

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0137  
Expires: January 31, 2018

**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**  
**OCD Hobbs**  
**HOBBS OCD**

5. Lease Serial No.  
NMNM114988  
6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE - Other instructions on page 2**

**FEB 06 2018**

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

8. Well Name and No.  
SEAWOLF 1-12 FED 84H

9. API Well No.  
30-025-43765

10. Field and Pool or Exploratory Area  
WC-025 G-09 S253336D;U WC

11. County or Parish, State  
LEA COUNTY, NM

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
DEVON ENERGY PRODUCTION COMPANY  
Contact: REBECCA DEAL  
Email: Rebecca.Deal@dnv.com

3a. Address  
333 WEST SHERIDAN AVENUE  
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)  
Ph: 405-228-8429

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
Sec 1 T26S R33E NENW 160FNL 2527FWL

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

| TYPE OF SUBMISSION                                   | TYPE OF ACTION                                |                                               |                                                    |                                           |
|------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------------|-------------------------------------------|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize              | <input type="checkbox"/> Deepen               | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off   |
| <input type="checkbox"/> Subsequent Report           | <input type="checkbox"/> Alter Casing         | <input type="checkbox"/> Hydraulic Fracturing | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity   |
| <input type="checkbox"/> Final Abandonment Notice    | <input type="checkbox"/> Casing Repair        | <input type="checkbox"/> New Construction     | <input type="checkbox"/> Recomplete                | <input checked="" type="checkbox"/> Other |
|                                                      | <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon     | <input type="checkbox"/> Temporarily Abandon       | Change to Original A<br>PD                |
|                                                      | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back            | <input type="checkbox"/> 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 recompleat 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 recompleat 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 variance and the following changes to the original APD:

Target TVD from 12,636' to 12,645'  
Production Hole Size Change from 8 3/4" to 6 3/4"  
Production Casing Connect Change

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

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

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

Electronic Submission #392148 verified by the BLM Well Information System  
For DEVON ENERGY PRODUCTION COMPAN, sent to the Hobbs  
Committed to AFMSS for processing by PRISCILLA PEREZ on 11/08/2017 ()

Name (Printed/Typed) REBECCA DEAL

Title REGULATORY COMPLIANCE PROFESSI

Signature (Electronic Submission)

Date 10/17/2017

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By Mustafa Hague

Title **PETROLEUM ENGINEER**

Date 2/1/2018

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 **CFO**

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 \*\***

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## 1. Geologic Formations

|               |         |                               |      |
|---------------|---------|-------------------------------|------|
| TVD of target | 12,645' | Pilot hole depth              | N/A  |
| MD at TD:     | 22,632' | Deepest expected fresh water: | 746' |

## Basin

| Formation           | Depth (TVD) from KB | Water/Mineral Bearing/ Target Zone? | Hazards* |
|---------------------|---------------------|-------------------------------------|----------|
| Rustler             | 746                 |                                     |          |
| Top of Salt         | 1094                |                                     |          |
| Base of Salt        | 4817                |                                     |          |
| Delaware            | 5059                |                                     |          |
| Lower Brushy Canyon | 9112                |                                     |          |
| 1st BSPG Lime       | 9292                |                                     |          |
| 1st BSPG Sand       | 10230               |                                     |          |
| 2nd BSPG Lime       | 10505               |                                     |          |
| 2nd BSPG Sand       | 10778               |                                     |          |
| 3rd BSPG Lime       | 11272               |                                     |          |
| 3rd BSPG Sand       | 11856               |                                     |          |
| Wolfcamp            | 12342               |                                     |          |
| Wolfcamp X          | 12369               |                                     |          |
| Wolfcamp Y          | 12465               |                                     |          |
| Wolfcamp 100        | 12526               |                                     |          |
| Wolfcamp 110        | 12598               |                                     |          |
| Wolfcamp 120        | 12675               |                                     |          |
| Wolfcamp 130        | 12742               |                                     |          |

\*H<sub>2</sub>S, water flows, loss of circulation, abnormal pressures, etc.

## Devon Energy, Seawolf 1-12 84H

### 2. Casing Program

| Hole Size | Casing Interval |         | Csg. Size | Weight (lbs) | Grade | Conn.      | SF Collapse | SF Burst | SF Tension |
|-----------|-----------------|---------|-----------|--------------|-------|------------|-------------|----------|------------|
|           | From            | To      |           |              |       |            |             |          |            |
| 6.75"     | 0               | 12,852' | 5.5"      | 20           | P110  | Vam Top HT | 1.125       | 1.25     | 1.6        |
| 6.75"     | 12,852'         | 22,632' | 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 <sup>rd</sup> 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 <sup>nd</sup> 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?                                                                                             |        |

# Devon Energy, Seawolf 1-12 84H

## 3. Cementing Program

| Casing               | # Sks | Wt.<br>lb/<br>gal | H <sub>2</sub> O<br>gal/sk | Yld<br>ft <sup>3</sup> /<br>sack | Slurry Description                                 |
|----------------------|-------|-------------------|----------------------------|----------------------------------|----------------------------------------------------|
| 5-1/2"<br>Production | 750   | 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 | 12,852' | 25%      |

## 4. Pressure Control Equipment

|   |                                                                                                      |
|---|------------------------------------------------------------------------------------------------------|
| N | A variance is requested for the use of a diverter on the surface casing. See attached for schematic. |
|---|------------------------------------------------------------------------------------------------------|

| 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 | 70% 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.<br>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 | <p>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.</p> <p>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 <del>5000 (5M) psi</del>. <b>10000 (10M) psi</b></p> <ul style="list-style-type: none"> <li>Wellhead will be installed by wellhead representatives.</li> <li>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.</li> <li>Wellhead representative will install the test plug for the initial BOP test.</li> <li>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.</li> <li>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.</li> <li>Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.</li> <li>Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.</li> </ul> |

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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~~ <sup>10,000</sup> 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      |               |              |           |            |
| 13,052' | 22,632' | 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 |
|---------------------------------------------------------|-----------------------------|

## 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 |
|                         | Density     |
| X                       | CBL         |
| X                       | Mud log     |
|                         | 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<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>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 <sub>2</sub> S is present    |
| Y | H <sub>2</sub> S Plan attached |

## Attachments

x Directional Plan

**Devon Energy, Seawolf 1-12 84H**

\_\_\_ Other, describe

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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"<br>Upper 3.5-5.5" VBR | 10M |
| HWDP                        | 4.5"      | Fixed lower 4.5"<br>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.

## **Devon Energy, Seawolf 1-12 Wells**

### 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

## Devon Energy, Seawolf 1-12 Wells

### 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



Devon Energy  
Seawolf 1-12 Fed 84H  
Lea County, NM  
Plan P1:V1

#### Plan Data for Seawolf 1-12 Fed 84H

| Plan Point Information:           |       |        |          |           |        |           |           |          |                          |
|-----------------------------------|-------|--------|----------|-----------|--------|-----------|-----------|----------|--------------------------|
| DogLeg Severity Unit: "/100.00ft  |       |        |          |           |        |           |           |          |                          |
| Position offsets from Slot centre |       |        |          |           |        |           |           |          |                          |
| MD                                | Inc   | Az     | TVD      | +N/-S     | +E/-W  | Northing  | Easting   | VSec     | DLS Comments             |
| (USft)                            | (°)   | (°)    | (USft)   | (USft)    | (USft) | (USft)    | (USft)    | (USft)   | (DLSU)                   |
| 0.00                              | 0.00  | 0.00   | 0.00     | 0.00      | -0.00  | 393520.13 | 791254.53 | 0.00     | 0.00                     |
| 2500.00                           | 0.00  | 0.00   | 2500.00  | 0.00      | -0.00  | 393520.13 | 791254.53 | 0.00     | 0.00 Nudge @ 1° DLS      |
| 2797.53                           | 2.98  | 71.87  | 2797.39  | 2.40      | 7.34   | 393522.53 | 791261.87 | -2.35    | 1.00 Hold                |
| 11786.91                          | 2.98  | 71.87  | 11774.66 | 147.60    | 450.77 | 393667.73 | 791705.30 | -144.28  | 0.00 Drop @ 1° DLS       |
| 12084.43                          | 0.00  | 0.00   | 12072.05 | 150.00    | 458.11 | 393670.13 | 791712.64 | -146.63  | 1.00 KOP-Build @ 10° DLS |
| 12981.53                          | 89.71 | 179.58 | 12645.00 | -420.03   | 462.30 | 393100.10 | 791716.83 | 423.42   | 10.00 Landing Pt         |
| 22632.05                          | 89.71 | 179.58 | 12694.00 | -10070.17 | 533.15 | 383449.96 | 791787.68 | 10073.82 | 0.00 PBHL 84H            |

