11,500.00	11,462.49	11,463.87	11,462.39	41.54	40.63	-90.02	-0.24	44.22	619.87	538.66	81.21	7.633	
11,600.00	11,562.49	11,563.87	11,562.39	41.89	40.99	-90.02	-0.24	44.22	619.87	537.96	81.91	7.567	
11,700.00	11,662.49	11,663.87	11,662.39	42.23	41.35	-90.02	-0.24	44.22	619.87	537.25	82.62	7.503	
11,800.00	11,762.49	11,763.87	11,762.39	42.58	41.71	-90.02	-0.24	44.22	619.87	536.54	83.33	7.439	
11,900.00	11,862.49	11,863.87	11,862.39	42.92	42.06	-90.02	-0.24	44.22	619.87	535.84	84.03	7.376	
11,971.51	11,934.00	11,935.38	11,933.90	43.17	42.32	-90.02	-0.24	44.22	619.87	535.33	84.54	7.332	
11,988.09	11,950.58	11,951.96	11,950.48	43.23	42.38	90.00	-0.24	44.22	619.87	535.21	84.66	7.322	
12,000.00	11,962.48	11,963.86	11,962.38	43.27	42.42	90.04	-0.24	44.22	619.87	535.13	84.74	7.315	
12,050.00	12,012.25	12,013.62	12,012.15	43.43	42.60	90.47	-0.24	44.22	619.89	534.81	85.08	7.286	
12,100.00	12,061.42	12,063.82	12,062.29	43.59	42.77	91.13	-2.03	44.22	619.99	534.58	85.41	7.259	
12,150.00	12,109.62	12,114.72	12,112.79	43.74	42.93	91.79	-8.30	44.22	620.18	534.44	85.74	7.233	
12,200.00	12,156.48	12,166.29	12,163.18	43.89	43.10	92.44	-19.20	44.22	620.44	534.38	86.07	7.209	
12,250.00	12,201.66	12,218.56	12,213.04	44.04	43.25	93.07	-34.82	44.22	620.78	534.39	86.39	7.186	
12,300.00	12,244.79	12,271.52	12,261.90	44.17	43.41	93.68	-55.22	44.22	621.18	534.48	86.70	7.165	
12,350.00	12,285.56	12,325.18	12,309.27	44.30	43.56	94.27	-80.39	44.22	621.63	534.63	87.00	7.145	
12,400.00	12,323.65	12,379.53	12,354.63	44.41	43.70	94.83	-110.29	44.22	622.11	534.83	87.28	7.127	
12,450.00	12,358.78	12,434.55	12,397.46	44.52	43.85	95.35	-144.79	44.22	622.62	535.06	87.56	7.111	
12,500.00	12,390.68	12,490.21	12,437.22	44.63	44.00	95.83	-183.71	44.22	623.12	535.30	87.82	7.095	
12,550.00	12,419.10	12,546.47	12,473.37	44.73	44.15	96.26	-226.78	44.22	623.62	535.54	88.08	7.080	
12,600.00	12,443.82	12,603.28	12,505.42	44.82	44.30	96.64	-273.66	44.22	624.08	535.75	88.33	7.066	
12,650.00	12,464.67	12,660.57	12,532.89	44.92	44.45	96.96	-323.92	44.22	624.50	535.92	88.58	7.050	
12,700.00	12,481.48	12,718.28	12,555.34	45.03	44.60	97.23	-377.05	44.22	624.85	536.02	88.83	7.035	
12,750.00	12,494.12	12,776.33	12,572.41	45.14	44.74	97.43	-432.50	44.22	625.12	536.04	89.08	7.017	
12,800.00	12,502.50	12,834.61	12,583.83	45.25	44.89	97.56	-489.63	44.22	625.31	535.96	89.35	6.998	
12,850.00	12,506.55	12,893.04	12,589.39	45.38	45.03	97.63	-547.77	44.22	625.41	535.78	89.63	6.978	
12,869.87	12,506.96	12,916.28	12,589.95	45.43	45.09	97.64	-571.00	44.22	625.42	535.68	89.74	6.969	
12,900.00	12,507.04	12,946.18	12,590.15	45.50	45.17	97.65	-600.90	44.22	625.43	535.53	89.90	6.957	
13,000.00	12,507.33	13,046.18	12,590.81	45.79	45.44	97.68	-700.90	44.22	625.48	535.01	90.47	6.914	
13,100.00	12,507.61	13,146.18	12,591.46	46.12	45.76	97.71	-800.90	44.22	625.53	534.41	91.12	6.865	
13,200.00	12,507.90	13,246.18	12,592.12	46.50	46.13	97.75	-900.90	44.22	625.58	533.72	91.86	6.810	
13,300.00	12,508.19	13,346.18	12,592.78	46.91	46.53	97.78	-1,000.89	44.22	625.63	532.95	92.68	6.751	
13,400.00	12,508.47	13,446.18	12,593.43	47.36	46.97	97.81	-1,100.89	44.22	625.68	532.10	93.58	6.686	
13,500.00	12,508.76	13,546.18	12,594.09	47.85	47.46	97.85	-1,200.89	44.22	625.73	531.18	94.55	6.618	
13,600.00	12,509.04	13,646.18	12,594.74	48.38	47.98	97.88	-1,300.88	44.22	625.78	530.18	95.61	6.545	
13,700.00	12,509.33	13,746.18	12,595.40	48.95	48.54	97.91	-1,400.88	44.22	625.83	529.10	96.73	6.470	
13,800.00	12,509.62	13,846.18	12,596.06	49.55	49.13	97.95	-1,500.88	44.22	625.88	527.96	97.92	6.392	
13,900.00	12,509.90	13,946.18	12,596.71	50.18	49.76	97.98	-1,600.88	44.22	625.93	526.75	99.18	6.311	

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 81H - OH - PN1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,000.00	12,510.19	14,046.18	12,597.37	50.84	50.42	98.01	-1,700.87	44.22	625.99	525.48	100.51	6.228		
14,100.00	12,510.47	14,146.18	12,598.02	51.54	51.11	98.05	-1,800.87	44.22	626.04	524.14	101.90	6.144		
14,200.00	12,510.76	14,246.18	12,598.68	52.27	51.83	98.08	-1,900.87	44.22	626.09	522.74	103.35	6.058		
14,300.00	12,511.05	14,346.18	12,599.33	53.02	52.59	98.12	-2,000.86	44.22	626.14	521.29	104.85	5.972		
14,400.00	12,511.33	14,446.17	12,599.99	53.81	53.37	98.15	-2,100.86	44.22	626.19	519.78	106.41	5.885		
14,500.00	12,511.62	14,546.17	12,600.65	54.62	54.17	98.18	-2,200.86	44.22	626.25	518.23	108.02	5.797		
14,600.00	12,511.90	14,646.17	12,601.30	55.45	55.01	98.22	-2,300.86	44.22	626.30	516.62	109.68	5.710		
14,700.00	12,512.19	14,746.17	12,601.96	56.31	55.86	98.25	-2,400.85	44.22	626.35	514.96	111.39	5.623		
14,800.00	12,512.48	14,846.17	12,602.61	57.19	56.74	98.28	-2,500.85	44.22	626.41	513.26	113.15	5.536		
14,900.00	12,512.76	14,946.17	12,603.27	58.10	57.64	98.32	-2,600.85	44.22	626.46	511.51	114.95	5.450		
15,000.00	12,513.05	15,046.17	12,603.93	59.02	58.57	98.35	-2,700.84	44.22	626.51	509.73	116.79	5.365		
15,100.00	12,513.33	15,146.17	12,604.58	59.96	59.51	98.38	-2,800.84	44.22	626.57	507.90	118.67	5.280		
15,200.00	12,513.62	15,246.17	12,605.24	60.93	60.47	98.42	-2,900.84	44.22	626.62	506.04	120.58	5.197		
15,300.00	12,513.91	15,346.17	12,605.89	61.91	61.46	98.45	-3,000.84	44.22	626.67	504.14	122.53	5.114		
15,400.00	12,514.19	15,446.17	12,606.55	62.91	62.46	98.48	-3,100.83	44.22	626.73	502.21	124.52	5.033		
15,500.00	12,514.48	15,546.17	12,607.21	63.93	63.47	98.52	-3,200.83	44.22	626.78	500.24	126.54	4.953		
15,600.00	12,514.76	15,646.17	12,607.86	64.96	64.50	98.55	-3,300.83	44.22	626.84	498.25	128.59	4.875		
15,700.00	12,515.05	15,746.17	12,608.52	66.00	65.55	98.58	-3,400.82	44.22	626.89	496.22	130.67	4.798		
15,800.00	12,515.34	15,846.17	12,609.17	67.07	66.61	98.62	-3,500.82	44.22	626.95	494.17	132.78	4.722		
15,900.00	12,515.62	15,946.16	12,609.83	68.14	67.69	98.65	-3,600.82	44.22	627.00	492.09	134.91	4.648		
16,000.00	12,515.91	16,046.16	12,610.48	69.23	68.77	98.68	-3,700.82	44.22	627.06	489.99	137.07	4.575		
16,100.00	12,516.19	16,146.16	12,611.14	70.33	69.87	98.72	-3,800.81	44.22	627.12	487.86	139.25	4.503		
16,200.00	12,516.48	16,246.16	12,611.80	71.44	70.99	98.75	-3,900.81	44.22	627.17	485.71	141.46	4.434		
16,300.00	12,516.77	16,346.16	12,612.45	72.56	72.11	98.78	-4,000.81	44.22	627.23	483.54	143.69	4.365		
16,400.00	12,517.05	16,446.16	12,613.11	73.70	73.25	98.82	-4,100.81	44.22	627.29	481.35	145.94	4.298		
16,500.00	12,517.34	16,546.16	12,613.76	74.84	74.39	98.85	-4,200.80	44.22	627.34	479.13	148.21	4.233		
16,600.00	12,517.63	16,646.16	12,614.42	76.00	75.55	98.88	-4,300.80	44.22	627.40	476.90	150.50	4.169		
16,700.00	12,517.91	16,746.16	12,615.08	77.16	76.71	98.92	-4,400.80	44.22	627.46	474.65	152.80	4.106		
16,800.00	12,518.20	16,846.16	12,615.73	78.33	77.88	98.95	-4,500.79	44.22	627.51	472.39	155.13	4.045		
16,900.00	12,518.48	16,946.16	12,616.39	79.51	79.07	98.98	-4,600.79	44.22	627.57	470.10	157.47	3.985		
17,000.00	12,518.77	17,046.16	12,617.04	80.70	80.26	99.02	-4,700.79	44.22	627.63	467.80	159.83	3.927		
17,100.00	12,519.06	17,146.16	12,617.70	81.90	81.45	99.05	-4,800.79	44.22	627.69	465.49	162.20	3.870		
17,200.00	12,519.34	17,246.16	12,618.36	83.11	82.66	99.08	-4,900.78	44.22	627.75	463.16	164.58	3.814		
17,300.00	12,519.63	17,346.15	12,619.01	84.32	83.87	99.12	-5,000.78	44.22	627.80	460.82	166.98	3.760		
17,400.00	12,519.91	17,446.15	12,619.67	85.54	85.09	99.15	-5,100.78	44.22	627.86	458.47	169.39	3.707		
17,500.00	12,520.20	17,546.15	12,620.32	86.76	86.32	99.18	-5,200.77	44.22	627.92	456.10	171.82	3.655		
17,600.00	12,520.49	17,646.15	12,620.98	87.99	87.55	99.22	-5,300.77	44.22	627.98	453.72	174.26	3.604		
17,700.00	12,520.77	17,746.15	12,621.63	89.23	88.79	99.25	-5,400.77	44.22	628.04	451.33	176.71	3.554		
17,800.00	12,521.06	17,846.15	12,622.29	90.47	90.03	99.28	-5,500.77	44.22	628.10	448.93	179.17	3.506		
17,900.00	12,521.34	17,946.15	12,622.95	91.72	91.28	99.32	-5,600.76	44.22	628.16	446.52	181.64	3.458		
18,000.00	12,521.63	18,046.15	12,623.60	92.98	92.54	99.35	-5,700.76	44.22	628.22	444.10	184.12	3.412		
18,100.00	12,521.92	18,146.15	12,624.26	94.24	93.80	99.38	-5,800.76	44.22	628.28	441.67	186.61	3.367		
18,200.00	12,522.20	18,246.15	12,624.91	95.50	95.07	99.42	-5,900.75	44.22	628.34	439.23	189.11	3.323		
18,300.00	12,522.49	18,346.15	12,625.57	96.77	96.34	99.45	-6,000.75	44.22	628.40	436.79	191.61	3.280		
18,400.00	12,522.77	18,446.15	12,626.23	98.04	97.61	99.48	-6,100.75	44.22	628.46	434.33	194.13	3.237		
18,500.00	12,523.06	18,546.15	12,626.88	99.32	98.89	99.52	-6,200.75	44.22	628.52	431.87	196.66	3.196		
18,600.00	12,523.35	18,646.15	12,627.54	100.61	100.17	99.55	-6,300.74	44.22	628.58	429.39	199.19	3.156		
18,700.00	12,523.63	18,746.15	12,628.19	101.89	101.46	99.58	-6,400.74	44.22	628.65	426.92	201.73	3.116		
18,800.00	12,523.92	18,846.14	12,628.85	103.18	102.75	99.62	-6,500.74	44.22	628.71	424.43	204.28	3.078		
18,900.00	12,524.20	18,946.14	12,629.51	104.48	104.05	99.65	-6,600.73	44.22	628.77	421.94	206.83	3.040		
19,000.00	12,524.49	19,046.14	12,630.16	105.77	105.35	99.68	-6,700.73	44.22	628.83	419.44	209.39	3.003		
19,100.00	12,524.78	19,146.14	12,630.82	107.07	106.65	99.72	-6,800.73	44.22	628.89	416.93	211.96	2.967		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,200.00	12,525.06	19,246.14	12,631.47	108.38	107.95	99.75	-8,900.73	44.22	628.96	414.42	214.54	2.932		
19,300.00	12,525.35	19,346.14	12,632.13	109.69	109.26	99.78	-7,000.72	44.22	629.02	411.90	217.11	2.897		
19,400.00	12,525.63	19,446.14	12,632.79	111.00	110.57	99.82	-7,100.72	44.22	629.08	409.38	219.70	2.863		
19,500.00	12,525.92	19,546.14	12,633.44	112.31	111.89	99.85	-7,200.72	44.22	629.14	406.85	222.29	2.830		
19,600.00	12,526.21	19,646.14	12,634.10	113.63	113.21	99.88	-7,300.71	44.22	629.21	404.32	224.89	2.798		
19,700.00	12,526.49	19,746.14	12,634.75	114.95	114.53	99.92	-7,400.71	44.22	629.27	401.78	227.49	2.766		
19,800.00	12,526.78	19,846.14	12,635.41	116.27	115.85	99.95	-7,500.71	44.22	629.34	399.24	230.10	2.735		
19,900.00	12,527.06	19,946.14	12,636.06	117.59	117.18	99.98	-7,600.71	44.22	629.40	396.69	232.71	2.705		
20,000.00	12,527.35	20,046.14	12,636.72	118.92	118.50	100.02	-7,700.70	44.22	629.46	394.14	235.32	2.675		
20,100.00	12,527.64	20,146.14	12,637.38	120.25	119.83	100.05	-7,800.70	44.22	629.53	391.59	237.94	2.646		
20,200.00	12,527.92	20,246.14	12,638.03	121.58	121.17	100.08	-7,900.70	44.22	629.59	389.03	240.57	2.617		
20,300.00	12,528.21	20,346.13	12,638.69	122.92	122.50	100.11	-8,000.69	44.22	629.66	386.46	243.19	2.589		
20,400.00	12,528.49	20,446.13	12,639.34	124.26	123.84	100.15	-8,100.69	44.22	629.72	383.90	245.83	2.562		
20,500.00	12,528.78	20,546.13	12,640.00	125.59	125.18	100.18	-8,200.69	44.22	629.79	381.33	248.46	2.535		
20,600.00	12,529.07	20,646.13	12,640.66	126.94	126.52	100.21	-8,300.69	44.22	629.85	378.75	251.10	2.508		
20,700.00	12,529.35	20,746.13	12,641.31	128.28	127.87	100.25	-8,400.68	44.22	629.92	376.18	253.74	2.483		
20,800.00	12,529.64	20,846.13	12,641.97	129.62	129.21	100.28	-8,500.68	44.22	629.99	373.60	256.39	2.457		
20,900.00	12,529.92	20,946.13	12,642.62	130.97	130.56	100.31	-8,600.68	44.22	630.05	371.01	259.04	2.432		
21,000.00	12,530.21	21,046.13	12,643.28	132.32	131.91	100.35	-8,700.67	44.22	630.12	368.43	261.69	2.408		
21,100.00	12,530.50	21,146.13	12,643.94	133.67	133.26	100.38	-8,800.67	44.22	630.18	365.84	264.35	2.384		
21,200.00	12,530.78	21,246.13	12,644.59	135.02	134.61	100.41	-8,900.67	44.22	630.25	363.24	267.01	2.360		
21,300.00	12,531.07	21,346.13	12,645.25	136.38	135.97	100.45	-9,000.67	44.22	630.32	360.65	269.67	2.337		
21,400.00	12,531.35	21,446.13	12,645.90	137.73	137.33	100.48	-9,100.66	44.22	630.38	358.05	272.33	2.315		
21,500.00	12,531.64	21,546.13	12,646.56	139.09	138.68	100.51	-9,200.66	44.22	630.45	355.45	275.00	2.293		
21,600.00	12,531.93	21,646.13	12,647.21	140.45	140.04	100.54	-9,300.66	44.22	630.52	352.85	277.67	2.271		
21,700.00	12,532.21	21,746.12	12,647.87	141.81	141.40	100.58	-9,400.65	44.22	630.59	350.25	280.34	2.249		
21,800.00	12,532.50	21,846.12	12,648.53	143.17	142.77	100.61	-9,500.65	44.22	630.66	347.64	283.01	2.228		
21,900.00	12,532.78	21,946.12	12,649.18	144.53	144.13	100.64	-9,600.65	44.22	630.72	345.03	285.69	2.208		
22,000.00	12,533.07	22,046.12	12,649.84	145.90	145.49	100.68	-9,700.65	44.22	630.79	342.42	288.37	2.187		
22,100.00	12,533.36	22,146.12	12,650.49	147.26	146.86	100.71	-9,800.64	44.22	630.86	339.81	291.05	2.168		
22,200.00	12,533.64	22,246.12	12,651.15	148.63	148.23	100.74	-9,900.64	44.22	630.93	337.20	293.73	2.148		
22,300.00	12,533.93	22,346.12	12,651.81	150.00	149.60	100.78	-10,000.64	44.22	631.00	334.58	296.42	2.129		
22,325.03	12,534.00	22,371.15	12,651.97	150.34	149.94	100.78	-10,025.67	44.22	631.02	333.93	297.09	2.124		