#### Plan Data for Seawolf 1-12 Fed 84H

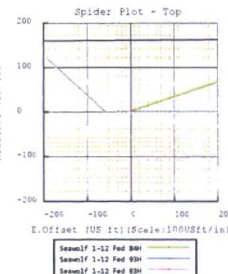
Field: Lea Co, NM Nad 83 NMEZ  
Map Unit: USFT  
Vertical Reference Datum (VRD): Mean Sea Level  
Projected Coordinate System: NAD83 / New Mexico East (ftUS)

Site: Seawolf 1-12 Fed Pad  
Unit: USFeet  
Company Name: Devon Energy  
Position:  
Northing: 393519.71USft  
Easting: 791194.43USft  
North Reference: Grid  
Grid Convergence: 0.43°  
Elevation Above VRD: 3316.70USft

Slot: Seawolf 1-12 Fed 84H  
Position:  
Offset is from Site centre  
+N/-S: 0.42USft  
+E/-W: 60.10USft  
Northing: 393520.13USft  
Easting: 791254.53USft  
Latitude: 32.079297°  
Longitude: -103.526629°  
Elevation Above VRD: 3316.70USft

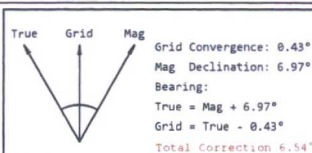
#### Well: Seawolf 1-12 Fed 84H

Type: Main-Well  
File Number:  
Plan Folder: P1  
Plan: P1:V1  
Vertical Section: Position offset of origin from Slot centre:  
+N/-S: 0.00USft  
+E/-W: -0.00USft  
Magnetic Parameters:  
Model: Field Strength: Declination: Dip: Date:  
bgm2017 47887(nT) 6.97° 59.91° 2017-10-23



#### Plan Data for Seawolf 1-12 Fed 84H

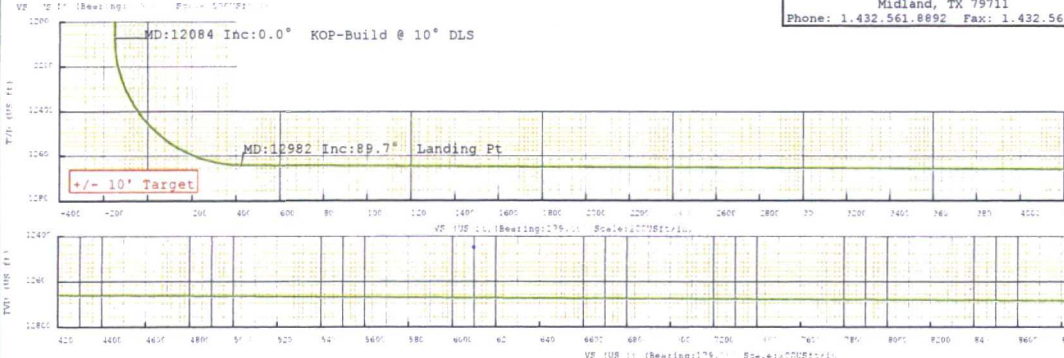
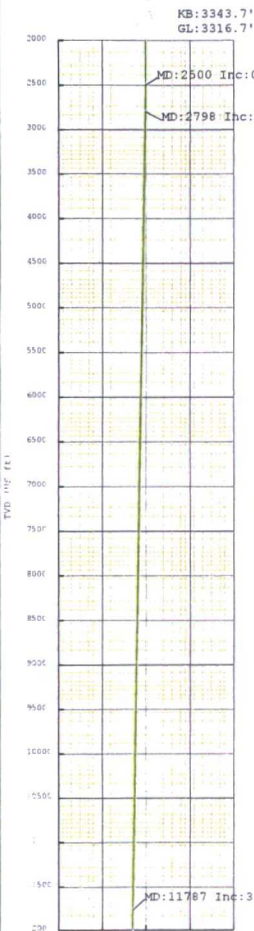
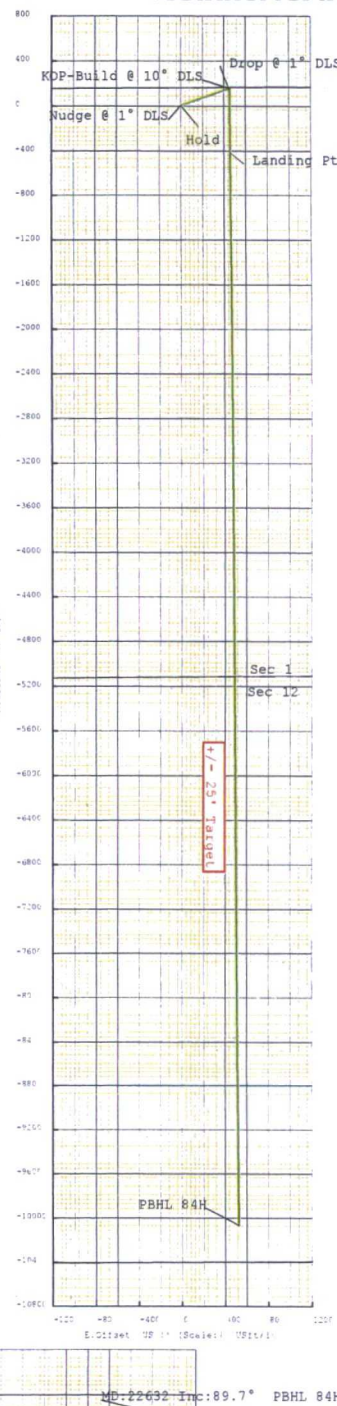
Target Set Information:  
Name: Seawolf 1-12 Fed 84H Tgts  
Position offsets from Slot centre  
Name TVD Elevation +N/-S +E/-W Northing Easting  
(USft) (USft) (USft) (USft) (USft) (USft)  
NP 12072.05 -8728.35 150.00 458.11 393670.13 791712.64  
PBHL 84H 12694.00 -9350.30 -10070.17 533.15 383449.96 791787.68