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.00	0.00	0.00	0.00	2.00	2.00	-90.40	-0.42	-59.98	59.98					
100.00	100.00	100.00	100.00	2.00	2.00	-90.40	-0.42	-59.98	59.98	55.97	4.01	14.968		
200.00	200.00	200.00	200.00	2.06	2.06	-90.40	-0.42	-59.98	59.98	55.87	4.11	14.581		
300.00	300.00	300.00	300.00	2.17	2.17	-90.40	-0.42	-59.98	59.98	55.64	4.34	13.828		
400.00	400.00	400.00	400.00	2.33	2.33	-90.40	-0.42	-59.98	59.98	55.32	4.66	12.866		
500.00	500.00	500.00	500.00	2.53	2.53	-90.40	-0.42	-59.98	59.98	54.91	5.07	11.836		
600.00	600.00	600.00	600.00	2.77	2.77	-90.40	-0.42	-59.98	59.98	54.44	5.54	10.833		
700.00	700.00	700.00	700.00	3.03	3.03	-90.40	-0.42	-59.98	59.98	53.93	6.05	9.906		
800.00	800.00	800.00	800.00	3.31	3.31	-90.40	-0.42	-59.98	59.98	53.37	6.61	9.074		
900.00	900.00	900.00	900.00	3.60	3.60	-90.40	-0.42	-59.98	59.98	52.79	7.19	8.338		
1,000.00	1,000.00	1,000.00	1,000.00	3.90	3.90	-90.40	-0.42	-59.98	59.98	52.18	7.80	7.690		
1,100.00	1,100.00	1,100.00	1,100.00	4.21	4.21	-90.40	-0.42	-59.98	59.98	51.56	8.42	7.121		
1,200.00	1,200.00	1,200.00	1,200.00	4.53	4.53	-90.40	-0.42	-59.98	59.98	50.92	9.06	6.620		
1,300.00	1,300.00	1,300.00	1,300.00	4.85	4.85	-90.40	-0.42	-59.98	59.98	50.27	9.71	6.178		
1,400.00	1,400.00	1,400.00	1,400.00	5.18	5.18	-90.40	-0.42	-59.98	59.98	49.61	10.37	5.786		
1,500.00	1,500.00	1,500.00	1,500.00	5.52	5.52	-90.40	-0.42	-59.98	59.98	48.95	11.03	5.437		
1,600.00	1,600.00	1,600.00	1,600.00	5.85	5.85	-90.40	-0.42	-59.98	59.98	48.28	11.70	5.125		
1,700.00	1,700.00	1,700.00	1,700.00	6.19	6.19	-90.40	-0.42	-59.98	59.98	47.60	12.38	4.845		
1,800.00	1,800.00	1,800.00	1,800.00	6.53	6.53	-90.40	-0.42	-59.98	59.98	46.92	13.06	4.593		
1,900.00	1,900.00	1,900.54	1,900.53	6.87	6.87	-89.84	0.17	-59.57	59.57	45.83	13.74	4.335		
2,000.00	2,000.00	2,001.08	2,001.05	7.22	7.22	-87.84	2.20	-58.16	58.21	43.79	14.43	4.035		
2,100.00	2,100.00	2,101.51	2,101.38	7.56	7.56	-84.19	5.67	-55.75	56.05	40.94	15.11	3.709		
2,200.00	2,200.00	2,201.76	2,201.45	7.91	7.91	-78.58	10.58	-52.34	53.42	37.62	15.80	3.380		
2,300.00	2,300.00	2,301.76	2,301.16	8.25	8.25	-70.58	16.90	-47.95	50.85	34.35	16.50	3.082		
2,400.00	2,400.00	2,401.47	2,400.42	8.60	8.60	-59.95	24.63	-42.58	49.19	31.99	17.20	2.860		
2,438.41	2,438.41	2,439.67	2,438.41	8.74	8.73	-55.21	27.97	-40.26	49.02	31.55	17.47	2.807 CC, ES		
2,500.00	2,500.00	2,500.90	2,499.27	8.95	8.95	-47.45	33.46	-36.45	49.48	31.58	17.90	2.765 SF		
2,600.00	2,599.99	2,600.35	2,598.12	9.29	9.30	-126.26	42.38	-30.25	52.61	34.03	18.58	2.831		
2,700.00	2,699.96	2,700.12	2,697.06	9.63	9.66	-118.12	51.31	-24.05	58.30	39.04	19.26	3.026		
2,800.00	2,799.86	2,800.54	2,796.04	9.96	10.02	-112.91	60.24	-17.84	65.60	45.65	19.95	3.288		
2,900.00	2,899.68	2,900.95	2,895.04	10.30	10.38	-110.02	69.17	-11.64	73.90	53.25	20.65	3.579		
3,000.00	2,999.37	3,001.36	2,994.03	10.64	10.74	-108.85	78.10	-5.43	82.89	61.54	21.35	3.883		
3,100.00	3,098.90	3,101.82	3,092.97	10.99	11.11	-108.92	87.03	0.77	92.45	70.40	22.05	4.192		
3,173.20	3,171.65	3,170.99	3,165.35	11.24	11.36	-109.55	93.56	5.31	99.81	77.26	22.56	4.425		
3,200.00	3,198.27	3,202.35	3,191.85	11.34	11.47	-109.87	95.95	6.97	102.57	79.81	22.76	4.506		
3,300.00	3,297.58	3,302.91	3,290.70	11.69	11.84	-110.93	104.87	13.16	112.89	89.40	23.48	4.808		
3,400.00	3,396.89	3,396.54	3,389.55	12.04	12.19	-111.82	113.79	19.36	123.23	99.06	24.17	5.098		
3,500.00	3,496.20	3,496.17	3,488.58	12.40	12.55	-112.57	122.71	25.55	133.59	108.70	24.89	5.366		
3,600.00	3,595.51	3,596.94	3,588.87	12.76	12.92	-113.61	130.82	31.19	143.39	117.77	25.63	5.595		
3,700.00	3,694.82	3,697.79	3,689.39	13.12	13.29	-115.08	137.48	35.82	152.36	126.00	26.36	5.781		
3,800.00	3,794.13	3,798.65	3,790.06	13.48	13.65	-116.95	142.69	39.43	160.58	133.50	27.08	5.929		
3,900.00	3,893.44	3,899.47	3,890.77	13.84	14.02	-119.18	146.44	42.04	168.18	140.38	27.81	6.049		
4,000.00	3,992.75	4,000.18	3,991.44	14.21	14.37	-121.74	148.74	43.63	175.31	146.79	28.52	6.147		
4,100.00	4,092.06	4,100.72	4,091.97	14.57	14.73	-124.60	149.58	44.22	182.14	152.91	29.23	6.231		
4,200.00	4,191.37	4,200.12	4,191.37	14.94	15.07	-127.52	149.58	44.22	189.07	159.14	29.93	6.316		
4,300.00	4,290.68	4,300.57	4,290.68	15.31	15.42	-130.22	149.58	44.22	196.46	165.82	30.64	6.412		
4,400.00	4,389.99	4,401.26	4,389.99	15.68	15.78	-132.72	149.58	44.22	204.26	172.91	31.35	6.516		
4,500.00	4,489.30	4,501.95	4,489.30	16.05	16.13	-135.04	149.58	44.22	212.42	180.36	32.05	6.627		
4,600.00	4,588.61	4,602.64	4,588.61	16.43	16.48	-137.18	149.58	44.22	220.89	188.14	32.76	6.743		
4,700.00	4,687.93	4,703.32	4,687.93	16.80	16.84	-139.16	149.58	44.22	229.66	196.19	33.46	6.863		
4,800.00	4,787.24	4,804.01	4,787.24	17.17	17.19	-141.00	149.58	44.22	238.67	204.50	34.17	6.985		
4,900.00	4,886.55	4,904.70	4,886.55	17.55	17.54	-142.70	149.58	44.22	247.92	213.04	34.87	7.109		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 91H - OH - PN2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,985.86	5,005.39	4,985.86	17.92	17.90	-144.28	149.58	44.22	257.36	221.78	35.58	7.233		
5,100.00	5,085.17	5,106.08	5,085.17	18.30	18.25	-145.74	149.58	44.22	266.99	230.70	36.29	7.358		
5,200.00	5,184.48	5,206.77	5,184.48	18.68	18.61	-147.11	149.58	44.22	276.78	239.78	36.99	7.482		
5,300.00	5,283.79	5,307.46	5,283.79	19.06	18.96	-148.38	149.58	44.22	286.71	249.01	37.70	7.605		
5,400.00	5,383.10	5,408.15	5,383.10	19.43	19.32	-149.56	149.58	44.22	296.77	258.36	38.41	7.726		
5,500.00	5,482.41	5,508.84	5,482.41	19.81	19.67	-150.67	149.58	44.22	306.96	267.84	39.12	7.847		
5,600.00	5,581.72	5,609.53	5,581.72	20.19	20.03	-151.70	149.58	44.22	317.24	277.41	39.83	7.965		
5,700.00	5,681.03	5,689.78	5,681.03	20.57	20.31	-152.67	149.58	44.22	327.63	287.16	40.47	8.096		
5,800.00	5,780.34	5,789.09	5,780.34	20.95	20.67	-153.58	149.58	44.22	338.10	296.93	41.17	8.212		
5,900.00	5,879.65	5,888.40	5,879.65	21.33	21.02	-154.44	149.58	44.22	348.65	306.77	41.88	8.325		
6,000.00	5,978.96	5,987.71	5,978.96	21.72	21.37	-155.25	149.58	44.22	359.27	316.69	42.59	8.436		
6,100.00	6,078.27	6,087.02	6,078.27	22.10	21.72	-156.01	149.58	44.22	369.97	326.67	43.29	8.546		
6,200.00	6,177.58	6,186.33	6,177.58	22.48	22.07	-156.72	149.58	44.22	380.72	336.72	44.00	8.652		
6,300.00	6,276.89	6,285.64	6,276.89	22.86	22.42	-157.40	149.58	44.22	391.52	346.81	44.71	8.757		
6,400.00	6,376.20	6,384.95	6,376.20	23.24	22.78	-158.04	149.58	44.22	402.38	356.96	45.42	8.859		
6,500.00	6,475.52	6,484.27	6,475.52	23.63	23.13	-158.65	149.58	44.22	413.29	367.16	46.13	8.960		
6,600.00	6,574.83	6,583.58	6,574.83	24.01	23.48	-159.22	149.58	44.22	424.24	377.40	46.84	9.058		
6,700.00	6,674.14	6,682.89	6,674.14	24.39	23.83	-159.77	149.58	44.22	435.23	387.68	47.55	9.154		
6,800.00	6,773.45	6,782.20	6,773.45	24.78	24.19	-160.29	149.58	44.22	446.25	397.99	48.26	9.247		
6,900.00	6,872.76	6,881.51	6,872.76	25.16	24.54	-160.79	149.58	44.22	457.31	408.35	48.97	9.339		
7,000.00	6,972.07	6,980.82	6,972.07	25.55	24.89	-161.26	149.58	44.22	468.41	418.73	49.68	9.429		
7,100.00	7,071.38	7,080.13	7,071.38	25.93	25.24	-161.71	149.58	44.22	479.53	429.14	50.39	9.516		
7,200.00	7,170.69	7,179.44	7,170.69	26.32	25.60	-162.14	149.58	44.22	490.68	439.58	51.10	9.602		
7,300.00	7,270.00	7,278.75	7,270.00	26.70	25.95	-162.55	149.58	44.22	501.86	450.04	51.81	9.686		
7,400.00	7,369.31	7,378.06	7,369.31	27.09	26.30	-162.94	149.58	44.22	513.06	460.53	52.53	9.767		
7,500.00	7,468.62	7,477.37	7,468.62	27.47	26.66	-163.31	149.58	44.22	524.28	471.04	53.24	9.848		
7,600.00	7,567.93	7,576.68	7,567.93	27.86	27.01	-163.67	149.58	44.22	535.53	481.58	53.95	9.926		
7,700.00	7,667.24	7,675.99	7,667.24	28.24	27.36	-164.02	149.58	44.22	546.80	492.13	54.67	10.002		
7,800.00	7,766.55	7,775.30	7,766.55	28.63	27.72	-164.35	149.58	44.22	558.08	502.70	55.38	10.077		
7,900.00	7,865.86	7,874.61	7,865.86	29.02	28.07	-164.67	149.58	44.22	569.38	513.29	56.09	10.151		
8,000.00	7,965.17	7,973.92	7,965.17	29.40	28.42	-164.97	149.58	44.22	580.70	523.89	56.81	10.222		
8,100.00	8,064.48	8,073.23	8,064.48	29.79	28.78	-165.27	149.58	44.22	592.04	534.51	57.52	10.292		
8,164.31	8,128.35	8,137.10	8,128.35	30.04	29.00	-165.45	149.58	44.22	599.33	541.35	57.98	10.337		
8,200.00	8,163.81	8,172.56	8,163.81	30.18	29.13	-165.56	149.58	44.22	603.28	545.04	58.24	10.359		
8,300.00	8,263.28	8,272.03	8,263.28	30.56	29.48	-165.82	149.58	44.22	613.20	554.25	58.95	10.402		
8,400.00	8,362.92	8,371.67	8,362.92	30.93	29.84	-166.03	149.58	44.22	621.45	561.78	59.66	10.416		
8,500.00	8,462.69	8,471.44	8,462.69	31.30	30.20	-166.20	149.58	44.22	628.01	567.63	60.38	10.401		
8,600.00	8,562.56	8,571.31	8,562.56	31.66	30.55	-166.32	149.58	44.22	632.88	571.79	61.09	10.360		
8,700.00	8,662.51	8,671.26	8,662.51	32.01	30.91	-166.39	149.58	44.22	636.06	574.26	61.80	10.292		
8,800.00	8,762.49	8,771.24	8,762.49	32.36	31.26	-166.43	149.58	44.22	637.54	575.04	62.51	10.199		
8,837.51	8,800.00	8,808.75	8,800.00	32.49	31.40	-76.43	149.58	44.22	637.66	574.89	62.77	10.158		
8,900.00	8,862.49	8,871.24	8,862.49	32.69	31.62	-76.43	149.58	44.22	637.66	574.45	63.21	10.088		
9,000.00	8,962.49	8,971.24	8,962.49	33.03	31.98	-76.43	149.58	44.22	637.66	573.75	63.91	9.978		
9,100.00	9,062.49	9,071.24	9,062.49	33.37	32.33	-76.43	149.58	44.22	637.66	573.05	64.61	9.870		
9,200.00	9,162.49	9,171.24	9,162.49	33.70	32.69	-76.43	149.58	44.22	637.66	572.35	65.31	9.764		
9,300.00	9,262.49	9,271.24	9,262.49	34.04	33.05	-76.43	149.58	44.22	637.66	571.65	66.01	9.660		
9,400.00	9,362.49	9,371.24	9,362.49	34.38	33.40	-76.43	149.58	44.22	637.66	570.95	66.71	9.559		
9,500.00	9,462.49	9,471.24	9,462.49	34.71	33.76	-76.43	149.58	44.22	637.66	570.25	67.41	9.459		
9,600.00	9,562.49	9,571.24	9,562.49	35.05	34.12	-76.43	149.58	44.22	637.66	569.55	68.11	9.362		
9,700.00	9,662.49	9,671.24	9,662.49	35.39	34.47	-76.43	149.58	44.22	637.66	568.85	68.82	9.266		
9,800.00	9,762.49	9,771.24	9,762.49	35.73	34.83	-76.43	149.58	44.22	637.66	568.14	69.52	9.172		
9,900.00	9,862.49	9,871.24	9,862.49	36.07	35.19	-76.43	149.58	44.22	637.66	567.44	70.22	9.081		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 91H - OH - PN2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,000.00	9,962.49	9,971.24	9,962.49	36.41	35.54	-76.43	149.58	44.22	637.66	566.74	70.93	8.991		
10,100.00	10,062.49	10,071.24	10,062.49	36.75	35.90	-76.43	149.58	44.22	637.66	566.03	71.63	8.902		
10,200.00	10,162.49	10,171.24	10,162.49	37.09	36.26	-76.43	149.58	44.22	637.66	565.33	72.33	8.816		
10,300.00	10,262.49	10,271.24	10,262.49	37.43	36.62	-76.43	149.58	44.22	637.66	564.63	73.04	8.731		
10,400.00	10,362.49	10,371.24	10,362.49	37.77	36.97	-76.43	149.58	44.22	637.66	563.92	73.74	8.647		
10,500.00	10,462.49	10,471.24	10,462.49	38.11	37.33	-76.43	149.58	44.22	637.66	563.22	74.44	8.566		
10,600.00	10,562.49	10,571.24	10,562.49	38.46	37.69	-76.43	149.58	44.22	637.66	562.51	75.15	8.485		
10,700.00	10,662.49	10,671.24	10,662.49	38.80	38.04	-76.43	149.58	44.22	637.66	561.81	75.85	8.406		
10,800.00	10,762.49	10,771.24	10,762.49	39.14	38.40	-76.43	149.58	44.22	637.66	561.10	76.56	8.329		
10,900.00	10,862.49	10,871.24	10,862.49	39.48	38.76	-76.43	149.58	44.22	637.66	560.40	77.26	8.253		
11,000.00	10,962.49	10,971.24	10,962.49	39.83	39.12	-76.43	149.58	44.22	637.66	559.69	77.97	8.178		
11,100.00	11,062.49	11,071.24	11,062.49	40.17	39.47	-76.43	149.58	44.22	637.66	558.99	78.68	8.105		
11,200.00	11,162.49	11,171.24	11,162.49	40.51	39.83	-76.43	149.58	44.22	637.66	558.28	79.38	8.033		
11,300.00	11,262.49	11,271.24	11,262.49	40.86	40.19	-76.43	149.58	44.22	637.66	557.58	80.09	7.962		
11,400.00	11,362.49	11,371.24	11,362.49	41.20	40.54	-76.43	149.58	44.22	637.66	556.87	80.79	7.893		
11,500.00	11,462.49	11,471.24	11,462.49	41.54	40.90	-76.43	149.58	44.22	637.66	556.16	81.50	7.824		
11,600.00	11,562.49	11,571.24	11,562.49	41.89	41.26	-76.43	149.58	44.22	637.66	555.46	82.21	7.757		
11,700.00	11,662.49	11,671.24	11,662.49	42.23	41.62	-76.43	149.58	44.22	637.66	554.75	82.91	7.691		
11,800.00	11,762.49	11,771.24	11,762.49	42.58	41.97	-76.43	149.58	44.22	637.66	554.04	83.62	7.626		
11,900.00	11,862.49	11,871.24	11,862.49	42.92	42.33	-76.43	149.58	44.22	637.66	553.34	84.33	7.562		
11,971.51	11,934.00	11,942.75	11,934.00	43.17	42.59	-76.43	149.58	44.22	637.66	552.83	84.83	7.517		
12,000.00	11,962.48	11,971.23	11,962.48	43.27	42.69	103.61	149.58	44.22	637.83	552.80	85.03	7.501		
12,050.00	12,012.25	12,021.00	12,012.25	43.43	42.87	103.91	149.58	44.22	638.94	553.57	85.38	7.484		
12,100.00	12,061.42	12,070.17	12,061.42	43.59	43.04	104.46	149.58	44.22	641.18	555.46	85.72	7.480		
12,150.00	12,109.62	12,118.37	12,109.62	43.74	43.21	105.22	149.58	44.22	644.69	558.64	86.05	7.492		
12,200.00	12,156.48	12,165.23	12,156.48	43.89	43.38	106.13	149.58	44.22	649.68	563.30	86.38	7.521		
12,250.00	12,201.66	12,210.41	12,201.66	44.04	43.54	107.12	149.58	44.22	656.41	569.71	86.69	7.571		
12,300.00	12,244.79	12,253.54	12,244.79	44.17	43.70	108.10	149.58	44.22	665.14	578.14	87.00	7.645		
12,350.00	12,285.56	12,305.69	12,285.56	44.30	43.88	108.99	149.58	44.22	676.17	588.84	87.33	7.743		
12,400.00	12,323.65	12,332.40	12,323.65	44.41	43.98	109.68	149.58	44.22	689.73	602.17	87.56	7.877		
12,450.00	12,358.78	12,367.53	12,358.78	44.52	44.10	110.10	149.58	44.22	706.05	618.24	87.81	8.040		
12,500.00	12,390.68	12,400.57	12,390.68	44.63	44.22	110.14	149.58	44.22	725.26	637.22	88.05	8.237		
12,550.00	12,419.10	12,427.85	12,419.10	44.73	44.32	109.72	149.58	44.22	747.44	659.19	88.24	8.470		
12,600.00	12,443.82	12,452.57	12,443.82	44.82	44.41	108.75	149.58	44.22	772.55	684.13	88.42	8.737		
12,650.00	12,464.67	12,473.42	12,464.67	44.92	44.48	107.12	149.58	44.22	800.49	711.93	88.56	9.039		
12,700.00	12,481.48	12,509.77	12,481.48	45.03	44.61	104.75	149.58	44.22	831.08	742.33	88.75	9.364		
12,750.00	12,494.12	12,502.87	12,494.12	45.14	44.59	101.55	149.58	44.22	864.04	775.28	88.76	9.734		
12,800.00	12,502.50	12,511.25	12,502.50	45.25	44.62	97.45	149.58	44.22	899.07	810.25	88.82	10.123		
12,850.00	12,506.55	12,515.30	12,506.55	45.38	44.63	92.43	149.58	44.22	935.78	846.94	88.84	10.533		
12,869.87	12,506.96	12,515.71	12,506.96	45.43	44.63	90.19	149.58	44.22	950.76	861.91	88.85	10.701		
12,900.00	12,507.04	12,515.79	12,507.04	45.50	44.63	90.20	149.58	44.22	973.80	884.95	88.85	10.960		
13,000.00	12,507.33	13,941.61	13,333.36	45.79	48.33	143.12	-697.23	44.22	1,032.76	957.77	74.99	13.771		
13,100.00	12,507.61	14,041.61	13,333.87	46.12	48.65	143.12	-797.23	44.22	1,032.94	957.44	75.50	13.682		
13,200.00	12,507.90	14,141.61	13,334.38	46.50	49.01	143.13	-897.23	44.22	1,033.12	957.06	76.06	13.583		
13,300.00	12,508.19	14,241.61	13,334.89	46.91	49.40	143.14	-997.23	44.22	1,033.30	956.63	76.67	13.477		
13,400.00	12,508.47	14,341.61	13,335.40	47.36	49.84	143.14	-1,097.23	44.22	1,033.48	956.14	77.34	13.362		
13,500.00	12,508.76	14,441.61	13,335.92	47.85	50.31	143.15	-1,197.23	44.22	1,033.66	955.59	78.06	13.241		
13,600.00	12,509.04	14,541.61	13,336.43	48.38	50.82	143.16	-1,297.22	44.22	1,033.84	955.00	78.84	13.114		
13,700.00	12,509.33	14,641.61	13,336.94	48.95	51.36	143.17	-1,397.22	44.22	1,034.02	954.36	79.66	12.981		
13,800.00	12,509.62	14,741.61	13,337.45	49.55	51.94	143.17	-1,497.22	44.22	1,034.20	953.67	80.53	12.843		
13,900.00	12,509.90	14,841.61	13,337.96	50.18	52.54	143.18	-1,597.22	44.22	1,034.38	952.93	81.44	12.701		
14,000.00	12,510.19	14,941.61	13,338.47	50.84	53.19	143.19	-1,697.22	44.22	1,034.56	952.15	82.40	12.555		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 91H - OH - PN2													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error: 2.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
14,100.00	12,510.47	15,041.61	13,338.98	51.54	53.86	143.20	-1,797.22	44.22	1,034.73	951.33	83.40	12.406	
14,200.00	12,510.76	15,141.61	13,339.49	52.27	54.56	143.20	-1,897.21	44.22	1,034.91	950.47	84.45	12.255	
14,300.00	12,511.05	15,241.61	13,340.00	53.02	55.29	143.21	-1,997.21	44.22	1,035.09	949.56	85.53	12.102	
14,400.00	12,511.33	15,341.61	13,340.51	53.81	56.04	143.22	-2,097.21	44.22	1,035.27	948.62	86.66	11.947	
14,500.00	12,511.62	15,441.61	13,341.02	54.62	56.83	143.23	-2,197.21	44.22	1,035.45	947.64	87.81	11.791	
14,600.00	12,511.90	15,541.61	13,341.53	55.45	57.63	143.23	-2,297.21	44.22	1,035.63	946.62	89.01	11.635	
14,700.00	12,512.19	15,641.61	13,342.04	56.31	58.47	143.24	-2,397.21	44.22	1,035.81	945.57	90.24	11.479	
14,800.00	12,512.48	15,741.61	13,342.55	57.19	59.32	143.25	-2,497.21	44.22	1,035.99	944.49	91.50	11.322	
14,900.00	12,512.76	15,841.60	13,343.06	58.10	60.20	143.26	-2,597.20	44.22	1,036.17	943.38	92.79	11.166	
15,000.00	12,513.05	15,941.60	13,343.57	59.02	61.09	143.26	-2,697.20	44.22	1,036.35	942.24	94.12	11.011	
15,100.00	12,513.33	16,041.60	13,344.08	59.96	62.01	143.27	-2,797.20	44.22	1,036.53	941.06	95.47	10.857	
15,200.00	12,513.62	16,141.60	13,344.59	60.93	62.95	143.28	-2,897.20	44.22	1,036.71	939.86	96.85	10.705	
15,300.00	12,513.91	16,241.60	13,345.10	61.91	63.91	143.29	-2,997.20	44.22	1,036.89	938.64	98.25	10.553	
15,400.00	12,514.19	16,341.60	13,345.61	62.91	64.88	143.29	-3,097.20	44.22	1,037.07	937.39	99.68	10.404	
15,500.00	12,514.48	16,441.60	13,346.12	63.93	65.87	143.30	-3,197.19	44.22	1,037.25	936.11	101.14	10.256	
15,600.00	12,514.76	16,541.60	13,346.63	64.96	66.87	143.31	-3,297.19	44.22	1,037.43	934.82	102.62	10.110	
15,700.00	12,515.05	16,641.60	13,347.14	66.00	67.90	143.32	-3,397.19	44.22	1,037.61	933.50	104.12	9.966	
15,800.00	12,515.34	16,741.60	13,347.65	67.07	68.93	143.32	-3,497.19	44.22	1,037.79	932.16	105.64	9.824	
15,900.00	12,515.62	16,841.60	13,348.17	68.14	69.98	143.33	-3,597.19	44.22	1,037.97	930.79	107.18	9.685	
16,000.00	12,515.91	16,941.60	13,348.68	69.23	71.05	143.34	-3,697.19	44.22	1,038.15	929.41	108.74	9.547	
16,100.00	12,516.19	17,041.60	13,349.19	70.33	72.12	143.35	-3,797.19	44.22	1,038.33	928.02	110.32	9.412	
16,200.00	12,516.48	17,141.60	13,349.70	71.44	73.21	143.35	-3,897.18	44.22	1,038.51	926.60	111.91	9.280	
16,300.00	12,516.77	17,241.60	13,350.21	72.56	74.31	143.36	-3,997.18	44.22	1,038.69	925.17	113.53	9.149	
16,400.00	12,517.05	17,341.60	13,350.72	73.70	75.43	143.37	-4,097.18	44.22	1,038.87	923.72	115.16	9.021	
16,500.00	12,517.34	17,441.60	13,351.23	74.84	76.55	143.38	-4,197.18	44.22	1,039.05	922.25	116.80	8.896	
16,600.00	12,517.63	17,541.60	13,351.74	76.00	77.68	143.38	-4,297.18	44.22	1,039.23	920.77	118.46	8.773	
16,700.00	12,517.91	17,641.60	13,352.25	77.16	78.82	143.39	-4,397.18	44.22	1,039.41	919.28	120.13	8.652	
16,800.00	12,518.20	17,741.60	13,352.76	78.33	79.98	143.40	-4,497.17	44.22	1,039.59	917.77	121.82	8.534	
16,900.00	12,518.48	17,841.60	13,353.27	79.51	81.14	143.40	-4,597.17	44.22	1,039.77	916.25	123.52	8.418	
17,000.00	12,518.77	17,941.60	13,353.78	80.70	82.31	143.41	-4,697.17	44.22	1,039.95	914.72	125.23	8.304	
17,100.00	12,519.06	18,041.60	13,354.29	81.90	83.48	143.42	-4,797.17	44.22	1,040.13	913.17	126.96	8.193	
17,200.00	12,519.34	18,141.60	13,354.80	83.11	84.67	143.43	-4,897.17	44.22	1,040.31	911.62	128.70	8.084	
17,300.00	12,519.63	18,241.60	13,355.31	84.32	85.86	143.43	-4,997.17	44.22	1,040.49	910.05	130.44	7.977	
17,400.00	12,519.91	18,341.60	13,355.82	85.54	87.06	143.44	-5,097.17	44.22	1,040.67	908.47	132.20	7.872	
17,500.00	12,520.20	18,441.60	13,356.33	86.76	88.27	143.45	-5,197.16	44.22	1,040.85	906.89	133.97	7.769	
17,600.00	12,520.49	18,541.60	13,356.84	87.99	89.49	143.46	-5,297.16	44.22	1,041.03	905.29	135.75	7.669	
17,700.00	12,520.77	18,641.60	13,357.35	89.23	90.71	143.46	-5,397.16	44.22	1,041.21	903.68	137.53	7.571	
17,800.00	12,521.06	18,741.60	13,357.86	90.47	91.93	143.47	-5,497.16	44.22	1,041.39	902.07	139.33	7.474	
17,900.00	12,521.34	18,841.60	13,358.37	91.72	93.17	143.48	-5,597.16	44.22	1,041.57	900.44	141.13	7.380	
18,000.00	12,521.63	18,941.60	13,358.88	92.98	94.41	143.49	-5,697.16	44.22	1,041.75	898.81	142.94	7.288	
18,100.00	12,521.92	19,041.60	13,359.39	94.24	95.65	143.49	-5,797.15	44.22	1,041.94	897.17	144.76	7.197	
18,200.00	12,522.20	19,141.60	13,359.90	95.50	96.90	143.50	-5,897.15	44.22	1,042.12	895.52	146.59	7.109	
18,300.00	12,522.49	19,241.60	13,360.41	96.77	98.15	143.51	-5,997.15	44.22	1,042.30	893.87	148.43	7.022	
18,400.00	12,522.77	19,341.60	13,360.93	98.04	99.41	143.51	-6,097.15	44.22	1,042.48	892.21	150.27	6.937	
18,500.00	12,523.06	19,441.60	13,361.44	99.32	100.68	143.52	-6,197.15	44.22	1,042.66	890.54	152.12	6.854	
18,600.00	12,523.35	19,541.60	13,361.95	100.61	101.94	143.53	-6,297.15	44.22	1,042.84	888.86	153.97	6.773	
18,700.00	12,523.63	19,641.60	13,362.46	101.89	103.22	143.54	-6,397.14	44.22	1,043.02	887.18	155.84	6.693	
18,800.00	12,523.92	19,741.60	13,362.97	103.18	104.49	143.54	-6,497.14	44.22	1,043.20	885.49	157.70	6.615	
18,900.00	12,524.20	19,841.59	13,363.48	104.48	105.78	143.55	-6,597.14	44.22	1,043.38	883.80	159.58	6.538	
19,000.00	12,524.49	19,941.59	13,363.99	105.77	107.06	143.56	-6,697.14	44.22	1,043.56	882.10	161.46	6.463	
19,100.00	12,524.78	20,041.59	13,364.50	107.07	108.35	143.57	-6,797.14	44.22	1,043.74	880.40	163.34	6.390	
19,200.00	12,525.06	20,141.59	13,365.01	108.38	109.64	143.57	-6,897.14	44.22	1,043.92	878.69	165.23	6.318	