#### Plan Data for Seawolf 1-12 Fed 84H

| Formation Point Information: |                      |           |                   |         |  |
|------------------------------|----------------------|-----------|-------------------|---------|--|
| Name                         | TVD Elevation (USft) | MD (USft) | Dip Direction (°) | Dip (°) |  |
| Wolfcamp 120                 | 12733.00             | 0.00      | -1.00             | 0.00    |  |
| Wolfcamp 130                 | 12800.00             | 0.00      | -1.00             | 0.00    |  |
| Rustler                      | 804.00               | 2539.70   | 804.00            | 0.00    |  |
| Top of Salt                  | 1152.00              | 2191.70   | 1152.00           | 0.00    |  |
| Base of Salt                 | 4875.00              | -1531.30  | 4877.94           | 0.00    |  |
| Delaware                     | 5117.00              | -1773.30  | 5120.26           | 0.00    |  |
| Lower Brushy Canyon          | 9170.00              | -5826.30  | 9178.74           | 0.00    |  |
| 1st BSGP Lime                | 9350.00              | -6006.30  | 9358.98           | 0.00    |  |
| 1st BSGP Sand                | 10288.00             | -6944.30  | 10298.24          | 0.00    |  |
| 2nd BSGP Lime                | 10563.00             | -7219.30  | 10573.62          | 0.00    |  |
| 2nd BSGP Sand                | 10836.00             | -7492.30  | 10846.98          | 0.00    |  |
| 3rd BSGP Lime                | 11330.00             | -7986.30  | 11341.65          | 0.00    |  |
| 3rd BSGP Sand                | 11914.00             | -8570.30  | 11926.36          | 0.00    |  |
| Wolfcamp 12400               | 12400.00             | -9056.30  | 12433.60          | 0.00    |  |
| Wolfcamp X 12427             | 12427.00             | -9083.30  | 12467.23          | 0.00    |  |
| Wolfcamp Y 12523             | 12523.00             | -9170.30  | 12603.54          | 0.00    |  |
| Wolfcamp 100 12584           | 12584.00             | -9240.30  | 12717.62          | 0.00    |  |
| Wolfcamp 110 12656           | 12656.00             | -9312.30  | 15147.26          | 0.00    |  |

Drawing By: L Winchell Date: 10/06/2017  
Weatherford Drilling Services  
10000 West County Road 116  
PO Box 61208  
Midland, TX 79711  
Phone: 1.432.561.8892 Fax: 1.432.561.8895



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**5D Anti-Collision Report**

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**Devon Energy**

**Field Name:** *Lea Co, NM Nad 83 NMEZ*

**Site Name:** *Seawolf 1-12 Fed Pad*

**Well Name:** *Seawolf 1-12 Fed 84H*

---

6 October 2017



**Weatherford®**



## Seawolf 1-12 Fed 84H

|                                                     |                                                                       |                                     |                                   |                           |
|-----------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|-----------------------------------|---------------------------|
| <b>Field Name:</b><br><br>Lea Co, NM Nad<br>83 NMEZ | <b>Map Units:</b> US ft                                               |                                     | <b>Company Name:</b> Devon Energy |                           |
|                                                     | <b>Vertical Reference Datum (VRD):</b> Mean Sea Level                 |                                     |                                   |                           |
|                                                     | <b>Projected Coordinate System:</b> NAD83 / New Mexico East (ftUS)    |                                     |                                   |                           |
|                                                     | <b>Comment:</b>                                                       |                                     |                                   |                           |
| <b>Site:</b><br><br>Seawolf 1-12<br>Fed Pad         | <b>Units:</b> US ft                                                   | <b>North Reference:</b> Grid        | <b>Convergence Angle:</b> 0.43    |                           |
|                                                     | <b>Position:</b>                                                      | <b>Northing:</b> 393519.71 US ft    | <b>Latitude:</b> 32.079297215     |                           |
|                                                     |                                                                       | <b>Easting:</b> 791194.43 US ft     | <b>Longitude:</b> -103.526628853  |                           |
|                                                     | <b>Elevation above MSL:</b> 3316.70 US ft                             |                                     |                                   |                           |
| <b>Comment:</b>                                     |                                                                       |                                     |                                   |                           |
| <b>Slot:</b><br><br>Seawolf 1-12<br>Fed 84H         | <b>Position (Relative to Site Centre)</b>                             |                                     |                                   |                           |
|                                                     | <b>+N/-S:</b> 0.42 US ft                                              | <b>Northing:</b> 393520.13 US ft    | <b>Latitude:</b> 32.079297134     |                           |
|                                                     | <b>+E/-W:</b> 60.10 US ft                                             | <b>Easting:</b> 791254.53 US ft     | <b>Longitude:</b> -103.526434816  |                           |
|                                                     | <b>Slot TVD Reference:</b> Ground Elevation                           |                                     |                                   |                           |
|                                                     | <b>Elevation above MSL:</b> 3316.70 US ft                             |                                     |                                   |                           |
|                                                     | <b>Comment:</b>                                                       |                                     |                                   |                           |
| <b>Well:</b><br><br>Seawolf 1-12<br>Fed 84H         | <b>Type:</b> Main well                                                |                                     | <b>UWI:</b>                       | <b>Plan:</b> Working Plan |
|                                                     | <b>File Number:</b>                                                   | <b>Comment:</b>                     |                                   |                           |
|                                                     | <b>Closure Distance:</b> 10084.3US ft                                 |                                     | <b>Closure Azimuth:</b> 176.97°   |                           |
|                                                     | <b>Vertical Section: Position of Origin (Relative to Slot centre)</b> |                                     |                                   |                           |
|                                                     | <b>+N/-S:</b> 0.00 US ft                                              |                                     | <b>+E/-W:</b> -0.00 US ft         | <b>Az:</b> 179.58°        |
|                                                     | <b>Magnetic Parameters:</b>                                           |                                     |                                   |                           |
|                                                     | <b>Model:</b> bggm2017                                                | <b>Field Strength:</b><br>47887.6nT | <b>Declination:</b> 6.97°         | <b>Dip:</b> 59.91°        |
|                                                     | <b>Date:</b><br>23/Oct/2017                                           |                                     |                                   |                           |
|                                                     |                                                                       |                                     |                                   |                           |
|                                                     |                                                                       |                                     |                                   |                           |

|                                              |                                           |                           |                       |  |
|----------------------------------------------|-------------------------------------------|---------------------------|-----------------------|--|
| <b>Drill floor: Plan: Working Plan</b>       |                                           |                           |                       |  |
| <b>Rig Height (Drill Floor):</b> 27.00 us ft | <b>Elevation above MSL:</b> 3343.70 us ft | <b>Inclination:</b> 0.00° | <b>Azimuth:</b> 0.00° |  |

| Collision / Uncertainty Analysis |                 |               |                         |                                             |
|----------------------------------|-----------------|---------------|-------------------------|---------------------------------------------|
| Primary Well                     | Start MD (USFt) | End MD (USFt) | Collision Risk Interval | No. of Std. Deviations in Error Computation |
| Seawolf 1-12 Fed 84H (p)         | 0.00            | 30000.00      | 100.00                  | 2                                           |

|                              |  |  |  |  |
|------------------------------|--|--|--|--|
| <b>Secondary Well Names:</b> |  |  |  |  |
| Seawolf 1-12 Fed 83H (p)     |  |  |  |  |
| Seawolf 1-12 Fed 93H (p)     |  |  |  |  |

|                                                                                                                                                        |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| <b>Anti-Collision Report Terminology</b>                                                                                                               |  |  |  |  |
| <b>S.Minor, S.Major:</b> Radii of the ellipse of uncertainty at the current location as seen in the along hole direction.                              |  |  |  |  |
| <b>PHI:</b> Angle between high-side vector and semi-minor axis                                                                                         |  |  |  |  |
| <b>TVD Spread:</b> Total TVD range of the ellipsoid of uncertainty at the current location.                                                            |  |  |  |  |
| <b>ES:</b> Distance between the extremities of the primary and secondary uncertainty ellipsoids in the direction Cr-Cr.                                |  |  |  |  |
| <b>T.Face to Sec:</b> Angle between the Hi-Side vector of the primary well at the current location and line of closest approach between the two wells. |  |  |  |  |

## 5D Anti-Collision Report

AC Filter Info: Applied filter(s): Depth Range.

Default Survey Tool: MWD

Separation factors calculated using Pedal Curve (Independent Uncertainty). Surface Uncertainty (S.U.) Not Applied. Wellpath created using minimum curvature.

## Anti-Collision Summary (TVD relative to Drill Floor)

| SF | Pri MD<br>(US ft) | TVD<br>(US ft) | Secondary Well<br>Name      | Sec MD<br>(US ft) | CC<br>(US ft) | ES<br>(US ft) | SF   | Risk   |
|----|-------------------|----------------|-----------------------------|-------------------|---------------|---------------|------|--------|
|    | 22632.05          | 12694.00       | Seawolf 1-12 Fed<br>93H (p) | 22204.15          | 283.00        | 128.32        | 1.83 | SF(Lo) |
|    | 22632.05          | 12694.00       | Seawolf 1-12 Fed<br>83H (p) | 22497.78          | 702.71        | 338.55        | 1.93 | SF(Lo) |

| CC | Pri MD<br>(US ft) | TVD<br>(US ft) | Secondary Well<br>Name      | Sec MD<br>(US ft) | CC<br>(US ft) | ES<br>(US ft) | SF    | Risk |
|----|-------------------|----------------|-----------------------------|-------------------|---------------|---------------|-------|------|
|    | 0.00              | 0.00           | Seawolf 1-12 Fed<br>93H (p) | 0.00              | 30.02         | 29.29         | 40.94 |      |
|    | 0.00              | 0.00           | Seawolf 1-12 Fed<br>83H (p) | 0.00              | 60.10         | 59.37         | 81.96 |      |

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                          |               |               |       |             |      |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|--------------------------|---------------|---------------|-------|-------------|------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well          | ES<br>(US ft) | CC<br>(US ft) | SF    | Survey Tool | Risk |
| 0.00                                                                                                    | 0.00           | 269.48                  | 0.00               | 0.00               | 0.00                  | Seawolf 1-12 Fed 93H (p) | 29.29         | 30.02         | 40.94 | MWD         |      |
| 100.00                                                                                                  | 100.00         | 269.48                  | 0.11               | 0.11               | 4.60                  | Seawolf 1-12 Fed 93H (p) | 29.07         | 30.02         | 31.47 | MWD         |      |
| 200.00                                                                                                  | 200.00         | 269.48                  | 0.34               | 0.34               | 4.62                  | Seawolf 1-12 Fed 93H (p) | 28.62         | 30.02         | 21.39 | MWD         |      |
| 300.00                                                                                                  | 300.00         | 269.48                  | 0.56               | 0.56               | 4.65                  | Seawolf 1-12 Fed 93H (p) | 28.17         | 30.02         | 16.20 | MWD         |      |
| 400.00                                                                                                  | 400.00         | 269.48                  | 0.79               | 0.79               | 4.69                  | Seawolf 1-12 Fed 93H (p) | 27.72         | 30.02         | 13.04 | MWD         |      |
| 500.00                                                                                                  | 500.00         | 269.48                  | 1.01               | 1.01               | 4.75                  | Seawolf 1-12 Fed 93H (p) | 27.27         | 30.02         | 10.91 | MWD         |      |
| 600.00                                                                                                  | 600.00         | 269.48                  | 1.24               | 1.24               | 4.81                  | Seawolf 1-12 Fed 93H (p) | 26.82         | 30.02         | 9.38  | MWD         |      |
| 700.00                                                                                                  | 700.00         | 269.48                  | 1.46               | 1.46               | 4.89                  | Seawolf 1-12 Fed 93H (p) | 26.37         | 30.02         | 8.22  | MWD         |      |
| 800.00                                                                                                  | 800.00         | 269.48                  | 1.69               | 1.69               | 4.97                  | Seawolf 1-12 Fed 93H (p) | 25.92         | 30.02         | 7.32  | MWD         |      |
| 900.00                                                                                                  | 900.00         | 269.48                  | 1.91               | 1.91               | 5.06                  | Seawolf 1-12 Fed 93H (p) | 25.47         | 30.02         | 6.60  | MWD         |      |
| 1000.00                                                                                                 | 1000.00        | 269.48                  | 2.14               | 2.14               | 5.16                  | Seawolf 1-12 Fed 93H (p) | 25.02         | 30.02         | 6.00  | MWD         |      |
| 1100.00                                                                                                 | 1100.00        | 269.48                  | 2.36               | 2.36               | 5.27                  | Seawolf 1-12 Fed 93H (p) | 24.57         | 30.02         | 5.51  | MWD         |      |
| 1200.00                                                                                                 | 1200.00        | 269.48                  | 2.59               | 2.59               | 5.38                  | Seawolf 1-12 Fed 93H (p) | 24.12         | 30.02         | 5.09  | MWD         |      |
| 1300.00                                                                                                 | 1300.00        | 269.48                  | 2.81               | 2.81               | 5.50                  | Seawolf 1-12 Fed 93H (p) | 23.67         | 30.02         | 4.73  | MWD         |      |
| 1400.00                                                                                                 | 1400.00        | 269.48                  | 3.03               | 3.03               | 5.62                  | Seawolf 1-12 Fed 93H (p) | 23.22         | 30.02         | 4.42  | MWD         |      |
| 1500.00                                                                                                 | 1500.00        | 269.48                  | 3.26               | 3.26               | 5.75                  | Seawolf 1-12 Fed 93H (p) | 22.77         | 30.02         | 4.14  | MWD         |      |
| 1600.00                                                                                                 | 1600.00        | 269.48                  | 3.48               | 3.48               | 5.89                  | Seawolf 1-12 Fed 93H (p) | 22.32         | 30.02         | 3.90  | MWD         |      |