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 91H - OH - PN2													Offset Site Error: 0.00 ft	
Survey Program: 0-MWD+HRGM													Offset Well Error: 2.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,300.00	12,525.35	20,241.59	13,365.52	109.69	110.94	143.58	-6,997.14	44.22	1,044.10	876.97	167.13	6.247		
19,400.00	12,525.63	20,341.59	13,366.03	111.00	112.24	143.59	-7,097.13	44.22	1,044.28	875.26	169.03	6.178		
19,500.00	12,525.92	20,441.59	13,366.54	112.31	113.54	143.60	-7,197.13	44.22	1,044.46	873.53	170.93	6.110		
19,600.00	12,526.21	20,541.59	13,367.05	113.63	114.84	143.60	-7,297.13	44.22	1,044.64	871.80	172.84	6.044		
19,700.00	12,526.49	20,641.59	13,367.56	114.95	116.15	143.61	-7,397.13	44.22	1,044.82	870.07	174.75	5.979		
19,800.00	12,526.78	20,741.59	13,368.07	116.27	117.46	143.62	-7,497.13	44.22	1,045.00	868.34	176.67	5.915		
19,900.00	12,527.06	20,841.59	13,368.58	117.59	118.78	143.62	-7,597.13	44.22	1,045.18	866.60	178.59	5.852		
20,000.00	12,527.35	20,941.59	13,369.09	118.92	120.10	143.63	-7,697.12	44.22	1,045.36	864.85	180.51	5.791		
20,100.00	12,527.64	21,041.59	13,369.60	120.25	121.42	143.64	-7,797.12	44.22	1,045.55	863.10	182.44	5.731		
20,200.00	12,527.92	21,141.59	13,370.11	121.58	122.74	143.65	-7,897.12	44.22	1,045.73	861.35	184.37	5.672		
20,300.00	12,528.21	21,241.59	13,370.62	122.92	124.06	143.65	-7,997.12	44.22	1,045.91	859.60	186.31	5.614		
20,400.00	12,528.49	21,341.59	13,371.13	124.26	125.39	143.66	-8,097.12	44.22	1,046.09	857.84	188.25	5.557		
20,500.00	12,528.78	21,441.59	13,371.64	125.59	126.72	143.67	-8,197.12	44.22	1,046.27	856.08	190.19	5.501		
20,600.00	12,529.07	21,541.59	13,372.15	126.94	128.05	143.68	-8,297.12	44.22	1,046.45	854.31	192.14	5.446		
20,700.00	12,529.35	21,641.59	13,372.66	128.28	129.38	143.68	-8,397.11	44.22	1,046.63	852.54	194.09	5.393		
20,800.00	12,529.64	21,741.59	13,373.17	129.62	130.72	143.69	-8,497.11	44.22	1,046.81	850.77	196.04	5.340		
20,900.00	12,529.92	21,841.59	13,373.69	130.97	132.06	143.70	-8,597.11	44.22	1,046.99	849.00	197.99	5.288		
21,000.00	12,530.21	21,941.59	13,374.20	132.32	133.40	143.70	-8,697.11	44.22	1,047.17	847.22	199.95	5.237		
21,100.00	12,530.50	22,041.59	13,374.71	133.67	134.74	143.71	-8,797.11	44.22	1,047.35	845.44	201.91	5.187		
21,200.00	12,530.78	22,141.59	13,375.22	135.02	136.09	143.72	-8,897.11	44.22	1,047.53	843.66	203.87	5.138		
21,300.00	12,531.07	22,241.59	13,375.73	136.38	137.43	143.73	-8,997.10	44.22	1,047.72	841.88	205.84	5.090		
21,400.00	12,531.35	22,341.59	13,376.24	137.73	138.78	143.73	-9,097.10	44.22	1,047.90	840.09	207.80	5.043		
21,500.00	12,531.64	22,441.59	13,376.75	139.09	140.13	143.74	-9,197.10	44.22	1,048.08	838.30	209.77	4.996		
21,600.00	12,531.93	22,541.59	13,377.26	140.45	141.48	143.75	-9,297.10	44.22	1,048.26	836.51	211.74	4.951		
21,700.00	12,532.21	22,641.59	13,377.77	141.81	142.83	143.76	-9,397.10	44.22	1,048.44	834.72	213.72	4.906		
21,800.00	12,532.50	22,741.59	13,378.28	143.17	144.19	143.76	-9,497.10	44.22	1,048.62	832.92	215.70	4.862		
21,900.00	12,532.78	22,841.59	13,378.79	144.53	145.54	143.77	-9,597.10	44.22	1,048.80	831.13	217.67	4.818		
22,000.00	12,533.07	22,941.59	13,379.30	145.90	146.90	143.78	-9,697.09	44.22	1,048.98	829.33	219.65	4.776		
22,100.00	12,533.36	23,041.59	13,379.81	147.26	148.26	143.78	-9,797.09	44.22	1,049.16	827.53	221.64	4.734		
22,200.00	12,533.64	23,141.59	13,380.32	148.63	149.62	143.79	-9,897.09	44.22	1,049.34	825.72	223.62	4.693		
22,300.00	12,533.93	23,241.59	13,380.83	150.00	150.98	143.80	-9,997.09	44.22	1,049.52	823.92	225.61	4.652		
22,325.03	12,534.00	23,266.62	13,380.96	150.34	151.32	143.80	-10,022.12	44.22	1,049.57	823.47	226.10	4.642		

Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 92H - OH - PN2													Offset Site Error: 0.00 ft	
Survey Program: 0-MWD+HRGM													Offset Well Error: 2.00 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.00	0.00	0.10	-0.10	2.00	2.00	89.57	0.45	60.01	60.01					
100.00	100.00	100.10	99.90	2.00	2.00	89.57	0.45	60.01	60.01	56.00	4.01	14.975		
200.00	200.00	200.10	199.90	2.06	2.06	89.57	0.45	60.01	60.01	55.90	4.11	14.588		
300.00	300.00	300.10	299.90	2.17	2.17	89.57	0.45	60.01	60.01	55.67	4.34	13.835		
400.00	400.00	400.10	399.90	2.33	2.33	89.57	0.45	60.01	60.01	55.35	4.66	12.872		
500.00	500.00	500.10	499.90	2.53	2.53	89.57	0.45	60.01	60.01	54.94	5.07	11.841		
600.00	600.00	600.10	599.90	2.77	2.77	89.57	0.45	60.01	60.01	54.47	5.54	10.838		
700.00	700.00	700.10	699.90	3.03	3.03	89.57	0.45	60.01	60.01	53.96	6.06	9.911		
800.00	800.00	800.10	799.90	3.31	3.31	89.57	0.45	60.01	60.01	53.40	6.61	9.079		
900.00	900.00	900.10	899.90	3.60	3.60	89.57	0.45	60.01	60.01	52.82	7.19	8.342		
1,000.00	1,000.00	1,000.10	999.90	3.90	3.90	89.57	0.45	60.01	60.01	52.21	7.80	7.694		
1,100.00	1,100.00	1,100.10	1,099.90	4.21	4.21	89.57	0.45	60.01	60.01	51.59	8.42	7.124		
1,200.00	1,200.00	1,200.10	1,199.90	4.53	4.53	89.57	0.45	60.01	60.01	50.95	9.06	6.623		
1,300.00	1,300.00	1,300.10	1,299.90	4.85	4.85	89.57	0.45	60.01	60.01	50.30	9.71	6.181		
1,400.00	1,400.00	1,400.10	1,399.90	5.18	5.18	89.57	0.45	60.01	60.01	49.64	10.37	5.789		
1,500.00	1,500.00	1,499.90	1,499.90	5.52	5.52	89.57	0.45	60.01	60.01	48.98	11.03	5.440 CC, ES		
1,600.00	1,600.00	1,598.86	1,598.86	5.85	5.84	89.48	0.55	60.86	60.87	49.18	11.69	5.207		
1,700.00	1,700.00	1,697.76	1,697.72	6.19	6.16	89.24	0.84	63.40	63.44	51.10	12.34	5.139		
1,800.00	1,800.00	1,796.54	1,796.41	6.53	6.49	88.87	1.33	67.63	67.73	54.73	13.00	5.210		
1,900.00	1,900.00	1,895.15	1,894.84	6.87	6.82	88.43	2.02	73.54	73.74	60.08	13.66	5.399		
2,000.00	2,000.00	1,993.52	1,992.91	7.22	7.15	87.96	2.89	81.11	81.46	67.15	14.31	5.691		
2,100.00	2,100.00	2,091.61	2,090.56	7.56	7.48	87.49	3.96	90.32	90.89	75.92	14.97	6.072		
2,200.00	2,200.00	2,189.34	2,187.68	7.91	7.82	87.05	5.21	101.15	102.02	86.40	15.62	6.531		
2,300.00	2,300.00	2,286.68	2,284.21	8.25	8.17	86.65	6.65	113.57	114.85	98.58	16.27	7.059		
2,400.00	2,400.00	2,384.36	2,380.87	8.60	8.52	86.29	8.27	127.56	129.24	112.31	16.93	7.634		
2,500.00	2,500.00	2,483.26	2,478.69	8.95	8.88	85.99	9.95	142.05	143.97	126.35	17.62	8.172		
2,600.00	2,599.99	2,582.29	2,576.64	9.29	9.24	-4.26	11.62	156.55	157.84	139.54	18.30	8.626		
2,700.00	2,699.96	2,681.55	2,674.81	9.63	9.61	-4.52	13.31	171.09	169.99	151.01	18.98	8.958		
2,800.00	2,799.86	2,781.00	2,773.17	9.96	9.98	-4.79	14.99	185.66	180.41	160.75	19.66	9.177		
2,900.00	2,899.68	2,880.61	2,871.70	10.30	10.36	-5.08	16.68	200.25	189.11	168.76	20.34	9.295		
3,000.00	2,999.37	2,980.36	2,970.36	10.64	10.74	-5.39	18.37	214.86	196.08	175.04	21.03	9.321		
3,100.00	3,098.90	3,080.22	3,069.12	10.99	11.12	-5.73	20.07	229.49	201.32	179.59	21.73	9.265		
3,173.20	3,171.65	3,153.36	3,141.46	11.24	11.40	-6.00	21.31	240.20	204.06	181.82	22.24	9.176		
3,200.00	3,198.27	3,180.14	3,167.95	11.34	11.50	-6.10	21.76	244.13	204.89	182.47	22.43	9.136		
3,300.00	3,297.58	3,280.09	3,266.80	11.69	11.89	-6.48	23.46	258.77	208.02	184.89	23.13	8.995		
3,400.00	3,396.89	3,380.03	3,365.65	12.04	12.27	-6.84	25.15	273.41	211.15	187.32	23.83	8.861		
3,500.00	3,496.20	3,479.97	3,464.50	12.40	12.66	-7.20	26.84	288.05	214.28	189.75	24.54	8.734		
3,600.00	3,595.51	3,579.91	3,563.35	12.76	13.05	-7.55	28.54	302.69	217.43	192.19	25.24	8.613		
3,700.00	3,694.82	3,679.85	3,662.20	13.12	13.45	-7.88	30.23	317.33	220.58	194.63	25.95	8.499		
3,800.00	3,794.13	3,779.80	3,761.05	13.48	13.84	-8.21	31.93	331.97	223.74	197.08	26.66	8.391		
3,900.00	3,893.44	3,879.74	3,859.90	13.84	14.23	-8.53	33.62	346.61	226.91	199.53	27.38	8.288		
4,000.00	3,992.75	3,979.68	3,958.75	14.21	14.63	-8.83	35.32	361.25	230.09	201.99	28.09	8.190		
4,100.00	4,092.06	4,079.62	4,057.60	14.57	15.02	-9.13	37.01	375.89	233.27	204.46	28.81	8.097		
4,200.00	4,191.37	4,179.56	4,156.45	14.94	15.42	-9.43	38.71	390.52	236.46	206.93	29.53	8.008		
4,300.00	4,290.68	4,279.51	4,255.30	15.31	15.82	-9.71	40.40	405.16	239.65	209.40	30.25	7.923		
4,400.00	4,389.99	4,379.45	4,354.15	15.68	16.21	-9.99	42.09	419.80	242.85	211.88	30.97	7.842		
4,500.00	4,489.30	4,479.39	4,453.00	16.05	16.61	-10.26	43.79	434.44	246.06	214.36	31.69	7.764		
4,600.00	4,588.61	4,579.33	4,551.85	16.43	17.01	-10.52	45.48	449.08	249.27	216.85	32.42	7.690		
4,700.00	4,687.93	4,679.27	4,650.70	16.80	17.41	-10.78	47.18	463.72	252.48	219.34	33.14	7.619		
4,800.00	4,787.24	4,779.22	4,749.55	17.17	17.81	-11.02	48.87	478.36	255.70	221.84	33.87	7.550		
4,900.00	4,886.55	4,879.16	4,848.40	17.55	18.21	-11.27	50.57	493.00	258.93	224.33	34.59	7.485		
5,000.00	4,985.86	4,979.10	4,947.24	17.92	18.61	-11.51	52.26	507.64	262.16	226.84	35.32	7.422		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 ft
SeaWolf 1-12 - Fed 92H - OH - PN2													Offset Well Error:	2.00 ft
Survey Program: 0-MWD+HRGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,085.17	5,079.04	5,046.09	18.30	19.01	-11.74	53.96	522.28	265.39	229.34	36.05	7.362		
5,200.00	5,184.48	5,178.98	5,144.94	18.68	19.42	-11.96	55.65	536.92	268.63	231.85	36.78	7.304		
5,300.00	5,283.79	5,278.93	5,243.79	19.06	19.82	-12.18	57.34	551.56	271.87	234.36	37.51	7.248		
5,400.00	5,383.10	5,378.87	5,342.64	19.43	20.22	-12.40	59.04	566.20	275.12	236.88	38.24	7.195		
5,500.00	5,482.41	5,478.81	5,441.49	19.81	20.62	-12.61	60.73	580.84	278.37	239.40	38.97	7.143		
5,600.00	5,581.72	5,578.75	5,540.34	20.19	21.03	-12.81	62.43	595.48	281.62	241.92	39.70	7.093		
5,700.00	5,681.03	5,678.69	5,639.19	20.57	21.43	-13.02	64.12	610.12	284.88	244.44	40.44	7.045		
5,800.00	5,780.34	5,778.64	5,738.04	20.95	21.83	-13.21	65.82	624.76	288.14	246.97	41.17	6.999		
5,900.00	5,879.65	5,878.58	5,836.89	21.33	22.24	-13.40	67.51	639.40	291.40	249.50	41.90	6.954		
6,000.00	5,978.96	5,978.52	5,935.74	21.72	22.64	-13.59	69.21	654.04	294.67	252.03	42.64	6.911		
6,100.00	6,078.27	6,078.46	6,034.59	22.10	23.05	-13.77	70.90	668.68	297.94	254.57	43.37	6.869		
6,200.00	6,177.58	6,178.40	6,133.44	22.48	23.45	-13.95	72.59	683.32	301.21	257.10	44.11	6.829		
6,300.00	6,276.89	6,278.35	6,232.29	22.86	23.86	-14.13	74.29	697.96	304.49	259.64	44.85	6.790		
6,400.00	6,376.20	6,378.29	6,331.14	23.24	24.26	-14.30	75.98	712.60	307.77	262.19	45.58	6.752		
6,500.00	6,475.52	6,478.23	6,429.99	23.63	24.67	-14.47	77.68	727.24	311.05	264.73	46.32	6.715		
6,600.00	6,574.83	6,578.17	6,528.84	24.01	25.07	-14.63	79.37	741.88	314.33	267.28	47.06	6.680		
6,700.00	6,674.14	6,678.11	6,627.69	24.39	25.48	-14.80	81.07	756.52	317.62	269.83	47.80	6.645		
6,800.00	6,773.45	6,778.06	6,726.54	24.78	25.89	-14.95	82.76	771.16	320.91	272.38	48.53	6.612		
6,900.00	6,872.76	6,878.00	6,825.38	25.16	26.29	-15.11	84.46	785.80	324.20	274.93	49.27	6.580		
7,000.00	6,972.07	6,977.94	6,924.23	25.55	26.70	-15.26	86.15	800.44	327.50	277.48	50.01	6.548		
7,100.00	7,071.38	7,077.88	7,023.08	25.93	27.11	-15.41	87.85	815.08	330.79	280.04	50.75	6.518		
7,200.00	7,170.69	7,177.82	7,121.93	26.32	27.51	-15.55	89.54	829.72	334.09	282.60	51.49	6.488		
7,300.00	7,270.00	7,277.77	7,220.78	26.70	27.92	-15.70	91.23	844.36	337.39	285.16	52.23	6.459		
7,400.00	7,369.31	7,377.71	7,319.63	27.09	28.33	-15.84	92.93	858.99	340.69	287.72	52.97	6.431		
7,500.00	7,468.62	7,477.65	7,418.48	27.47	28.73	-15.98	94.62	873.63	344.00	290.28	53.72	6.404		
7,600.00	7,567.93	7,577.59	7,517.33	27.86	29.14	-16.11	96.32	888.27	347.30	292.85	54.46	6.378		
7,700.00	7,667.24	7,677.53	7,616.18	28.24	29.55	-16.24	98.01	902.91	350.61	295.41	55.20	6.352		
7,800.00	7,766.55	7,777.48	7,715.03	28.63	29.96	-16.37	99.71	917.55	353.92	297.98	55.94	6.327		
7,900.00	7,865.86	7,877.42	7,813.88	29.02	30.36	-16.50	101.40	932.19	357.23	300.55	56.68	6.302		
8,000.00	7,965.17	7,977.36	7,912.73	29.40	30.77	-16.62	103.10	946.83	360.55	303.12	57.43	6.278		
8,100.00	8,064.48	8,077.30	8,011.58	29.79	31.18	-16.75	104.79	961.47	363.86	305.69	58.17	6.255		
8,164.31	8,128.35	8,141.57	8,075.15	30.04	31.44	-16.83	105.88	970.89	366.00	307.35	58.65	6.241		
8,200.00	8,163.81	8,177.24	8,110.42	30.18	31.59	-16.87	106.48	976.11	367.29	308.37	58.91	6.234		
8,300.00	8,263.28	8,277.13	8,209.22	30.56	31.99	-16.93	108.18	990.74	372.03	312.38	59.65	6.237		
8,400.00	8,362.92	8,376.92	8,307.92	30.93	32.40	-16.92	109.87	1,005.36	378.45	318.06	60.39	6.267		
8,500.00	8,462.69	8,476.59	8,406.50	31.30	32.81	-16.84	111.56	1,019.96	386.53	325.41	61.12	6.325		
8,600.00	8,562.56	8,576.10	8,504.93	31.66	33.21	-16.70	113.25	1,034.54	396.28	334.44	61.84	6.408		
8,700.00	8,662.51	8,675.44	8,603.17	32.01	33.62	-16.50	114.93	1,049.09	407.69	345.14	62.56	6.517		
8,800.00	8,762.49	8,774.55	8,701.21	32.36	34.03	-16.25	116.61	1,063.61	420.78	357.51	63.27	6.651		
8,837.51	8,800.00	8,811.67	8,737.92	32.49	34.18	73.85	117.24	1,069.04	426.11	362.58	63.53	6.707		
8,900.00	8,862.49	8,873.48	8,799.05	32.69	34.43	74.05	118.29	1,078.10	435.21	371.24	63.97	6.803		
9,000.00	8,962.49	8,972.39	8,896.88	33.03	34.83	74.36	119.97	1,092.59	449.77	385.10	64.67	6.955		
9,100.00	9,062.49	9,071.29	8,994.70	33.37	35.24	74.65	121.64	1,107.07	464.34	398.97	65.37	7.103		
9,200.00	9,162.49	9,170.20	9,092.53	33.70	35.64	74.91	123.32	1,121.56	478.92	412.85	66.07	7.248		
9,300.00	9,262.49	9,269.11	9,190.35	34.04	36.05	75.17	125.00	1,136.05	493.52	426.74	66.78	7.390		
9,400.00	9,362.49	9,368.01	9,288.18	34.38	36.45	75.40	126.67	1,150.54	508.12	440.64	67.48	7.530		
9,500.00	9,462.49	9,466.92	9,386.00	34.71	36.86	75.63	128.35	1,165.03	522.73	454.54	68.19	7.666		
9,600.00	9,562.49	9,565.83	9,483.83	35.05	37.26	75.84	130.03	1,179.51	537.35	468.45	68.89	7.800		
9,700.00	9,662.49	9,664.73	9,581.65	35.39	37.66	76.04	131.70	1,194.00	551.97	482.37	69.60	7.931		
9,800.00	9,762.49	9,763.64	9,679.48	35.73	38.07	76.23	133.38	1,208.49	566.60	496.30	70.30	8.059		
9,900.00	9,862.49	9,862.55	9,777.31	36.07	38.47	76.41	135.06	1,222.98	581.24	510.22	71.01	8.185		
10,000.00	9,962.49	9,961.45	9,875.13	36.41	38.88	76.59	136.73	1,237.47	595.88	524.16	71.72	8.308		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design SeaWolf 1-12 - Fed 92H - OH - PN2														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM														Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
10,100.00	10,062.49	10,060.36	9,972.96	36.75	39.28	76.75	138.41	1,251.95	610.52	538.10	72.43	8.429			
10,200.00	10,162.49	10,159.27	10,070.78	37.09	39.69	76.91	140.09	1,266.44	625.18	552.04	73.14	8.548			
10,300.00	10,262.49	10,258.17	10,168.61	37.43	40.09	77.06	141.77	1,280.93	639.83	565.98	73.85	8.664			
10,400.00	10,362.49	10,358.55	10,267.89	37.77	40.50	77.20	143.47	1,295.62	654.48	579.91	74.57	8.777			
10,500.00	10,462.49	10,470.47	10,378.77	38.11	40.95	77.34	145.21	1,310.69	667.96	592.59	75.37	8.862			
10,600.00	10,562.49	10,582.95	10,490.49	38.46	41.39	77.46	146.71	1,323.67	679.51	603.36	76.15	8.923			
10,700.00	10,662.49	10,695.90	10,602.91	38.80	41.82	77.55	147.97	1,334.50	689.12	612.20	76.91	8.960			
10,800.00	10,762.49	10,809.25	10,715.92	39.14	42.24	77.63	148.97	1,343.16	696.77	619.12	77.65	8.973			
10,900.00	10,862.49	10,922.89	10,829.38	39.48	42.64	77.68	149.71	1,349.61	702.45	624.09	78.37	8.963			
11,000.00	10,962.49	11,036.75	10,943.16	39.83	43.03	77.71	150.20	1,353.83	706.17	627.11	79.06	8.932			
11,100.00	11,062.49	11,150.73	11,057.12	40.17	43.41	77.73	150.43	1,355.80	707.90	628.17	79.73	8.879			
11,200.00	11,162.49	11,256.01	11,162.39	40.51	43.75	77.73	150.45	1,355.96	708.04	627.65	80.39	8.807			
11,300.00	11,262.49	11,356.01	11,262.39	40.86	44.06	77.73	150.45	1,355.96	708.04	626.96	81.08	8.733			
11,400.00	11,362.49	11,456.01	11,362.39	41.20	44.38	77.73	150.45	1,355.96	708.04	626.28	81.76	8.660			
11,500.00	11,462.49	11,556.01	11,462.39	41.54	44.70	77.73	150.45	1,355.96	708.04	625.60	82.44	8.588			
11,600.00	11,562.49	11,656.01	11,562.39	41.89	45.02	77.73	150.45	1,355.96	708.04	624.91	83.13	8.518			
11,700.00	11,662.49	11,756.01	11,662.39	42.23	45.34	77.73	150.45	1,355.96	708.04	624.23	83.81	8.448			
11,800.00	11,762.49	11,856.01	11,762.39	42.58	45.66	77.73	150.45	1,355.96	708.04	623.55	84.49	8.380			
11,900.00	11,862.49	11,956.01	11,862.39	42.92	45.98	77.73	150.45	1,355.96	708.04	622.86	85.18	8.312			
11,971.51	11,934.00	12,027.51	11,933.90	43.17	46.21	77.73	150.45	1,355.96	708.04	622.37	85.67	8.265			
12,000.00	11,962.48	12,056.00	11,962.38	43.27	46.30	-102.31	150.45	1,355.96	708.19	622.33	85.87	8.248			
12,050.00	12,012.25	12,105.76	12,012.15	43.43	46.46	-102.58	150.45	1,355.96	709.20	622.99	86.21	8.227			
12,100.00	12,061.42	12,158.69	12,065.08	43.59	46.62	-103.13	150.30	1,355.96	711.20	624.66	86.54	8.218			
12,150.00	12,109.62	12,228.48	12,134.58	43.74	46.83	-103.92	144.47	1,355.96	713.38	626.60	86.78	8.221			
12,200.00	12,156.48	12,300.16	12,204.68	43.89	47.04	-104.56	129.73	1,355.96	715.22	628.28	86.94	8.227			
12,250.00	12,201.66	12,373.40	12,273.83	44.04	47.24	-105.04	105.76	1,355.96	716.61	629.60	87.02	8.235			
12,300.00	12,244.79	12,447.75	12,340.33	44.17	47.42	-105.34	72.62	1,355.96	717.50	630.48	87.02	8.245			
12,350.00	12,285.56	12,522.69	12,402.44	44.30	47.58	-105.45	30.78	1,355.96	717.82	630.84	86.98	8.253			
12,400.00	12,323.65	12,597.67	12,458.59	44.41	47.72	-105.37	-18.82	1,355.96	717.56	630.64	86.93	8.255			
12,450.00	12,358.78	12,672.11	12,507.47	44.52	47.84	-105.09	-74.90	1,355.96	716.74	629.83	86.91	8.247			
12,500.00	12,390.68	12,745.50	12,548.14	44.63	47.93	-104.63	-135.93	1,355.96	715.40	628.44	86.96	8.227			
12,550.00	12,419.10	12,817.38	12,580.10	44.73	48.02	-104.00	-200.26	1,355.96	713.61	626.51	87.10	8.193			
12,600.00	12,443.82	12,887.39	12,603.25	44.82	48.10	-103.22	-266.29	1,355.96	711.46	624.12	87.34	8.146			
12,650.00	12,464.67	12,955.29	12,617.85	44.92	48.18	-102.32	-332.56	1,355.96	709.07	621.39	87.68	8.087			
12,700.00	12,481.48	13,020.93	12,624.43	45.03	48.27	-101.32	-397.83	1,355.96	706.53	618.43	88.10	8.020			
12,750.00	12,494.12	13,074.73	12,625.13	45.14	48.36	-100.51	-451.62	1,355.96	704.18	615.61	88.57	7.951			
12,800.00	12,502.50	13,124.05	12,625.41	45.25	48.44	-100.01	-500.94	1,355.96	702.72	613.75	88.97	7.899			
12,850.00	12,506.55	13,173.89	12,625.69	45.38	48.54	-99.77	-550.78	1,355.96	702.07	612.79	89.28	7.864			
12,868.28	12,506.95	13,207.83	12,625.79	45.42	48.62	-99.75	-569.06	1,355.96	702.02	612.61	89.41	7.852			
12,869.87	12,506.96	13,206.24	12,625.80	45.43	48.62	-99.75	-570.65	1,355.96	702.02	612.62	89.41	7.852			
12,900.00	12,507.04	13,223.89	12,625.97	45.50	48.66	-99.76	-600.78	1,355.96	702.04	612.51	89.52	7.842			
13,000.00	12,507.33	13,323.89	12,626.53	45.79	48.91	-99.78	-700.78	1,355.96	702.08	612.02	90.07	7.795			
13,100.00	12,507.61	13,423.89	12,627.10	46.12	49.21	-99.81	-800.78	1,355.96	702.13	611.44	90.69	7.742			
13,200.00	12,507.90	13,523.89	12,627.66	46.50	49.56	-99.83	-900.77	1,355.96	702.18	610.77	91.40	7.682			
13,300.00	12,508.19	13,623.89	12,628.22	46.91	49.95	-99.85	-1,000.77	1,355.96	702.22	610.03	92.20	7.617			
13,400.00	12,508.47	13,723.89	12,628.78	47.36	50.37	-99.87	-1,100.77	1,355.96	702.27	609.21	93.07	7.546			
13,500.00	12,508.76	13,823.89	12,629.35	47.85	50.84	-99.90	-1,200.77	1,355.96	702.32	608.30	94.02	7.470			
13,600.00	12,509.04	13,923.89	12,629.91	48.38	51.35	-99.92	-1,300.77	1,355.96	702.37	607.33	95.04	7.390			
13,700.00	12,509.33	14,023.89	12,630.47	48.95	51.89	-99.94	-1,400.76	1,355.96	702.41	606.28	96.14	7.306			
13,800.00	12,509.62	14,123.89	12,631.04	49.55	52.47	-99.96	-1,500.76	1,355.96	702.46	605.16	97.30	7.219			
13,900.00	12,509.90	14,223.89	12,631.60	50.18	53.08	-99.98	-1,600.76	1,355.96	702.51	603.97	98.54	7.129			
14,000.00	12,510.19	14,323.89	12,632.16	50.84	53.73	-100.01	-1,700.76	1,355.96	702.56	602.72	99.84	7.037			

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	12,510.47	14,423.89	12,632.72	51.54	54.40	-100.03	-1,800.76	1,355.96	702.61	601.41	101.20	6.943		
14,200.00	12,510.76	14,523.88	12,633.29	52.27	55.11	-100.05	-1,900.75	1,355.96	702.65	600.04	102.62	6.847		
14,300.00	12,511.05	14,623.88	12,633.85	53.02	55.84	-100.07	-2,000.75	1,355.96	702.70	598.61	104.10	6.750		
14,400.00	12,511.33	14,723.88	12,634.41	53.81	56.60	-100.10	-2,100.75	1,355.96	702.75	597.12	105.63	6.653		
14,500.00	12,511.62	14,823.88	12,634.98	54.62	57.39	-100.12	-2,200.75	1,355.96	702.80	595.58	107.22	6.555		
14,600.00	12,511.90	14,923.88	12,635.54	55.45	58.20	-100.14	-2,300.75	1,355.96	702.85	593.99	108.86	6.457		
14,700.00	12,512.19	15,023.88	12,636.10	56.31	59.04	-100.16	-2,400.74	1,355.96	702.90	592.36	110.54	6.359		
14,800.00	12,512.48	15,123.88	12,636.66	57.19	59.90	-100.18	-2,500.74	1,355.96	702.95	590.68	112.27	6.261		
14,900.00	12,512.76	15,223.88	12,637.23	58.10	60.78	-100.21	-2,600.74	1,355.96	703.00	588.95	114.05	6.164		
15,000.00	12,513.05	15,323.88	12,637.79	59.02	61.68	-100.23	-2,700.74	1,355.96	703.04	587.18	115.86	6.068		
15,100.00	12,513.33	15,423.88	12,638.35	59.96	62.60	-100.25	-2,800.74	1,355.96	703.09	585.37	117.72	5.973		
15,200.00	12,513.62	15,523.88	12,638.92	60.93	63.54	-100.27	-2,900.73	1,355.96	703.14	583.53	119.61	5.878		
15,300.00	12,513.91	15,623.88	12,639.48	61.91	64.50	-100.30	-3,000.73	1,355.96	703.19	581.65	121.54	5.785		
15,400.00	12,514.19	15,723.88	12,640.04	62.91	65.48	-100.32	-3,100.73	1,355.96	703.24	579.73	123.51	5.694		
15,500.00	12,514.48	15,823.88	12,640.60	63.93	66.47	-100.34	-3,200.73	1,355.96	703.29	577.79	125.51	5.604		
15,600.00	12,514.76	15,923.88	12,641.17	64.96	67.48	-100.36	-3,300.73	1,355.96	703.34	575.81	127.54	5.515		
15,700.00	12,515.05	16,023.88	12,641.73	66.00	68.51	-100.38	-3,400.72	1,355.96	703.39	573.80	129.59	5.428		
15,800.00	12,515.34	16,123.88	12,642.29	67.07	69.54	-100.41	-3,500.72	1,355.96	703.44	571.76	131.68	5.342		
15,900.00	12,515.62	16,223.88	12,642.86	68.14	70.60	-100.43	-3,600.72	1,355.96	703.49	569.70	133.80	5.258		
16,000.00	12,515.91	16,323.88	12,643.42	69.23	71.66	-100.45	-3,700.72	1,355.96	703.54	567.61	135.93	5.176		
16,100.00	12,516.19	16,423.88	12,643.98	70.33	72.74	-100.47	-3,800.72	1,355.96	703.59	565.49	138.10	5.095		
16,200.00	12,516.48	16,523.88	12,644.54	71.44	73.83	-100.49	-3,900.72	1,355.96	703.64	563.36	140.29	5.016		
16,300.00	12,516.77	16,623.88	12,645.11	72.56	74.94	-100.52	-4,000.71	1,355.96	703.69	561.20	142.50	4.938		
16,400.00	12,517.05	16,723.88	12,645.67	73.70	76.05	-100.54	-4,100.71	1,355.96	703.74	559.02	144.73	4.863		
16,500.00	12,517.34	16,823.88	12,646.23	74.84	77.17	-100.56	-4,200.71	1,355.96	703.79	556.82	146.98	4.788		
16,600.00	12,517.63	16,923.88	12,646.80	76.00	78.31	-100.58	-4,300.71	1,355.96	703.84	554.60	149.25	4.716		
16,700.00	12,517.91	17,023.88	12,647.36	77.16	79.45	-100.61	-4,400.71	1,355.96	703.90	552.36	151.54	4.645		
16,800.00	12,518.20	17,123.88	12,647.92	78.33	80.60	-100.63	-4,500.70	1,355.96	703.95	550.10	153.84	4.576		
16,900.00	12,518.48	17,223.87	12,648.48	79.51	81.77	-100.65	-4,600.70	1,355.96	704.00	547.83	156.17	4.508		
17,000.00	12,518.77	17,323.87	12,649.05	80.70	82.94	-100.67	-4,700.70	1,355.96	704.05	545.54	158.51	4.442		
17,100.00	12,519.06	17,423.87	12,649.61	81.90	84.12	-100.69	-4,800.70	1,355.96	704.10	543.24	160.86	4.377		
17,200.00	12,519.34	17,523.87	12,650.17	83.11	85.30	-100.72	-4,900.70	1,355.96	704.15	540.92	163.23	4.314		
17,300.00	12,519.63	17,623.87	12,650.74	84.32	86.50	-100.74	-5,000.69	1,355.96	704.20	538.59	165.61	4.252		
17,400.00	12,519.91	17,723.87	12,651.30	85.54	87.70	-100.76	-5,100.69	1,355.96	704.25	536.25	168.01	4.192		
17,500.00	12,520.20	17,823.87	12,651.86	86.76	88.91	-100.78	-5,200.69	1,355.96	704.31	533.89	170.42	4.133		
17,600.00	12,520.49	17,923.87	12,652.42	87.99	90.12	-100.80	-5,300.69	1,355.96	704.36	531.52	172.84	4.075		
17,700.00	12,520.77	18,023.87	12,652.99	89.23	91.34	-100.83	-5,400.69	1,355.96	704.41	529.14	175.27	4.019		
17,800.00	12,521.06	18,123.87	12,653.55	90.47	92.57	-100.85	-5,500.68	1,355.96	704.46	526.74	177.72	3.964		
17,900.00	12,521.34	18,223.87	12,654.11	91.72	93.80	-100.87	-5,600.68	1,355.96	704.51	524.34	180.17	3.910		
18,000.00	12,521.63	18,323.87	12,654.68	92.98	95.04	-100.89	-5,700.68	1,355.96	704.57	521.93	182.64	3.858		
18,100.00	12,521.92	18,423.87	12,655.24	94.24	96.29	-100.92	-5,800.68	1,355.96	704.62	519.50	185.11	3.806		
18,200.00	12,522.20	18,523.87	12,655.80	95.50	97.54	-100.94	-5,900.68	1,355.96	704.67	517.07	187.60	3.756		
18,300.00	12,522.49	18,623.87	12,656.36	96.77	98.79	-100.96	-6,000.67	1,355.96	704.72	514.63	190.09	3.707		
18,400.00	12,522.77	18,723.87	12,656.93	98.04	100.05	-100.98	-6,100.67	1,355.96	704.78	512.18	192.60	3.659		
18,500.00	12,523.06	18,823.87	12,657.49	99.32	101.31	-101.00	-6,200.67	1,355.96	704.83	509.72	195.11	3.613		
18,600.00	12,523.35	18,923.87	12,658.05	100.61	102.58	-101.03	-6,300.67	1,355.96	704.88	507.26	197.63	3.567		
18,700.00	12,523.63	19,023.87	12,658.62	101.89	103.85	-101.05	-6,400.67	1,355.96	704.94	504.78	200.15	3.522		
18,800.00	12,523.92	19,123.87	12,659.18	103.18	105.13	-101.07	-6,500.66	1,355.96	704.99	502.30	202.69	3.478		
18,900.00	12,524.20	19,223.87	12,659.74	104.48	106.41	-101.09	-6,600.66	1,355.96	705.04	499.81	205.23	3.435		
19,000.00	12,524.49	19,323.87	12,660.30	105.77	107.70	-101.11	-6,700.66	1,355.96	705.10	497.32	207.78	3.394		
19,100.00	12,524.78	19,423.87	12,660.87	107.07	108.99	-101.14	-6,800.66	1,355.96	705.15	494.82	210.33	3.353		
19,200.00	12,525.06	19,523.87	12,661.43	108.38	110.28	-101.16	-6,900.66	1,355.96	705.20	492.31	212.89	3.312		

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



Nabors Corporate Services
Anticollision Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HRGM													Offset Well Error:	2.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,300.00	12,525.35	19,623.87	12,661.99	109.69	111.57	-101.18	-7,000.65	1,355.96	705.26	489.80	215.46	3.273		
19,400.00	12,525.63	19,723.87	12,662.56	111.00	112.87	-101.20	-7,100.65	1,355.96	705.31	487.28	218.03	3.235		
19,500.00	12,525.92	19,823.86	12,663.12	112.31	114.17	-101.22	-7,200.65	1,355.96	705.36	484.75	220.61	3.197		
19,600.00	12,526.21	19,923.86	12,663.68	113.63	115.48	-101.25	-7,300.65	1,355.96	705.42	482.22	223.20	3.161		
19,700.00	12,526.49	20,023.86	12,664.24	114.95	116.79	-101.27	-7,400.65	1,355.96	705.47	479.69	225.79	3.125		
19,800.00	12,526.78	20,123.86	12,664.81	116.27	118.10	-101.29	-7,500.64	1,355.96	705.53	477.15	228.38	3.089		
19,900.00	12,527.06	20,223.86	12,665.37	117.59	119.41	-101.31	-7,600.64	1,355.96	705.58	474.60	230.98	3.055		
20,000.00	12,527.35	20,323.86	12,665.93	118.92	120.73	-101.33	-7,700.64	1,355.96	705.63	472.05	233.58	3.021		
20,100.00	12,527.64	20,423.86	12,666.50	120.25	122.05	-101.36	-7,800.64	1,355.96	705.69	469.50	236.19	2.988		
20,200.00	12,527.92	20,523.86	12,667.06	121.58	123.37	-101.38	-7,900.64	1,355.96	705.74	466.94	238.80	2.955		
20,300.00	12,528.21	20,623.86	12,667.62	122.92	124.70	-101.40	-8,000.63	1,355.96	705.80	464.38	241.42	2.924		
20,400.00	12,528.49	20,723.86	12,668.18	124.26	126.02	-101.42	-8,100.63	1,355.96	705.85	461.81	244.04	2.892		
20,500.00	12,528.78	20,823.86	12,668.75	125.59	127.35	-101.44	-8,200.63	1,355.96	705.91	459.24	246.67	2.862		
20,600.00	12,529.07	20,923.86	12,669.31	126.94	128.68	-101.47	-8,300.63	1,355.96	705.96	456.67	249.30	2.832		
20,700.00	12,529.35	21,023.86	12,669.87	128.28	130.02	-101.49	-8,400.63	1,355.96	706.02	454.09	251.93	2.802		
20,800.00	12,529.64	21,123.86	12,670.44	129.62	131.35	-101.51	-8,500.62	1,355.96	706.07	451.51	254.57	2.774		
20,900.00	12,529.92	21,223.86	12,671.00	130.97	132.69	-101.53	-8,600.62	1,355.96	706.13	448.92	257.21	2.745		
21,000.00	12,530.21	21,323.86	12,671.56	132.32	134.03	-101.55	-8,700.62	1,355.96	706.18	446.33	259.85	2.718		
21,100.00	12,530.50	21,423.86	12,672.12	133.67	135.37	-101.58	-8,800.62	1,355.96	706.24	443.74	262.49	2.690		
21,200.00	12,530.78	21,523.86	12,672.69	135.02	136.72	-101.60	-8,900.62	1,355.96	706.29	441.15	265.14	2.664		
21,300.00	12,531.07	21,623.86	12,673.25	136.38	138.06	-101.62	-9,000.61	1,355.96	706.35	438.55	267.80	2.638		
21,400.00	12,531.35	21,723.86	12,673.81	137.73	139.41	-101.64	-9,100.61	1,355.96	706.41	435.96	270.45	2.612		
21,500.00	12,531.64	21,823.86	12,674.38	139.09	140.76	-101.66	-9,200.61	1,355.96	706.46	433.35	273.11	2.587		
21,600.00	12,531.93	21,923.86	12,674.94	140.45	142.11	-101.69	-9,300.61	1,355.96	706.52	430.75	275.77	2.562		
21,700.00	12,532.21	22,023.86	12,675.50	141.81	143.46	-101.71	-9,400.61	1,355.96	706.57	428.14	278.43	2.538		
21,800.00	12,532.50	22,123.86	12,676.06	143.17	144.82	-101.73	-9,500.61	1,355.96	706.63	425.53	281.10	2.514		
21,900.00	12,532.78	22,223.86	12,676.63	144.53	146.17	-101.75	-9,600.60	1,355.96	706.69	422.92	283.77	2.490		
22,000.00	12,533.07	22,323.86	12,677.19	145.90	147.53	-101.77	-9,700.60	1,355.96	706.74	420.31	286.44	2.467		
22,100.00	12,533.36	22,423.85	12,677.75	147.26	148.89	-101.80	-9,800.60	1,355.96	706.80	417.69	289.11	2.445		
22,200.00	12,533.64	22,523.85	12,678.32	148.63	150.25	-101.82	-9,900.60	1,355.96	706.86	415.07	291.78	2.423		
22,300.00	12,533.93	22,623.85	12,678.88	150.00	151.61	-101.84	-10,000.60	1,355.96	706.91	412.45	294.46	2.401		
22,325.03	12,534.00	22,648.88	12,679.02	150.34	151.95	-101.85	-10,025.62	1,355.96	706.93	411.80	295.13	2.395 SF		