## 5D Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                          |               |               |      |             |      |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|--------------------------|---------------|---------------|------|-------------|------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well          | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk |
| 1700.00                                                                                                 | 1700.00        | 269.48                  | 3.71               | 3.71               | 6.03                  | Seawolf 1-12 Fed 93H (p) | 21.87         | 30.02         | 3.69 | MWD         |      |
| 1800.00                                                                                                 | 1800.00        | 269.48                  | 3.93               | 3.93               | 6.17                  | Seawolf 1-12 Fed 93H (p) | 21.42         | 30.02         | 3.49 | MWD         |      |
| 1900.00                                                                                                 | 1900.00        | 269.48                  | 4.16               | 4.16               | 6.32                  | Seawolf 1-12 Fed 93H (p) | 20.98         | 30.02         | 3.32 | MWD         |      |
| 2000.00                                                                                                 | 2000.00        | 269.48                  | 4.38               | 4.38               | 6.47                  | Seawolf 1-12 Fed 93H (p) | 20.53         | 30.02         | 3.16 | MWD         |      |
| 2100.00                                                                                                 | 2100.00        | 269.48                  | 4.61               | 4.61               | 6.62                  | Seawolf 1-12 Fed 93H (p) | 20.08         | 30.02         | 3.02 | MWD         |      |
| 2200.00                                                                                                 | 2200.00        | 269.48                  | 4.83               | 4.83               | 6.78                  | Seawolf 1-12 Fed 93H (p) | 19.63         | 30.02         | 2.89 | MWD         |      |
| 2300.00                                                                                                 | 2300.00        | 269.48                  | 5.06               | 5.06               | 6.94                  | Seawolf 1-12 Fed 93H (p) | 19.18         | 30.02         | 2.77 | MWD         |      |
| 2400.00                                                                                                 | 2400.00        | 269.48                  | 5.28               | 5.28               | 7.10                  | Seawolf 1-12 Fed 93H (p) | 18.73         | 30.02         | 2.66 | MWD         |      |
| 2500.00                                                                                                 | 2500.00        | 269.48                  | 5.51               | 5.51               | 7.27                  | Seawolf 1-12 Fed 93H (p) | 18.28         | 30.02         | 2.56 | MWD         |      |
| 2600.00                                                                                                 | 2599.99        | 197.13                  | 5.72               | 5.72               | 7.44                  | Seawolf 1-12 Fed 93H (p) | 18.68         | 30.85         | 2.53 | MWD         |      |
| 2700.00                                                                                                 | 2699.96        | 195.81                  | 5.93               | 5.93               | 7.61                  | Seawolf 1-12 Fed 93H (p) | 20.76         | 33.36         | 2.65 | MWD         |      |
| 2800.00                                                                                                 | 2799.86        | 194.01                  | 6.14               | 6.13               | 7.78                  | Seawolf 1-12 Fed 93H (p) | 24.55         | 37.58         | 2.88 | MWD         |      |
| 2900.00                                                                                                 | 2899.73        | 192.32                  | 6.35               | 6.34               | 7.96                  | Seawolf 1-12 Fed 93H (p) | 29.20         | 42.63         | 3.17 | MWD         |      |
| 3000.00                                                                                                 | 2999.59        | 190.99                  | 6.57               | 6.55               | 8.14                  | Seawolf 1-12 Fed 93H (p) | 33.83         | 47.72         | 3.44 | MWD         |      |
| 3100.00                                                                                                 | 3099.46        | 189.92                  | 6.78               | 6.76               | 8.33                  | Seawolf 1-12 Fed 93H (p) | 38.49         | 52.82         | 3.69 | MWD         |      |
| 3200.00                                                                                                 | 3199.32        | 189.03                  | 7.00               | 6.97               | 8.51                  | Seawolf 1-12 Fed 93H (p) | 43.17         | 57.94         | 3.92 | MWD         |      |
| 3300.00                                                                                                 | 3299.19        | 188.29                  | 7.22               | 7.18               | 8.70                  | Seawolf 1-12 Fed 93H (p) | 47.87         | 63.08         | 4.15 | MWD         |      |
| 3400.00                                                                                                 | 3399.05        | 187.66                  | 7.44               | 7.39               | 8.89                  | Seawolf 1-12 Fed 93H (p) | 52.57         | 68.22         | 4.36 | MWD         |      |
| 3500.00                                                                                                 | 3498.92        | 187.12                  | 7.66               | 7.61               | 9.08                  | Seawolf 1-12 Fed 93H (p) | 57.28         | 73.36         | 4.56 | MWD         |      |
| 3600.00                                                                                                 | 3598.78        | 186.52                  | 7.89               | 7.82               | 9.28                  | Seawolf 1-12 Fed 93H (p) | 61.19         | 77.67         | 4.71 | MWD         |      |
| 3700.00                                                                                                 | 3698.65        | 185.71                  | 8.11               | 8.04               | 9.48                  | Seawolf 1-12 Fed 93H (p) | 63.36         | 80.26         | 4.75 | MWD         |      |
| 3800.00                                                                                                 | 3798.51        | 184.66                  | 8.34               | 8.26               | 9.68                  | Seawolf 1-12 Fed 93H (p) | 63.84         | 81.14         | 4.69 | MWD         |      |
| 3900.00                                                                                                 | 3898.38        | 183.37                  | 8.56               | 8.47               | 9.89                  | Seawolf 1-12 Fed 93H (p) | 62.85         | 80.57         | 4.55 | MWD         |      |
| 4000.00                                                                                                 | 3998.25        | 182.03                  | 8.79               | 8.69               | 10.10                 | Seawolf 1-12 Fed 93H (p) | 61.68         | 79.84         | 4.40 | MWD         |      |
| 4100.00                                                                                                 | 4098.11        | 180.67                  | 9.02               | 8.91               | 10.31                 | Seawolf 1-12 Fed 93H (p) | 60.57         | 79.15         | 4.26 | MWD         |      |
| 4200.00                                                                                                 | 4197.98        | 179.28                  | 9.25               | 9.13               | 10.53                 |                          | 59.50         | 78.51         | 4.13 | MWD         |      |

## 5D Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                          |               |               |      |             |      |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|--------------------------|---------------|---------------|------|-------------|------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well          | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk |
| 4300.00                                                                                                 | 4297.84        | 177.87                  | 9.48               | 9.35               | 10.74                 | Seawolf 1-12 Fed 93H (p) | 58.49         | 77.91         | 4.01 | MWD         |      |
| 4400.00                                                                                                 | 4397.71        | 176.44                  | 9.71               | 9.57               | 10.97                 | Seawolf 1-12 Fed 93H (p) | 57.52         | 77.36         | 3.90 | MWD         |      |
| 4500.00                                                                                                 | 4497.57        | 174.99                  | 9.94               | 9.79               | 11.19                 | Seawolf 1-12 Fed 93H (p) | 56.59         | 76.87         | 3.79 | MWD         |      |
| 4600.00                                                                                                 | 4597.44        | 173.52                  | 10.17              | 10.01              | 11.42                 | Seawolf 1-12 Fed 93H (p) | 55.71         | 76.42         | 3.69 | MWD         |      |
| 4700.00                                                                                                 | 4697.30        | 172.04                  | 10.40              | 10.23              | 11.65                 | Seawolf 1-12 Fed 93H (p) | 54.87         | 76.02         | 3.60 | MWD         |      |
| 4800.00                                                                                                 | 4797.17        | 170.54                  | 10.63              | 10.45              | 11.89                 | Seawolf 1-12 Fed 93H (p) | 54.08         | 75.67         | 3.50 | MWD         |      |
| 4900.00                                                                                                 | 4897.03        | 169.03                  | 10.87              | 10.67              | 12.12                 | Seawolf 1-12 Fed 93H (p) | 53.34         | 75.38         | 3.42 | MWD         |      |
| 5000.00                                                                                                 | 4996.90        | 167.50                  | 11.10              | 10.89              | 12.37                 | Seawolf 1-12 Fed 93H (p) | 52.68         | 75.14         | 3.34 | MWD         |      |
| 5100.00                                                                                                 | 5096.76        | 165.97                  | 11.33              | 11.11              | 12.61                 | Seawolf 1-12 Fed 93H (p) | 52.03         | 74.95         | 3.27 | MWD         |      |
| 5200.00                                                                                                 | 5196.63        | 164.43                  | 11.57              | 11.33              | 12.86                 | Seawolf 1-12 Fed 93H (p) | 51.45         | 74.82         | 3.20 | MWD         |      |
| 5300.00                                                                                                 | 5296.49        | 162.89                  | 11.80              | 11.56              | 13.12                 | Seawolf 1-12 Fed 93H (p) | 50.93         | 74.74         | 3.14 | MWD         |      |
| 5400.00                                                                                                 | 5396.36        | 161.35                  | 12.04              | 11.78              | 13.38                 | Seawolf 1-12 Fed 93H (p) | 50.45         | 74.71         | 3.08 | MWD         |      |
| 5500.00                                                                                                 | 5496.22        | 159.80                  | 12.27              | 12.00              | 13.64                 | Seawolf 1-12 Fed 93H (p) | 50.01         | 74.74         | 3.02 | MWD         |      |
| 5600.00                                                                                                 | 5596.09        | 158.26                  | 12.51              | 12.22              | 13.91                 | Seawolf 1-12 Fed 93H (p) | 49.65         | 74.83         | 2.97 | MWD         |      |
| 5700.00                                                                                                 | 5695.95        | 156.72                  | 12.74              | 12.45              | 14.18                 | Seawolf 1-12 Fed 93H (p) | 49.32         | 74.96         | 2.92 | MWD         |      |
| 5800.00                                                                                                 | 5795.82        | 155.19                  | 12.98              | 12.67              | 14.45                 | Seawolf 1-12 Fed 93H (p) | 49.04         | 75.16         | 2.88 | MWD         |      |
| 5900.00                                                                                                 | 5895.68        | 153.67                  | 13.21              | 12.89              | 14.73                 | Seawolf 1-12 Fed 93H (p) | 48.82         | 75.40         | 2.84 | MWD         |      |
| 6000.00                                                                                                 | 5995.55        | 152.16                  | 13.45              | 13.12              | 15.02                 | Seawolf 1-12 Fed 93H (p) | 48.67         | 75.70         | 2.80 | MWD         |      |
| 6100.00                                                                                                 | 6095.41        | 150.66                  | 13.69              | 13.34              | 15.30                 | Seawolf 1-12 Fed 93H (p) | 48.54         | 76.05         | 2.76 | MWD         |      |
| 6200.00                                                                                                 | 6195.28        | 149.18                  | 13.92              | 13.56              | 15.60                 | Seawolf 1-12 Fed 93H (p) | 48.47         | 76.45         | 2.73 | MWD         |      |
| 6300.00                                                                                                 | 6295.15        | 147.71                  | 14.16              | 13.79              | 15.90                 | Seawolf 1-12 Fed 93H (p) | 48.46         | 76.90         | 2.70 | MWD         |      |
| 6400.00                                                                                                 | 6395.01        | 146.26                  | 14.40              | 14.01              | 16.20                 | Seawolf 1-12 Fed 93H (p) | 48.47         | 77.40         | 2.68 | MWD         |      |
| 6500.00                                                                                                 | 6494.88        | 144.84                  | 14.63              | 14.24              | 16.50                 | Seawolf 1-12 Fed 93H (p) | 48.53         | 77.95         | 2.65 | MWD         |      |
| 6600.00                                                                                                 | 6594.74        | 143.43                  | 14.87              | 14.46              | 16.82                 | Seawolf 1-12 Fed 93H (p) | 48.66         | 78.55         | 2.63 | MWD         |      |
| 6700.00                                                                                                 | 6694.61        | 142.04                  | 15.11              | 14.68              | 17.13                 |                          | 48.85         | 79.19         | 2.61 | MWD         |      |

## 5D Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                                 |               |               |      |             |        |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|---------------------------------|---------------|---------------|------|-------------|--------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well                 | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk   |
|                                                                                                         |                |                         |                    |                    |                       | Seawolf 1-<br>12 Fed 93H<br>(p) |               |               |      |             |        |
| 6800.00                                                                                                 | 6794.47        | 140.68                  | 15.35              | 14.91              | 17.45                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 49.05         | 79.88         | 2.59 | MWD         |        |
| 6900.00                                                                                                 | 6894.34        | 139.34                  | 15.59              | 15.13              | 17.78                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 49.30         | 80.62         | 2.57 | MWD         |        |
| 7000.00                                                                                                 | 6994.20        | 138.02                  | 15.82              | 15.36              | 18.11                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 49.61         | 81.40         | 2.56 | MWD         |        |
| 7100.00                                                                                                 | 7094.07        | 136.74                  | 16.06              | 15.58              | 18.45                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 49.93         | 82.22         | 2.55 | MWD         |        |
| 7200.00                                                                                                 | 7193.93        | 135.47                  | 16.30              | 15.81              | 18.79                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 50.28         | 83.08         | 2.53 | MWD         |        |
| 7300.00                                                                                                 | 7293.80        | 134.24                  | 16.54              | 16.03              | 19.14                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 50.70         | 83.98         | 2.52 | MWD         |        |
| 7400.00                                                                                                 | 7393.66        | 133.03                  | 16.78              | 16.26              | 19.49                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 51.16         | 84.92         | 2.52 | MWD         |        |
| 7500.00                                                                                                 | 7493.53        | 131.85                  | 17.02              | 16.48              | 19.85                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 51.68         | 85.89         | 2.51 | MWD         |        |
| 7600.00                                                                                                 | 7593.39        | 130.69                  | 17.25              | 16.71              | 20.21                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 52.19         | 86.91         | 2.50 | MWD         |        |
| 7700.00                                                                                                 | 7693.26        | 129.56                  | 17.49              | 16.93              | 20.58                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 52.74         | 87.95         | 2.50 | MWD         | SF(Lo) |
| 7800.00                                                                                                 | 7793.12        | 128.46                  | 17.73              | 17.16              | 20.95                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 53.34         | 89.03         | 2.49 | MWD         | SF(Lo) |
| 7900.00                                                                                                 | 7892.99        | 127.39                  | 17.97              | 17.38              | 21.33                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 53.97         | 90.14         | 2.49 | MWD         | SF(Lo) |
| 8000.00                                                                                                 | 7992.85        | 126.34                  | 18.21              | 17.61              | 21.71                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 54.60         | 91.28         | 2.49 | MWD         | SF(Lo) |
| 8100.00                                                                                                 | 8092.72        | 125.32                  | 18.45              | 17.83              | 22.10                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 55.27         | 92.46         | 2.49 | MWD         | SF(Lo) |
| 8200.00                                                                                                 | 8192.58        | 124.32                  | 18.69              | 18.06              | 22.49                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 55.98         | 93.66         | 2.49 | MWD         | SF(Lo) |
| 8300.00                                                                                                 | 8292.45        | 123.35                  | 18.93              | 18.28              | 22.89                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 56.72         | 94.89         | 2.49 | MWD         | SF(Lo) |
| 8400.00                                                                                                 | 8392.31        | 122.41                  | 19.17              | 18.51              | 23.30                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 57.50         | 96.14         | 2.49 | MWD         | SF(Lo) |
| 8500.00                                                                                                 | 8492.18        | 121.48                  | 19.41              | 18.73              | 23.71                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 58.32         | 97.42         | 2.49 | MWD         | SF(Lo) |
| 8600.00                                                                                                 | 8592.04        | 120.59                  | 19.65              | 18.96              | 24.13                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 59.12         | 98.73         | 2.49 | MWD         | SF(Lo) |
| 8700.00                                                                                                 | 8691.91        | 119.71                  | 19.89              | 19.19              | 24.55                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 59.95         | 100.05        | 2.50 | MWD         | SF(Lo) |
| 8800.00                                                                                                 | 8791.78        | 118.86                  | 20.13              | 19.41              | 24.98                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 60.82         | 101.41        | 2.50 | MWD         | SF(Lo) |
| 8900.00                                                                                                 | 8891.64        | 118.04                  | 20.37              | 19.64              | 25.41                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 61.71         | 102.78        | 2.50 | MWD         |        |
| 9000.00                                                                                                 | 8991.51        | 117.23                  | 20.61              | 19.86              | 25.85                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 62.63         | 104.17        | 2.51 | MWD         |        |
| 9100.00                                                                                                 | 9091.37        | 116.45                  | 20.85              | 20.09              | 26.30                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 63.53         | 105.59        | 2.51 | MWD         |        |
| 9200.00                                                                                                 | 9191.24        | 115.68                  | 21.09              | 20.32              | 26.75                 |                                 | 64.45         | 107.02        | 2.51 | MWD         |        |