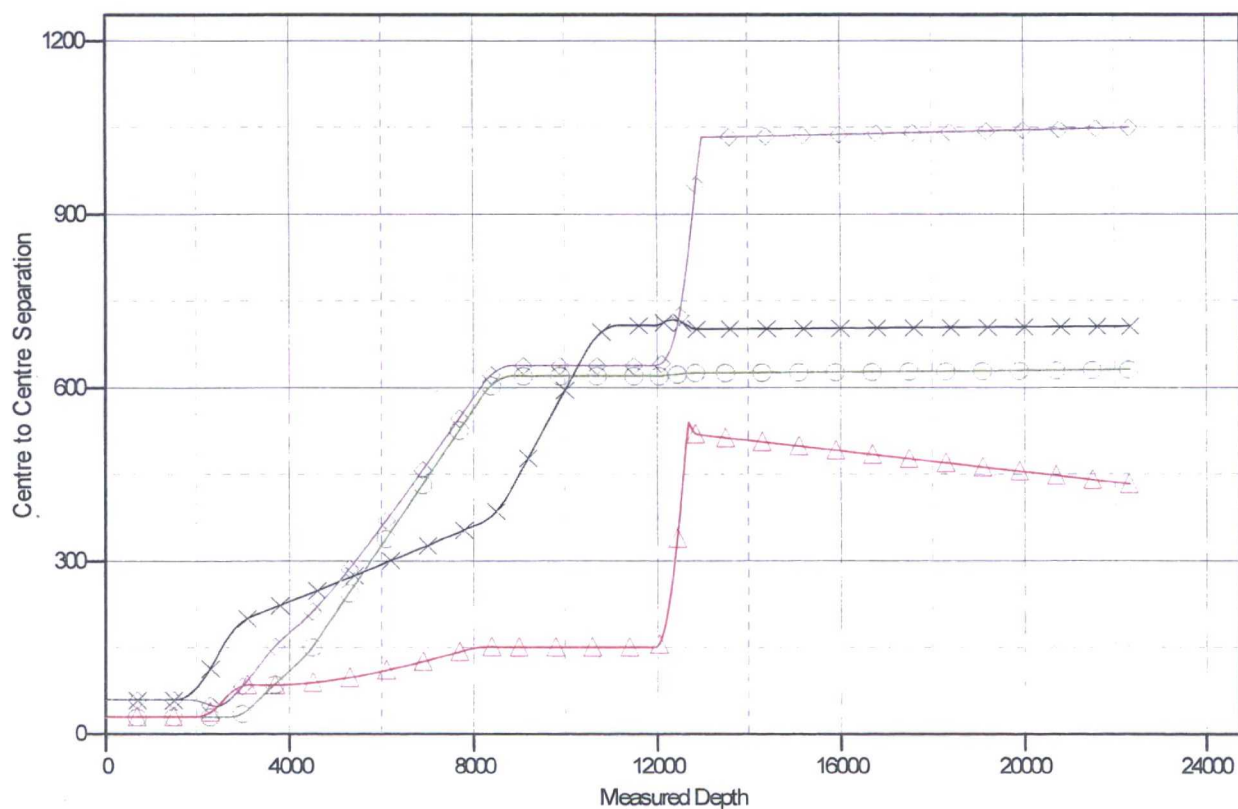
Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Reference Depths are relative to RT=32 @ 3350.60ft (Nabors X-04)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.00000 W

Coordinates are relative to: Fed 82H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.42°

Ladder Plot



LEGEND

● Fed 81H, OH, PN1 V0 ▲ Fed 102H, OH, PN2 V0
✕ Fed 92H, OH, PN2 V0 ◆ Fed 91H, OH, PN2 V0



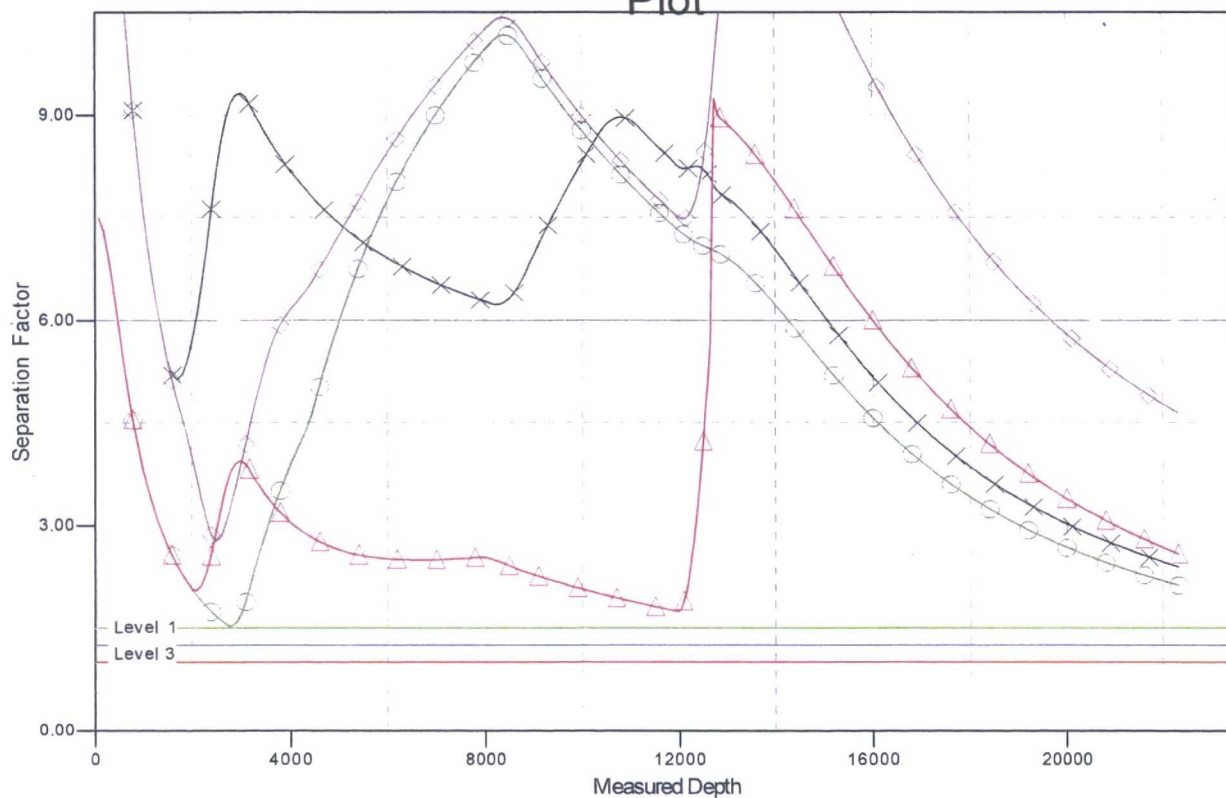
Company: Devon Energy Corporation
Project: Lea Co., NM
Reference Site: SeaWolf 1-12
Site Error: 0.00 ft
Reference Well: Fed 82H
Well Error: 2.00 ft
Reference Wellbore: OH
Reference Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: RyanUSA_Compass
Offset TVD Reference: Offset Datum

Reference Depths are relative to RT=32 @ 3350.60ft (Nabors X-04)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.00000 W

Coordinates are relative to: Fed 82H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.42°

Separation Factor Plot



LEGEND

● Fed 81H, OH, PN1 V0 ▲ Fed 102H, OH, PN2 V0
✕ Fed 92H, OH, PN2 V0 ◆ Fed 91H, OH, PN2 V0



devon

Devon Energy Corporation

Lea Co., NM
SeaWolf 1-12
Fed 82H

OH

Plan: PN2

HOBBS OCD

FEB 06 2018

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Standard Planning Report

14 August, 2017



NABORS



Database: RyanUSA_Compass
Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 82H
Wellbore: OH
Design: PN2

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Well Fed 82H
RT=32 @ 3350.60ft (Nabors X-04)
RT=32 @ 3350.60ft (Nabors X-04)
Grid
Minimum Curvature

Project	Lea Co., NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	SeaWolf 1-12		
Site Position:		Northing:	393,463.690 usft
From:	Map	Easting:	789,088.210 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32° 4' 45.07085 N
		Longitude:	103° 32' 0.34763 W
		Grid Convergence:	0.42 °

Well	Fed 82H		
Well Position	+N/-S	0.24 ft	Northing:
	+E/-W	29.96 ft	Easting:
Position Uncertainty	2.00 ft	Wellhead Elevation:	
		Latitude:	32° 4' 45.07102 N
		Longitude:	103° 31' 59.99941 W
		Ground Level:	3,318.60 ft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	8/9/2017	6.80
			Dip Angle
			(°)
			59.82
			Field Strength
			(nT)
			47,934.20000000

Design	PN2		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			180.00

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,173.20	6.73	90.00	3,171.65	0.00	39.50	1.00	1.00	0.00	90.00	
8,164.31	6.73	90.00	8,128.35	0.00	624.59	0.00	0.00	0.00	0.00	
8,837.51	0.00	0.01	8,800.00	0.00	664.09	1.00	-1.00	0.00	180.00	
11,971.51	0.00	0.01	11,934.00	0.00	664.09	0.00	0.00	0.00	0.00	
12,869.87	89.84	180.00	12,506.96	-571.32	664.09	10.00	10.00	20.04	180.00	
22,325.03	89.84	180.00	12,534.00	-10,026.44	664.09	0.00	0.00	0.00	0.00	Fed 82H_BHL



Database: RyanUSA_Compass
Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 82H
Wellbore: OH
Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
756.00	0.00	0.00	756.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00
10 3/4"									
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
1,104.00	0.00	0.00	1,104.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	1.00	90.00	2,599.99	0.00	0.87	0.00	1.00	1.00	0.00
2,700.00	2.00	90.00	2,699.96	0.00	3.49	0.00	1.00	1.00	0.00
2,800.00	3.00	90.00	2,799.86	0.00	7.85	0.00	1.00	1.00	0.00
2,900.00	4.00	90.00	2,899.68	0.00	13.96	0.00	1.00	1.00	0.00
3,000.00	5.00	90.00	2,999.37	0.00	21.80	0.00	1.00	1.00	0.00
3,100.00	6.00	90.00	3,098.90	0.00	31.39	0.00	1.00	1.00	0.00
3,173.20	6.73	90.00	3,171.65	0.00	39.50	0.00	1.00	1.00	0.00
3,200.00	6.73	90.00	3,198.27	0.00	42.65	0.00	0.00	0.00	0.00
3,300.00	6.73	90.00	3,297.58	0.00	54.37	0.00	0.00	0.00	0.00
3,400.00	6.73	90.00	3,396.89	0.00	66.09	0.00	0.00	0.00	0.00
3,500.00	6.73	90.00	3,496.20	0.00	77.81	0.00	0.00	0.00	0.00
3,600.00	6.73	90.00	3,595.51	0.00	89.54	0.00	0.00	0.00	0.00
3,700.00	6.73	90.00	3,694.82	0.00	101.26	0.00	0.00	0.00	0.00
3,800.00	6.73	90.00	3,794.13	0.00	112.98	0.00	0.00	0.00	0.00
3,900.00	6.73	90.00	3,893.44	0.00	124.70	0.00	0.00	0.00	0.00
4,000.00	6.73	90.00	3,992.75	0.00	136.43	0.00	0.00	0.00	0.00
4,100.00	6.73	90.00	4,092.06	0.00	148.15	0.00	0.00	0.00	0.00
4,200.00	6.73	90.00	4,191.37	0.00	159.87	0.00	0.00	0.00	0.00
4,300.00	6.73	90.00	4,290.68	0.00	171.59	0.00	0.00	0.00	0.00
4,400.00	6.73	90.00	4,389.99	0.00	183.32	0.00	0.00	0.00	0.00
4,500.00	6.73	90.00	4,489.30	0.00	195.04	0.00	0.00	0.00	0.00

Database: RyanUSA_Compass
Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 82H
Wellbore: OH
Design: PN2

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

Well Fed 82H
 RT=32 @ 3350.60ft (Nabors X-04)
 RT=32 @ 3350.60ft (Nabors X-04)
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.00	6.73	90.00	4,588.61	0.00	206.76	0.00	0.00	0.00	0.00
4,700.00	6.73	90.00	4,687.93	0.00	218.48	0.00	0.00	0.00	0.00
4,800.00	6.73	90.00	4,787.24	0.00	230.21	0.00	0.00	0.00	0.00
4,840.04	6.73	90.00	4,827.00	0.00	234.90	0.00	0.00	0.00	0.00
Base of Salt									
4,900.00	6.73	90.00	4,886.55	0.00	241.93	0.00	0.00	0.00	0.00
5,000.00	6.73	90.00	4,985.86	0.00	253.65	0.00	0.00	0.00	0.00
5,083.72	6.73	90.00	5,069.00	0.00	263.46	0.00	0.00	0.00	0.00
Delaware									
5,100.00	6.73	90.00	5,085.17	0.00	265.37	0.00	0.00	0.00	0.00
5,200.00	6.73	90.00	5,184.48	0.00	277.10	0.00	0.00	0.00	0.00
5,300.00	6.73	90.00	5,283.79	0.00	288.82	0.00	0.00	0.00	0.00
5,400.00	6.73	90.00	5,383.10	0.00	300.54	0.00	0.00	0.00	0.00
5,500.00	6.73	90.00	5,482.41	0.00	312.26	0.00	0.00	0.00	0.00
5,600.00	6.73	90.00	5,581.72	0.00	323.99	0.00	0.00	0.00	0.00
5,700.00	6.73	90.00	5,681.03	0.00	335.71	0.00	0.00	0.00	0.00
5,800.00	6.73	90.00	5,780.34	0.00	347.43	0.00	0.00	0.00	0.00
5,900.00	6.73	90.00	5,879.65	0.00	359.15	0.00	0.00	0.00	0.00
6,000.00	6.73	90.00	5,978.96	0.00	370.88	0.00	0.00	0.00	0.00
6,100.00	6.73	90.00	6,078.27	0.00	382.60	0.00	0.00	0.00	0.00
6,200.00	6.73	90.00	6,177.58	0.00	394.32	0.00	0.00	0.00	0.00
6,300.00	6.73	90.00	6,276.89	0.00	406.04	0.00	0.00	0.00	0.00
6,400.00	6.73	90.00	6,376.20	0.00	417.77	0.00	0.00	0.00	0.00
6,500.00	6.73	90.00	6,475.52	0.00	429.49	0.00	0.00	0.00	0.00
6,600.00	6.73	90.00	6,574.83	0.00	441.21	0.00	0.00	0.00	0.00
6,700.00	6.73	90.00	6,674.14	0.00	452.93	0.00	0.00	0.00	0.00
6,800.00	6.73	90.00	6,773.45	0.00	464.66	0.00	0.00	0.00	0.00
6,900.00	6.73	90.00	6,872.76	0.00	476.38	0.00	0.00	0.00	0.00
7,000.00	6.73	90.00	6,972.07	0.00	488.10	0.00	0.00	0.00	0.00
7,100.00	6.73	90.00	7,071.38	0.00	499.82	0.00	0.00	0.00	0.00
7,200.00	6.73	90.00	7,170.69	0.00	511.55	0.00	0.00	0.00	0.00
7,300.00	6.73	90.00	7,270.00	0.00	523.27	0.00	0.00	0.00	0.00
7,400.00	6.73	90.00	7,369.31	0.00	534.99	0.00	0.00	0.00	0.00
7,500.00	6.73	90.00	7,468.62	0.00	546.71	0.00	0.00	0.00	0.00
7,600.00	6.73	90.00	7,567.93	0.00	558.44	0.00	0.00	0.00	0.00
7,700.00	6.73	90.00	7,667.24	0.00	570.16	0.00	0.00	0.00	0.00
7,800.00	6.73	90.00	7,766.55	0.00	581.88	0.00	0.00	0.00	0.00
7,900.00	6.73	90.00	7,865.86	0.00	593.60	0.00	0.00	0.00	0.00
8,000.00	6.73	90.00	7,965.17	0.00	605.33	0.00	0.00	0.00	0.00
8,100.00	6.73	90.00	8,064.48	0.00	617.05	0.00	0.00	0.00	0.00
8,164.31	6.73	90.00	8,128.35	0.00	624.59	0.00	0.00	0.00	0.00
8,200.00	6.38	90.00	8,163.81	0.00	628.66	0.00	1.00	-1.00	0.00
8,300.00	5.38	90.00	8,263.28	0.00	638.90	0.00	1.00	-1.00	0.00
8,400.00	4.38	90.00	8,362.92	0.00	647.40	0.00	1.00	-1.00	0.00
8,500.00	3.38	90.00	8,462.69	0.00	654.15	0.00	1.00	-1.00	0.00
8,600.00	2.38	90.00	8,562.56	0.00	659.17	0.00	1.00	-1.00	0.00
8,700.00	1.38	90.00	8,662.51	0.00	662.44	0.00	1.00	-1.00	0.00
8,800.00	0.38	90.00	8,762.49	0.00	663.97	0.00	1.00	-1.00	0.00
8,837.51	0.00	0.01	8,800.00	0.00	664.09	0.00	1.00	-1.00	0.00
8,900.00	0.00	0.00	8,862.49	0.00	664.09	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	8,962.49	0.00	664.09	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,062.49	0.00	664.09	0.00	0.00	0.00	0.00
9,159.51	0.00	0.00	9,122.00	0.00	664.09	0.00	0.00	0.00	0.00