## 5D Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                          |               |               |      |             |      |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|--------------------------|---------------|---------------|------|-------------|------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well          | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk |
|                                                                                                         |                |                         |                    |                    |                       | Seawolf 1-12 Fed 93H (p) |               |               |      |             |      |
| 9300.00                                                                                                 | 9291.10        | 114.94                  | 21.33              | 20.54              | 27.20                 | Seawolf 1-12 Fed 93H (p) | 65.41         | 108.47        | 2.52 | MWD         |      |
| 9400.00                                                                                                 | 9390.97        | 114.22                  | 21.57              | 20.77              | 27.67                 | Seawolf 1-12 Fed 93H (p) | 66.38         | 109.94        | 2.52 | MWD         |      |
| 9500.00                                                                                                 | 9490.83        | 113.51                  | 21.81              | 20.99              | 28.13                 | Seawolf 1-12 Fed 93H (p) | 67.38         | 111.43        | 2.53 | MWD         |      |
| 9600.00                                                                                                 | 9590.70        | 112.83                  | 22.05              | 21.22              | 28.61                 | Seawolf 1-12 Fed 93H (p) | 68.41         | 112.93        | 2.54 | MWD         |      |
| 9700.00                                                                                                 | 9690.56        | 112.16                  | 22.29              | 21.45              | 29.09                 | Seawolf 1-12 Fed 93H (p) | 69.45         | 114.45        | 2.54 | MWD         |      |
| 9800.00                                                                                                 | 9790.43        | 111.51                  | 22.53              | 21.67              | 29.57                 | Seawolf 1-12 Fed 93H (p) | 70.52         | 115.98        | 2.55 | MWD         |      |
| 9900.00                                                                                                 | 9890.29        | 110.88                  | 22.77              | 21.90              | 30.07                 | Seawolf 1-12 Fed 93H (p) | 71.59         | 117.53        | 2.56 | MWD         |      |
| 10000.00                                                                                                | 9990.16        | 110.26                  | 23.01              | 22.12              | 30.56                 | Seawolf 1-12 Fed 93H (p) | 72.66         | 119.09        | 2.56 | MWD         |      |
| 10100.00                                                                                                | 10090.02       | 109.66                  | 23.25              | 22.35              | 31.07                 | Seawolf 1-12 Fed 93H (p) | 73.74         | 120.66        | 2.57 | MWD         |      |
| 10200.00                                                                                                | 10189.89       | 109.08                  | 23.49              | 22.58              | 31.58                 | Seawolf 1-12 Fed 93H (p) | 74.83         | 122.25        | 2.58 | MWD         |      |
| 10300.00                                                                                                | 10289.75       | 108.51                  | 23.73              | 22.80              | 32.09                 | Seawolf 1-12 Fed 93H (p) | 75.95         | 123.85        | 2.59 | MWD         |      |
| 10400.00                                                                                                | 10389.62       | 107.95                  | 23.97              | 23.03              | 32.61                 | Seawolf 1-12 Fed 93H (p) | 77.08         | 125.47        | 2.59 | MWD         |      |
| 10500.00                                                                                                | 10489.48       | 107.41                  | 24.21              | 23.26              | 33.14                 | Seawolf 1-12 Fed 93H (p) | 78.23         | 127.09        | 2.60 | MWD         |      |
| 10600.00                                                                                                | 10589.35       | 106.89                  | 24.45              | 23.48              | 33.67                 | Seawolf 1-12 Fed 93H (p) | 79.39         | 128.73        | 2.61 | MWD         |      |
| 10700.00                                                                                                | 10689.21       | 106.37                  | 24.69              | 23.71              | 34.21                 | Seawolf 1-12 Fed 93H (p) | 80.53         | 130.37        | 2.62 | MWD         |      |
| 10800.00                                                                                                | 10789.08       | 105.87                  | 24.93              | 23.93              | 34.75                 | Seawolf 1-12 Fed 93H (p) | 81.69         | 132.03        | 2.62 | MWD         |      |
| 10900.00                                                                                                | 10888.94       | 105.38                  | 25.17              | 24.16              | 35.30                 | Seawolf 1-12 Fed 93H (p) | 82.85         | 133.69        | 2.63 | MWD         |      |
| 11000.00                                                                                                | 10988.81       | 104.91                  | 25.42              | 24.39              | 35.86                 | Seawolf 1-12 Fed 93H (p) | 84.03         | 135.37        | 2.64 | MWD         |      |
| 11100.00                                                                                                | 11088.67       | 104.44                  | 25.66              | 24.61              | 36.42                 | Seawolf 1-12 Fed 93H (p) | 85.22         | 137.05        | 2.64 | MWD         |      |
| 11200.00                                                                                                | 11188.54       | 103.99                  | 25.90              | 24.84              | 36.99                 | Seawolf 1-12 Fed 93H (p) | 86.43         | 138.75        | 2.65 | MWD         |      |
| 11300.00                                                                                                | 11288.41       | 103.54                  | 26.14              | 25.07              | 37.57                 | Seawolf 1-12 Fed 93H (p) | 87.64         | 140.45        | 2.66 | MWD         |      |
| 11400.00                                                                                                | 11388.27       | 103.11                  | 26.38              | 25.29              | 38.15                 | Seawolf 1-12 Fed 93H (p) | 88.87         | 142.16        | 2.67 | MWD         |      |
| 11500.00                                                                                                | 11488.14       | 102.77                  | 26.62              | 25.52              | 38.73                 | Seawolf 1-12 Fed 93H (p) | 90.10         | 143.86        | 2.68 | MWD         |      |
| 11600.00                                                                                                | 11588.00       | 103.02                  | 26.86              | 25.75              | 39.33                 | Seawolf 1-12 Fed 93H (p) | 91.23         | 145.42        | 2.68 | MWD         |      |
| 11700.00                                                                                                | 11687.87       | 103.95                  | 27.10              | 25.97              | 39.93                 |                          | 92.24         | 146.85        | 2.69 | MWD         |      |

## 5D Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                                 |               |               |      |             |      |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|---------------------------------|---------------|---------------|------|-------------|------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well                 | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk |
|                                                                                                         |                |                         |                    |                    |                       | Seawolf 1-<br>12 Fed 93H<br>(p) |               |               |      |             |      |
| 11800.00                                                                                                | 11787.73       | 105.53                  | 27.34              | 26.20              | 40.53                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 93.23         | 148.22        | 2.70 | MWD         |      |
| 11900.00                                                                                                | 11887.65       | 106.83                  | 27.52              | 26.38              | 41.14                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 100.75        | 155.67        | 2.83 | MWD         |      |
| 12000.00                                                                                                | 11987.62       | 107.67                  | 27.70              | 26.55              | 41.76                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 121.34        | 176.06        | 3.22 | MWD         |      |
| 12100.00                                                                                                | 12087.61       | 0.33                    | 27.86              | 26.72              | 42.38                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 153.99        | 208.14        | 3.84 | MWD         |      |
| 12200.00                                                                                                | 12186.83       | 0.28                    | 27.80              | 26.87              | 43.00                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 187.57        | 240.83        | 4.52 | MWD         |      |
| 12300.00                                                                                                | 12282.57       | 0.24                    | 27.43              | 26.95              | 43.58                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 215.79        | 268.05        | 5.13 | MWD         |      |
| 12400.00                                                                                                | 12371.90       | 0.22                    | 27.24              | 26.57              | 44.10                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 238.46        | 289.54        | 5.67 | MWD         |      |
| 12500.00                                                                                                | 12452.13       | 0.21                    | 27.34              | 25.72              | 44.55                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 255.23        | 305.08        | 6.12 | MWD         |      |
| 12600.00                                                                                                | 12520.80       | 0.20                    | 27.50              | 24.77              | 44.93                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 265.72        | 314.52        | 6.44 | MWD         |      |
| 12700.00                                                                                                | 12575.84       | 0.20                    | 27.72              | 23.89              | 45.24                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 270.11        | 317.77        | 6.67 | MWD         |      |
| 12800.00                                                                                                | 12615.58       | 0.20                    | 28.02              | 23.23              | 45.51                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 268.09        | 314.80        | 6.74 | MWD         |      |
| 12900.00                                                                                                | 12638.80       | 0.20                    | 28.42              | 22.90              | 45.74                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 259.52        | 305.64        | 6.63 | MWD         |      |
| 13000.00                                                                                                | 12645.09       | 0.21                    | 28.90              | 22.95              | 45.97                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 244.84        | 290.66        | 6.34 | MWD         |      |
| 13100.00                                                                                                | 12645.60       | 0.22                    | 29.48              | 23.07              | 46.22                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 235.56        | 281.30        | 6.15 | MWD         |      |
| 13200.00                                                                                                | 12646.11       | 0.21                    | 30.15              | 23.22              | 46.52                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 234.75        | 280.78        | 6.10 | MWD         |      |
| 13300.00                                                                                                | 12646.62       | 0.21                    | 30.91              | 23.39              | 46.86                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 234.45        | 280.80        | 6.06 | MWD         |      |
| 13400.00                                                                                                | 12647.13       | 0.21                    | 31.77              | 23.58              | 47.25                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 234.11        | 280.82        | 6.01 | MWD         |      |
| 13500.00                                                                                                | 12647.63       | 0.21                    | 32.70              | 23.79              | 47.68                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 233.72        | 280.85        | 5.96 | MWD         |      |
| 13600.00                                                                                                | 12648.14       | 0.21                    | 33.70              | 24.02              | 48.15                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 233.30        | 280.87        | 5.90 | MWD         |      |
| 13700.00                                                                                                | 12648.65       | 0.20                    | 34.77              | 24.27              | 48.66                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 232.82        | 280.90        | 5.84 | MWD         |      |
| 13800.00                                                                                                | 12649.16       | 0.20                    | 35.90              | 24.55              | 49.20                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 232.32        | 280.92        | 5.78 | MWD         |      |
| 13900.00                                                                                                | 12649.66       | 0.20                    | 37.09              | 24.84              | 49.79                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 231.80        | 280.94        | 5.72 | MWD         |      |
| 14000.00                                                                                                | 12650.17       | 0.20                    | 38.33              | 25.15              | 50.41                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 231.22        | 280.97        | 5.65 | MWD         |      |
| 14100.00                                                                                                | 12650.68       | 0.19                    | 39.61              | 25.47              | 51.06                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 230.53        | 280.99        | 5.57 | MWD         |      |
| 14200.00                                                                                                | 12651.19       | 0.19                    | 40.94              | 25.82              | 51.75                 |                                 | 229.87        | 281.01        | 5.49 | MWD         |      |