Database: RyanUSA_Compass
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Wellbore: OH
Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Lower Brushy Canyon									
9,200.00	0.00	0.00	9,162.49	0.00	664.09	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,262.49	0.00	664.09	0.00	0.00	0.00	0.00
9,339.51	0.00	0.00	9,302.00	0.00	664.09	0.00	0.00	0.00	0.00
1st BSPG Lime									
9,400.00	0.00	0.00	9,362.49	0.00	664.09	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,462.49	0.00	664.09	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,562.49	0.00	664.09	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,662.49	0.00	664.09	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,762.49	0.00	664.09	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,862.49	0.00	664.09	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	9,962.49	0.00	664.09	0.00	0.00	0.00	0.00
10,100.00	0.00	0.00	10,062.49	0.00	664.09	0.00	0.00	0.00	0.00
10,200.00	0.00	0.00	10,162.49	0.00	664.09	0.00	0.00	0.00	0.00
10,277.51	0.00	0.00	10,240.00	0.00	664.09	0.00	0.00	0.00	0.00
1st BSPG Sand									
10,300.00	0.00	0.00	10,262.49	0.00	664.09	0.00	0.00	0.00	0.00
10,400.00	0.00	0.00	10,362.49	0.00	664.09	0.00	0.00	0.00	0.00
10,500.00	0.00	0.00	10,462.49	0.00	664.09	0.00	0.00	0.00	0.00
10,552.51	0.00	0.00	10,515.00	0.00	664.09	0.00	0.00	0.00	0.00
2nd BSPG Lime									
10,600.00	0.00	0.00	10,562.49	0.00	664.09	0.00	0.00	0.00	0.00
10,700.00	0.00	0.00	10,662.49	0.00	664.09	0.00	0.00	0.00	0.00
10,800.00	0.00	0.00	10,762.49	0.00	664.09	0.00	0.00	0.00	0.00
10,825.51	0.00	0.00	10,788.00	0.00	664.09	0.00	0.00	0.00	0.00
2nd BSPG Sand									
10,900.00	0.00	0.00	10,862.49	0.00	664.09	0.00	0.00	0.00	0.00
11,000.00	0.00	0.00	10,962.49	0.00	664.09	0.00	0.00	0.00	0.00
11,100.00	0.00	0.00	11,062.49	0.00	664.09	0.00	0.00	0.00	0.00
11,200.00	0.00	0.00	11,162.49	0.00	664.09	0.00	0.00	0.00	0.00
11,300.00	0.00	0.00	11,262.49	0.00	664.09	0.00	0.00	0.00	0.00
11,319.51	0.00	0.00	11,282.00	0.00	664.09	0.00	0.00	0.00	0.00
3rd BSPG Lime									
11,400.00	0.00	0.00	11,362.49	0.00	664.09	0.00	0.00	0.00	0.00
11,500.00	0.00	0.00	11,462.49	0.00	664.09	0.00	0.00	0.00	0.00
11,600.00	0.00	0.00	11,562.49	0.00	664.09	0.00	0.00	0.00	0.00
11,700.00	0.00	0.00	11,662.49	0.00	664.09	0.00	0.00	0.00	0.00
11,800.00	0.00	0.00	11,762.49	0.00	664.09	0.00	0.00	0.00	0.00
11,900.00	0.00	0.00	11,862.49	0.00	664.09	0.00	0.00	0.00	0.00
11,903.51	0.00	0.00	11,866.00	0.00	664.09	0.00	0.00	0.00	0.00
3rd BSPG Sand									
11,971.51	0.00	0.01	11,934.00	0.00	664.09	0.00	0.00	0.00	0.00
Fed 82H_KOP									
12,000.00	2.85	180.00	11,962.48	-0.71	664.09	0.71	10.00	10.00	0.00
12,050.00	7.85	180.00	12,012.25	-5.37	664.09	5.37	10.00	10.00	0.00
12,100.00	12.85	180.00	12,061.42	-14.35	664.09	14.35	10.00	10.00	0.00
12,150.00	17.85	180.00	12,109.62	-27.58	664.09	27.58	10.00	10.00	0.00
12,200.00	22.85	180.00	12,156.48	-44.96	664.09	44.96	10.00	10.00	0.00
12,250.00	27.85	180.00	12,201.66	-66.36	664.09	66.36	10.00	10.00	0.00
12,300.00	32.85	180.00	12,244.79	-91.62	664.09	91.62	10.00	10.00	0.00
12,350.00	37.85	180.00	12,285.56	-120.53	664.09	120.53	10.00	10.00	0.00
12,400.00	42.85	180.00	12,323.65	-152.90	664.09	152.90	10.00	10.00	0.00
12,439.99	46.85	180.00	12,352.00	-181.09	664.09	181.09	10.00	10.00	0.00



Database: RyanUSA_Compass
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Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Wolfcamp									
12,450.00	47.85	180.00	12,358.78	-188.46	664.09	188.46	10.00	10.00	0.00
12,481.08	50.96	180.00	12,379.00	-212.05	664.09	212.05	10.00	10.00	0.00
Wolfcamp X									
12,500.00	52.85	180.00	12,390.68	-226.94	664.09	226.94	10.00	10.00	0.00
12,550.00	57.85	180.00	12,419.10	-268.06	664.09	268.06	10.00	10.00	0.00
12,600.00	62.85	180.00	12,443.82	-311.50	664.09	311.50	10.00	10.00	0.00
12,640.46	66.90	180.00	12,461.00	-348.12	664.09	348.12	10.00	10.00	0.00
Wolfcamp Y TZ									
12,650.00	67.85	180.00	12,464.67	-356.93	664.09	356.93	10.00	10.00	0.00
12,700.00	72.85	180.00	12,481.48	-404.00	664.09	404.00	10.00	10.00	0.00
12,750.00	77.85	180.00	12,494.12	-452.36	664.09	452.36	10.00	10.00	0.00
12,800.00	82.85	180.00	12,502.50	-501.64	664.09	501.64	10.00	10.00	0.00
12,850.00	87.85	180.00	12,506.55	-551.46	664.09	551.46	10.00	10.00	0.00
12,869.87	89.84	180.00	12,506.96	-571.32	664.09	571.32	10.00	10.00	0.00
Fed 82H_EOC									
12,900.00	89.84	180.00	12,507.04	-601.45	664.09	601.45	0.00	0.00	0.00
13,000.00	89.84	180.00	12,507.33	-701.45	664.09	701.45	0.00	0.00	0.00
13,100.00	89.84	180.00	12,507.61	-801.45	664.09	801.45	0.00	0.00	0.00
13,200.00	89.84	180.00	12,507.90	-901.45	664.09	901.45	0.00	0.00	0.00
13,300.00	89.84	180.00	12,508.19	-1,001.45	664.09	1,001.45	0.00	0.00	0.00
13,400.00	89.84	180.00	12,508.47	-1,101.45	664.09	1,101.45	0.00	0.00	0.00
13,500.00	89.84	180.00	12,508.76	-1,201.45	664.09	1,201.45	0.00	0.00	0.00
13,600.00	89.84	180.00	12,509.04	-1,301.45	664.09	1,301.45	0.00	0.00	0.00
13,700.00	89.84	180.00	12,509.33	-1,401.45	664.09	1,401.45	0.00	0.00	0.00
13,800.00	89.84	180.00	12,509.62	-1,501.45	664.09	1,501.45	0.00	0.00	0.00
13,900.00	89.84	180.00	12,509.90	-1,601.45	664.09	1,601.45	0.00	0.00	0.00
14,000.00	89.84	180.00	12,510.19	-1,701.45	664.09	1,701.45	0.00	0.00	0.00
14,100.00	89.84	180.00	12,510.47	-1,801.45	664.09	1,801.45	0.00	0.00	0.00
14,200.00	89.84	180.00	12,510.76	-1,901.44	664.09	1,901.44	0.00	0.00	0.00
14,300.00	89.84	180.00	12,511.05	-2,001.44	664.09	2,001.44	0.00	0.00	0.00
14,400.00	89.84	180.00	12,511.33	-2,101.44	664.09	2,101.44	0.00	0.00	0.00
14,500.00	89.84	180.00	12,511.62	-2,201.44	664.09	2,201.44	0.00	0.00	0.00
14,600.00	89.84	180.00	12,511.90	-2,301.44	664.09	2,301.44	0.00	0.00	0.00
14,700.00	89.84	180.00	12,512.19	-2,401.44	664.09	2,401.44	0.00	0.00	0.00
14,800.00	89.84	180.00	12,512.48	-2,501.44	664.09	2,501.44	0.00	0.00	0.00
14,900.00	89.84	180.00	12,512.76	-2,601.44	664.09	2,601.44	0.00	0.00	0.00
15,000.00	89.84	180.00	12,513.05	-2,701.44	664.09	2,701.44	0.00	0.00	0.00
15,100.00	89.84	180.00	12,513.33	-2,801.44	664.09	2,801.44	0.00	0.00	0.00
15,200.00	89.84	180.00	12,513.62	-2,901.44	664.09	2,901.44	0.00	0.00	0.00
15,300.00	89.84	180.00	12,513.91	-3,001.44	664.09	3,001.44	0.00	0.00	0.00
15,400.00	89.84	180.00	12,514.19	-3,101.44	664.09	3,101.44	0.00	0.00	0.00
15,500.00	89.84	180.00	12,514.48	-3,201.44	664.09	3,201.44	0.00	0.00	0.00
15,600.00	89.84	180.00	12,514.76	-3,301.44	664.09	3,301.44	0.00	0.00	0.00
15,700.00	89.84	180.00	12,515.05	-3,401.44	664.09	3,401.44	0.00	0.00	0.00
15,800.00	89.84	180.00	12,515.34	-3,501.44	664.09	3,501.44	0.00	0.00	0.00
15,900.00	89.84	180.00	12,515.62	-3,601.44	664.09	3,601.44	0.00	0.00	0.00
16,000.00	89.84	180.00	12,515.91	-3,701.44	664.09	3,701.44	0.00	0.00	0.00
16,100.00	89.84	180.00	12,516.19	-3,801.44	664.09	3,801.44	0.00	0.00	0.00
16,200.00	89.84	180.00	12,516.48	-3,901.44	664.09	3,901.44	0.00	0.00	0.00
16,300.00	89.84	180.00	12,516.77	-4,001.44	664.09	4,001.44	0.00	0.00	0.00
16,400.00	89.84	180.00	12,517.05	-4,101.44	664.09	4,101.44	0.00	0.00	0.00
16,500.00	89.84	180.00	12,517.34	-4,201.44	664.09	4,201.44	0.00	0.00	0.00



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Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,600.00	89.84	180.00	12,517.63	-4,301.43	664.09	4,301.43	0.00	0.00	0.00
16,700.00	89.84	180.00	12,517.91	-4,401.43	664.09	4,401.43	0.00	0.00	0.00
16,800.00	89.84	180.00	12,518.20	-4,501.43	664.09	4,501.43	0.00	0.00	0.00
16,900.00	89.84	180.00	12,518.48	-4,601.43	664.09	4,601.43	0.00	0.00	0.00
17,000.00	89.84	180.00	12,518.77	-4,701.43	664.09	4,701.43	0.00	0.00	0.00
17,100.00	89.84	180.00	12,519.06	-4,801.43	664.09	4,801.43	0.00	0.00	0.00
17,200.00	89.84	180.00	12,519.34	-4,901.43	664.09	4,901.43	0.00	0.00	0.00
17,300.00	89.84	180.00	12,519.63	-5,001.43	664.09	5,001.43	0.00	0.00	0.00
17,400.00	89.84	180.00	12,519.91	-5,101.43	664.09	5,101.43	0.00	0.00	0.00
17,500.00	89.84	180.00	12,520.20	-5,201.43	664.09	5,201.43	0.00	0.00	0.00
17,600.00	89.84	180.00	12,520.49	-5,301.43	664.09	5,301.43	0.00	0.00	0.00
17,700.00	89.84	180.00	12,520.77	-5,401.43	664.09	5,401.43	0.00	0.00	0.00
17,800.00	89.84	180.00	12,521.06	-5,501.43	664.09	5,501.43	0.00	0.00	0.00
17,900.00	89.84	180.00	12,521.34	-5,601.43	664.09	5,601.43	0.00	0.00	0.00
18,000.00	89.84	180.00	12,521.63	-5,701.43	664.09	5,701.43	0.00	0.00	0.00
18,100.00	89.84	180.00	12,521.92	-5,801.43	664.09	5,801.43	0.00	0.00	0.00
18,200.00	89.84	180.00	12,522.20	-5,901.43	664.09	5,901.43	0.00	0.00	0.00
18,300.00	89.84	180.00	12,522.49	-6,001.43	664.09	6,001.43	0.00	0.00	0.00
18,400.00	89.84	180.00	12,522.77	-6,101.43	664.09	6,101.43	0.00	0.00	0.00
18,500.00	89.84	180.00	12,523.06	-6,201.43	664.09	6,201.43	0.00	0.00	0.00
18,600.00	89.84	180.00	12,523.35	-6,301.43	664.09	6,301.43	0.00	0.00	0.00
18,700.00	89.84	180.00	12,523.63	-6,401.43	664.09	6,401.43	0.00	0.00	0.00
18,800.00	89.84	180.00	12,523.92	-6,501.43	664.09	6,501.43	0.00	0.00	0.00
18,900.00	89.84	180.00	12,524.20	-6,601.43	664.09	6,601.43	0.00	0.00	0.00
19,000.00	89.84	180.00	12,524.49	-6,701.43	664.09	6,701.43	0.00	0.00	0.00
19,100.00	89.84	180.00	12,524.78	-6,801.42	664.09	6,801.42	0.00	0.00	0.00
19,200.00	89.84	180.00	12,525.06	-6,901.42	664.09	6,901.42	0.00	0.00	0.00
19,300.00	89.84	180.00	12,525.35	-7,001.42	664.09	7,001.42	0.00	0.00	0.00
19,400.00	89.84	180.00	12,525.63	-7,101.42	664.09	7,101.42	0.00	0.00	0.00
19,500.00	89.84	180.00	12,525.92	-7,201.42	664.09	7,201.42	0.00	0.00	0.00
19,600.00	89.84	180.00	12,526.21	-7,301.42	664.09	7,301.42	0.00	0.00	0.00
19,700.00	89.84	180.00	12,526.49	-7,401.42	664.09	7,401.42	0.00	0.00	0.00
19,800.00	89.84	180.00	12,526.78	-7,501.42	664.09	7,501.42	0.00	0.00	0.00
19,900.00	89.84	180.00	12,527.06	-7,601.42	664.09	7,601.42	0.00	0.00	0.00
20,000.00	89.84	180.00	12,527.35	-7,701.42	664.09	7,701.42	0.00	0.00	0.00
20,100.00	89.84	180.00	12,527.64	-7,801.42	664.09	7,801.42	0.00	0.00	0.00
20,200.00	89.84	180.00	12,527.92	-7,901.42	664.09	7,901.42	0.00	0.00	0.00
20,300.00	89.84	180.00	12,528.21	-8,001.42	664.09	8,001.42	0.00	0.00	0.00
20,400.00	89.84	180.00	12,528.49	-8,101.42	664.09	8,101.42	0.00	0.00	0.00
20,500.00	89.84	180.00	12,528.78	-8,201.42	664.09	8,201.42	0.00	0.00	0.00
20,600.00	89.84	180.00	12,529.07	-8,301.42	664.09	8,301.42	0.00	0.00	0.00
20,700.00	89.84	180.00	12,529.35	-8,401.42	664.09	8,401.42	0.00	0.00	0.00
20,800.00	89.84	180.00	12,529.64	-8,501.42	664.09	8,501.42	0.00	0.00	0.00
20,900.00	89.84	180.00	12,529.92	-8,601.42	664.09	8,601.42	0.00	0.00	0.00
21,000.00	89.84	180.00	12,530.21	-8,701.42	664.09	8,701.42	0.00	0.00	0.00
21,100.00	89.84	180.00	12,530.50	-8,801.42	664.09	8,801.42	0.00	0.00	0.00
21,200.00	89.84	180.00	12,530.78	-8,901.42	664.09	8,901.42	0.00	0.00	0.00
21,300.00	89.84	180.00	12,531.07	-9,001.42	664.09	9,001.42	0.00	0.00	0.00
21,400.00	89.84	180.00	12,531.35	-9,101.42	664.09	9,101.42	0.00	0.00	0.00
21,500.00	89.84	180.00	12,531.64	-9,201.41	664.09	9,201.41	0.00	0.00	0.00
21,600.00	89.84	180.00	12,531.93	-9,301.41	664.09	9,301.41	0.00	0.00	0.00
21,700.00	89.84	180.00	12,532.21	-9,401.41	664.09	9,401.41	0.00	0.00	0.00
21,800.00	89.84	180.00	12,532.50	-9,501.41	664.09	9,501.41	0.00	0.00	0.00
21,900.00	89.84	180.00	12,532.78	-9,601.41	664.09	9,601.41	0.00	0.00	0.00

Database: RyanUSA_Compass
Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 82H
Wellbore: OH
Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
22,000.00	89.84	180.00	12,533.07	-9,701.41	664.09	9,701.41	0.00	0.00	0.00
22,100.00	89.84	180.00	12,533.36	-9,801.41	664.09	9,801.41	0.00	0.00	0.00
22,200.00	89.84	180.00	12,533.64	-9,901.41	664.09	9,901.41	0.00	0.00	0.00
22,300.00	89.84	180.00	12,533.93	-10,001.41	664.09	10,001.41	0.00	0.00	0.00
22,325.03	89.84	180.00	12,534.00	-10,026.44	664.09	10,026.44	0.00	0.00	0.00
Fed 82H_BHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Fed 82H_KOP - plan hits target center - Point	0.00	0.00	11,934.00	0.00	664.09	393,463.930	789,782.260	32° 4' 45.02222 N	103° 31' 52.28122 W
Fed 82H_EOC - plan hits target center - Point	0.00	0.00	12,506.96	-571.32	664.09	392,892.613	789,782.260	32° 4' 39.36885 N	103° 31' 52.33059 W
Fed 82H_BHL - plan hits target center - Point	0.00	0.00	12,534.00	-10,026.44	664.09	383,437.510	789,782.260	32° 3' 5.80738 N	103° 31' 53.14711 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
950.00	950.00	10 3/4"	10-3/4	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
756.00	756.00	Rustler			
1,104.00	1,104.00	Top of Salt			
4,840.04	4,827.00	Base of Salt			
5,083.72	5,069.00	Delaware			
9,159.51	9,122.00	Lower Brushy Canyon			
9,339.51	9,302.00	1st BSPG Lime			
10,277.51	10,240.00	1st BSPG Sand			
10,552.51	10,515.00	2nd BSPG Lime			
10,825.51	10,788.00	2nd BSPG Sand			
11,319.51	11,282.00	3rd BSPG Lime			
11,903.51	11,866.00	3rd BSPG Sand			
12,439.99	12,352.00	Wolfcamp			
12,481.08	12,379.00	Wolfcamp X			
12,640.46	12,461.00	Wolfcamp Y TZ			



Nabors Corporate Services
Planning Report



Database: RyanUSA_Compass
Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 82H
Wellbore: OH
Design: PN2

Local Co-ordinate Reference: Well Fed 82H
TVD Reference: RT=32 @ 3350.60ft (Nabors X-04)
MD Reference: RT=32 @ 3350.60ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

VAM SG

Connection Data Sheet

O.D (in)	WEIGHT (lb/ft)	WALL (in)	GRADE	DRIFT	CONNECTION
5.500	20.00	0.361	VST P110EC	4.653	VAM® SG

PIPE PROPERTIES	
Material Grade	VST P110EC
Min. Yield Strength	125 ksi
Min. Tensile Strength	135 ksi
Nominal OD	5.500 in
Nominal ID	4.778 in
Nominal Area	5.828 sq. in
Yield Strength	729 kips
Ultimate Strength	787 kips
Min Internal Yield	14,360 psi
External Pressure	12,090 psi

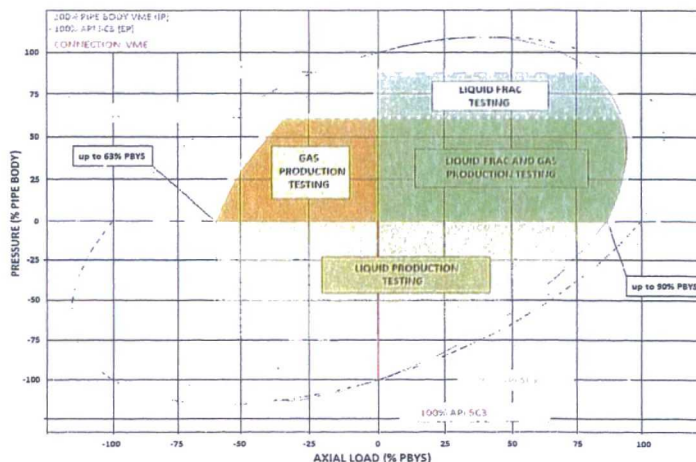
CONNECTION PROPERTIES	
Connection OD	5.697 in
Connection ID	4.711 in
Make up Loss	6.335 in
Connection Critical Area	5.071 sq. in
%PB Section Area	87.0%
Yield Strength	634 kips
Parting Load	685 kips
Min Internal Yield	14,360 psi
External Pressure	8,460 psi
Structural Collapse	12,090 psi
Working Compression	444 kips
Max. Bending w/ Sealability	40 °/100 ft

DOCUMENTATION	
Ref. Drawing	SI-PD 100954 Rev.A
Date	21-Jul-17
Time	3:19 PM
Email	tech.support@vam-usa.com

TORQUE VALUES	
Min Make Up Torque	8,100 ft-lb
Opt Make Up Torque	9,800 ft-lb
Max Make Up Torque	11,500 ft-lb
Max Torque w/ Sealability	12,500 ft-lb

The single solution for Shale Play needs

VAM® SG brings VAM® premium sealing performance to a semi-flush connection with extremely high Tension performance and increased Torque capacity, validated to the specific Shale drilling requirements, while remaining highly competitive in North American Shale play economics.



All information is provided by VAM USA or its affiliates at user's sole risk, without liability for loss, damage or injury resulting from the use thereof, and on an "AS IS" basis without warranty or representation of any kind, whether express or implied, including without limitation any warranty of merchantability, fitness for purpose or completeness. This document and its contents are subject to change without notice. In no event shall VAM USA or its affiliates be responsible for any indirect, special, incidental, punitive, exemplary or consequential loss or damage (including without limitation, loss of use, loss of bargain, loss of revenue, profit or anticipated profit) however caused or arising, and whether such losses or damages were foreseeable or VAM USA or its affiliates was advised of the possibility of such damages.

Connection Data Sheet

OD	Weight	Wall Th.	Grade	API Drift	Connection
5 1/2 in.	20.00 lb/ft	0.361 in.	P110 EC	4.653 in.	VAM® TOP HT

PIPE PROPERTIES

Nominal OD	5.500 in.
Nominal ID	4.775 in.
Nominal Cross Section Area	5.828 sqin
Grade Type	High-Tensile
Min. Yield Strength	125 ksi
Max. Yield Strength	143 ksi
Min. Ultimate Tensile Strength	125 ksi

CONNECTION PROPERTIES

Connection Type	Premium T&C
Connection OD (nom.)	5.500 in.
Connection ID (nom.)	4.775 in.
Make-up Length	4.92 in.
Coupling Length	10.748 in.
Critical Cross Section	5.500 in.
Tension Efficiency	100 % of pipe
Compression Efficiency	100 % of pipe
Internal Pressure Efficiency	100 % of pipe
External Pressure Efficiency	100 % of pipe

CONNECTION PERFORMANCES

Tensile Yield Strength	729 klb
Compression Resistance	843 klb
Internal Yield Pressure	4750 psi
External Pressure Resistance	12500 psi
Max. Bending with Sealability of API	20° - 100 ft
Max. Load on Coupling Force	500 klb

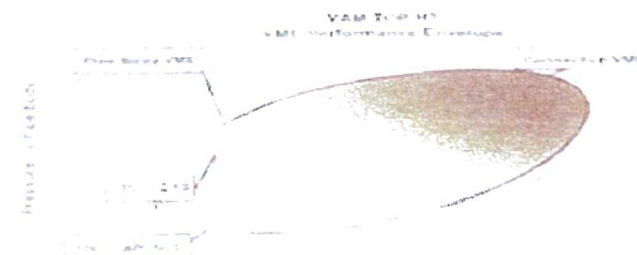
FIELD TORQUE VALUES

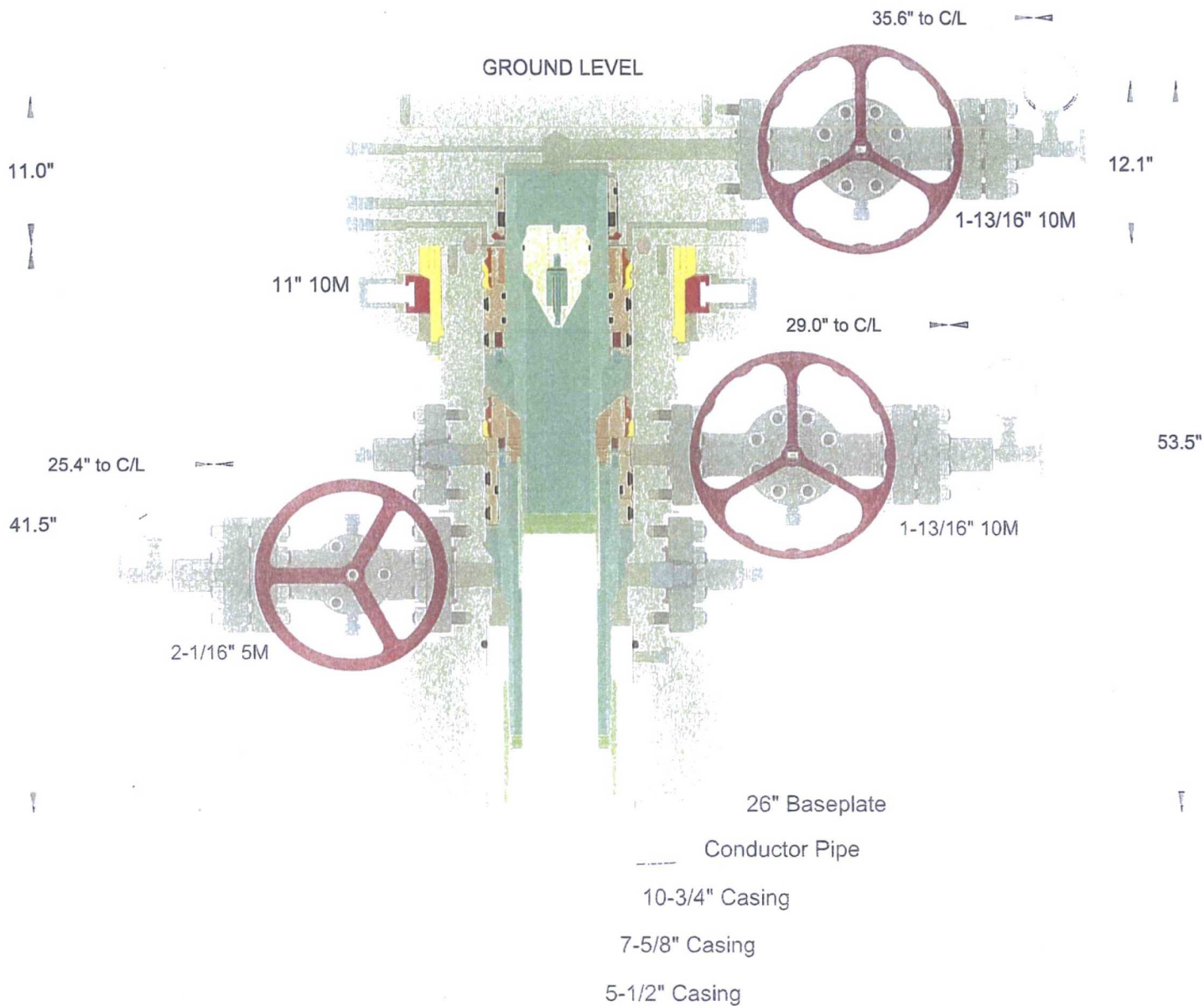
Min. Make-up torque	10850 ft lb
Opt. Make-up torque	11800 ft lb
Max. Make-up torque	13050 ft lb
Field Line Max	5000 ft lb

VAM® TOP HT (High Torque) is a T&C connection. It is the main feature of the VAM® TOP HT connection.

This connection provides reinforced torque capability for joints, and where High Torque is anticipated due to string rotation during drilling operations, torque rotating liner, when reaming, rotating casing when cementing. It has been tested as per ISO 1571 to 7500 ft lb requirements.

VAM® TOP HT is interchangeable with VAM® TOP product and will provide the same performance.





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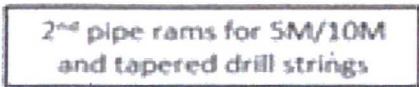
CACTUS WELLHEAD LLC

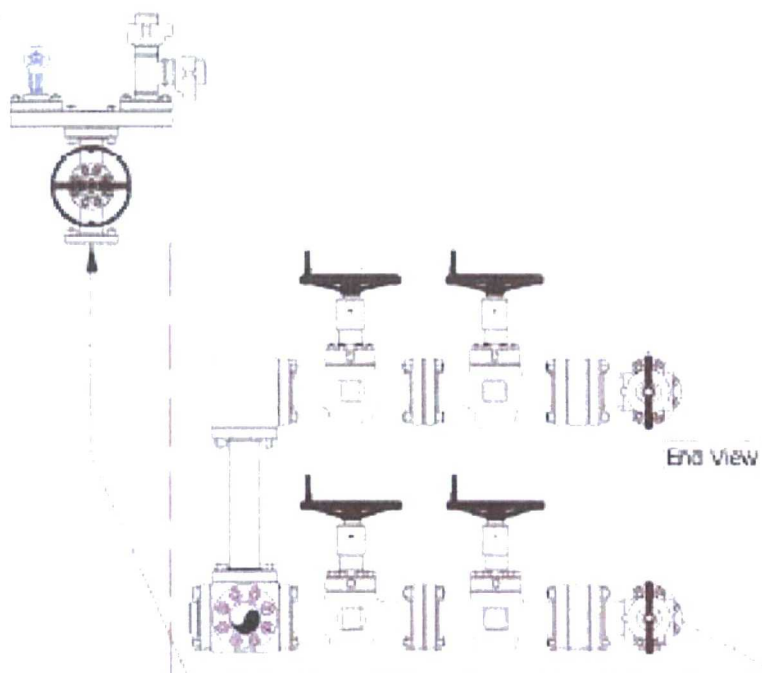
DEVON ENERGY CORPORATION

16" x 11-7/8" x 7-5/8" MBU-T Wellhead Assembly
With 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers
And 11" 10M MBU-T-HPS-F TA Cap

DRAWN	DLE	29NOV17
APPRV		
DRAWING NO.		OKE0001764

10M





End View

Top choke will be hydraulic.

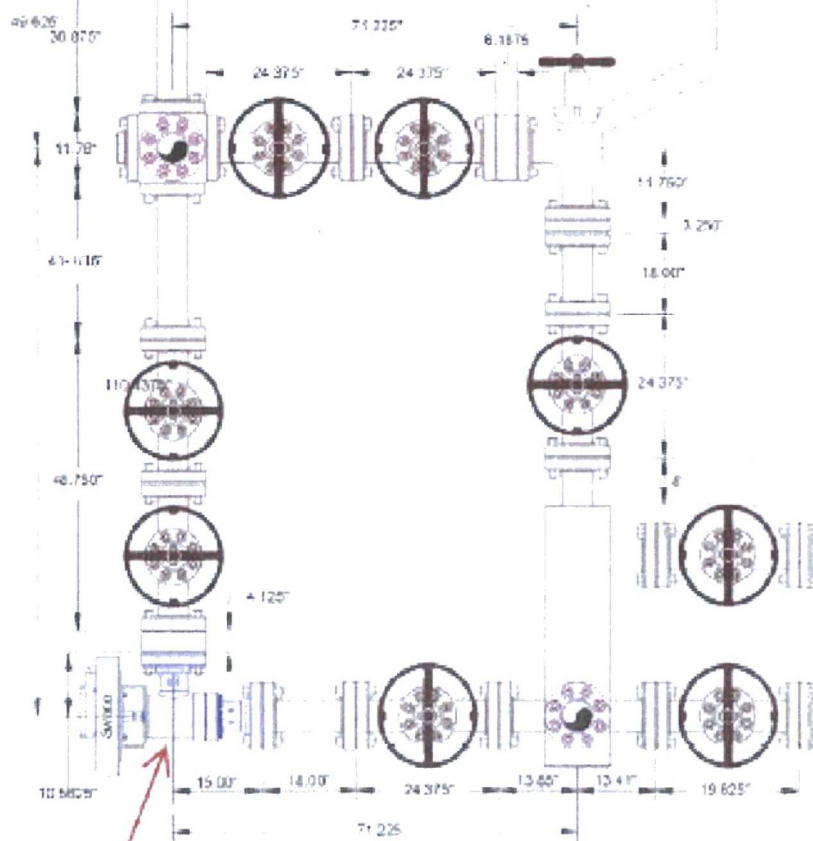
Bottom choke will be manu.

Flexible choke line input from BOP.

To Panic Line.

End View

Side View



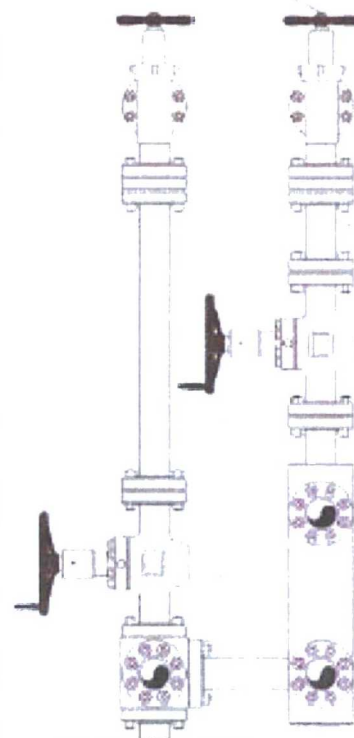
Hydraulic choke.

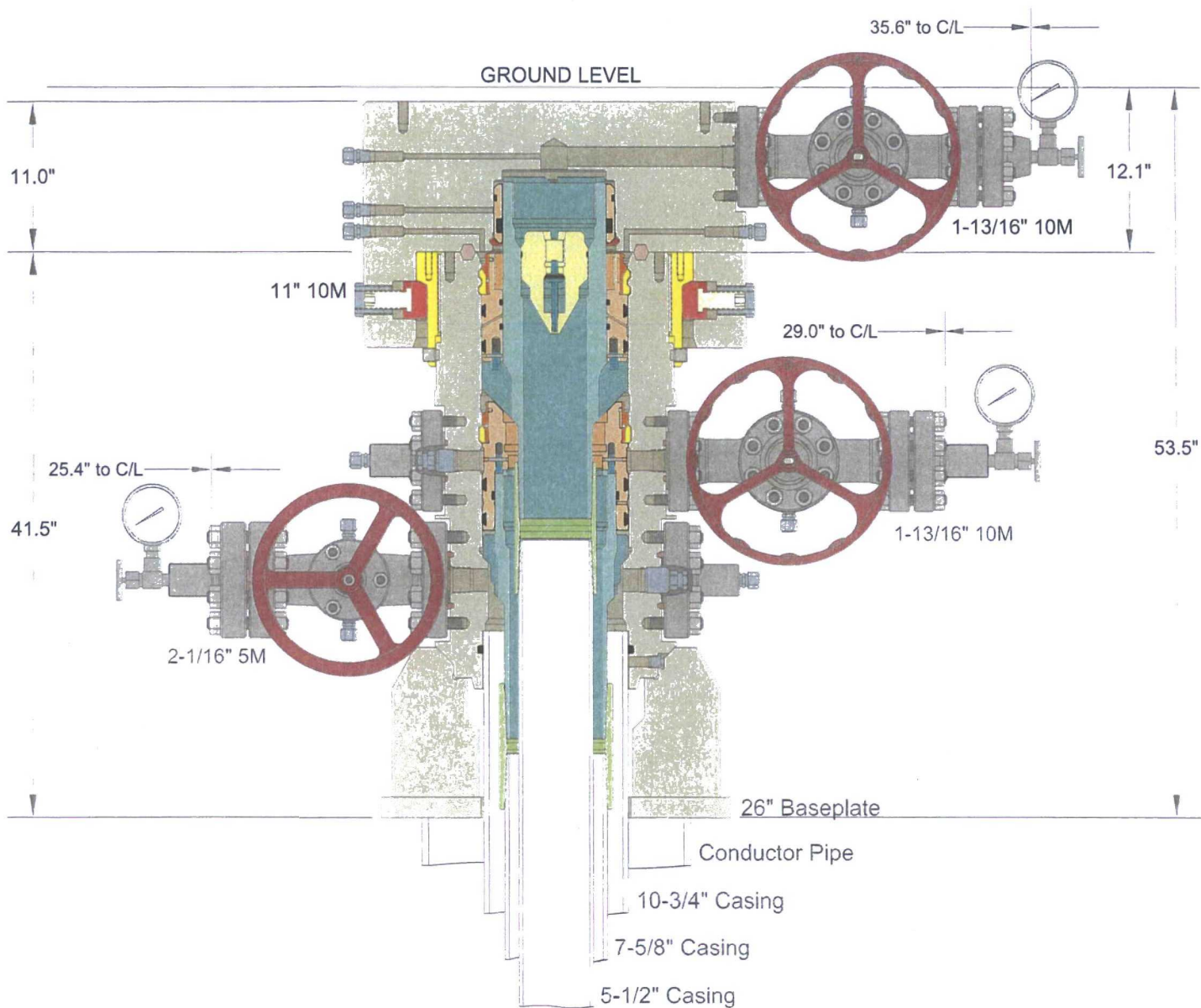
To Trip Tank.

To Shakers.

To Gas Buster

Side View





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CACTUS WELLHEAD LLC

DEVON ENERGY CORPORATION

16" x 11-7/8" x 7-5/8" MBU-T Wellhead Assembly
With 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers
And 11" 10M MBU-T-HPS-F TA Cap

DRAWN	DLE	29NOV17
APPRV		
DRAWING NO.		OKE0001764

HOBB**FEB 06 2006****RECEIVED**

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Devon Energy Production Co, LP
LEASE NO.:	NMNM114988
WELL NAME & NO.:	82H-Seawolf 1 12 Fed
SURFACE HOLE FOOTAGE:	200'/N & 390'/W
BOTTOM HOLE FOOTAGE:	330'/S & 1284'/W
LOCATION:	Section 1, T.26 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

Potash	☒ None	☒ Secretary	☒ R-111-P
Cave/Karst Potential	☒ Low	☒ Medium	☒ High
Variance	☒ None	☒ Flex Hose	☒ Other
Wellhead	☒ Conventional	☒ Multibowl	
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

All previous COAs still apply except for the following:

A. CASING

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

Option 1 (Single Stage):

- Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
 - Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

MHH 01192018

GENERAL REQUIREMENTS

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.