## SD Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                                 |               |               |      |             |      |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|---------------------------------|---------------|---------------|------|-------------|------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well                 | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk |
|                                                                                                         |                |                         |                    |                    |                       | Seawolf 1-<br>12 Fed 93H<br>(p) |               |               |      |             |      |
| 14300.00                                                                                                | 12651.69       | 0.19                    | 42.30              | 26.18              | 52.47                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 229.27        | 281.04        | 5.43 | MWD         |      |
| 14400.00                                                                                                | 12652.20       | 0.19                    | 43.70              | 26.55              | 53.22                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 228.55        | 281.06        | 5.35 | MWD         |      |
| 14500.00                                                                                                | 12652.71       | 0.18                    | 45.12              | 26.94              | 54.00                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 227.77        | 281.08        | 5.27 | MWD         |      |
| 14600.00                                                                                                | 12653.22       | 0.18                    | 46.58              | 27.35              | 54.81                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 227.00        | 281.11        | 5.20 | MWD         |      |
| 14700.00                                                                                                | 12653.73       | 0.18                    | 48.06              | 27.77              | 55.65                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 226.22        | 281.13        | 5.12 | MWD         |      |
| 14800.00                                                                                                | 12654.23       | 0.18                    | 49.56              | 28.20              | 56.51                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 225.39        | 281.15        | 5.04 | MWD         |      |
| 14900.00                                                                                                | 12654.74       | 0.18                    | 51.09              | 28.64              | 57.39                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 224.66        | 281.18        | 4.97 | MWD         |      |
| 15000.00                                                                                                | 12655.25       | 0.17                    | 52.63              | 29.09              | 58.30                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 223.81        | 281.20        | 4.90 | MWD         |      |
| 15100.00                                                                                                | 12655.76       | 0.17                    | 54.19              | 29.56              | 59.23                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 222.83        | 281.22        | 4.82 | MWD         |      |
| 15200.00                                                                                                | 12656.26       | 0.17                    | 55.77              | 30.04              | 60.19                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 222.01        | 281.25        | 4.75 | MWD         |      |
| 15300.00                                                                                                | 12656.77       | 0.17                    | 57.36              | 30.52              | 61.16                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 220.95        | 281.27        | 4.66 | MWD         |      |
| 15400.00                                                                                                | 12657.28       | 0.16                    | 58.97              | 31.02              | 62.15                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 220.00        | 281.29        | 4.59 | MWD         |      |
| 15500.00                                                                                                | 12657.79       | 0.16                    | 60.59              | 31.53              | 63.16                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 219.08        | 281.32        | 4.52 | MWD         |      |
| 15600.00                                                                                                | 12658.30       | 0.16                    | 62.22              | 32.04              | 64.19                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 218.05        | 281.34        | 4.44 | MWD         |      |
| 15700.00                                                                                                | 12658.80       | 0.16                    | 63.86              | 32.56              | 65.24                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 217.05        | 281.37        | 4.37 | MWD         |      |
| 15800.00                                                                                                | 12659.31       | 0.16                    | 65.51              | 33.10              | 66.30                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 216.00        | 281.39        | 4.30 | MWD         |      |
| 15900.00                                                                                                | 12659.82       | 0.15                    | 67.17              | 33.63              | 67.38                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 214.90        | 281.41        | 4.23 | MWD         |      |
| 16000.00                                                                                                | 12660.33       | 0.15                    | 68.84              | 34.18              | 68.47                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 213.81        | 281.44        | 4.16 | MWD         |      |
| 16100.00                                                                                                | 12660.83       | 0.15                    | 70.52              | 34.73              | 69.57                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 212.72        | 281.46        | 4.09 | MWD         |      |
| 16200.00                                                                                                | 12661.34       | 0.15                    | 72.20              | 35.29              | 70.69                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 211.62        | 281.48        | 4.03 | MWD         |      |
| 16300.00                                                                                                | 12661.85       | 0.14                    | 73.89              | 35.86              | 71.82                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 210.52        | 281.51        | 3.97 | MWD         |      |
| 16400.00                                                                                                | 12662.36       | 0.14                    | 75.59              | 36.43              | 72.96                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 209.41        | 281.53        | 3.90 | MWD         |      |
| 16500.00                                                                                                | 12662.87       | 0.14                    | 77.29              | 37.01              | 74.12                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 208.30        | 281.55        | 3.84 | MWD         |      |
| 16600.00                                                                                                | 12663.37       | 0.14                    | 79.00              | 37.59              | 75.28                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 207.18        | 281.58        | 3.78 | MWD         |      |
| 16700.00                                                                                                | 12663.88       | 0.13                    | 80.71              | 38.18              | 76.46                 |                                 | 206.05        | 281.60        | 3.73 | MWD         |      |

## 5D Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                                 |               |               |      |             |      |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|---------------------------------|---------------|---------------|------|-------------|------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well                 | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk |
|                                                                                                         |                |                         |                    |                    |                       | Seawolf 1-<br>12 Fed 93H<br>(p) |               |               |      |             |      |
| 16800.00                                                                                                | 12664.39       | 0.13                    | 82.43              | 38.77              | 77.64                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 204.91        | 281.62        | 3.67 | MWD         |      |
| 16900.00                                                                                                | 12664.90       | 0.13                    | 84.15              | 39.37              | 78.84                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 203.76        | 281.65        | 3.62 | MWD         |      |
| 17000.00                                                                                                | 12665.40       | 0.13                    | 85.88              | 39.97              | 80.04                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 202.60        | 281.67        | 3.56 | MWD         |      |
| 17100.00                                                                                                | 12665.91       | 0.13                    | 87.61              | 40.58              | 81.25                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 201.41        | 281.69        | 3.51 | MWD         |      |
| 17200.00                                                                                                | 12666.42       | 0.12                    | 89.35              | 41.19              | 82.47                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 200.21        | 281.72        | 3.46 | MWD         |      |
| 17300.00                                                                                                | 12666.93       | 0.12                    | 91.09              | 41.80              | 83.70                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 199.01        | 281.74        | 3.41 | MWD         |      |
| 17400.00                                                                                                | 12667.43       | 0.12                    | 92.83              | 42.42              | 84.94                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 197.80        | 281.77        | 3.36 | MWD         |      |
| 17500.00                                                                                                | 12667.94       | 0.12                    | 94.58              | 43.04              | 86.18                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 196.58        | 281.79        | 3.31 | MWD         |      |
| 17600.00                                                                                                | 12668.45       | 0.11                    | 96.32              | 43.67              | 87.43                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 195.36        | 281.81        | 3.26 | MWD         |      |
| 17700.00                                                                                                | 12668.96       | 0.11                    | 98.08              | 44.30              | 88.69                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 194.13        | 281.84        | 3.21 | MWD         |      |
| 17800.00                                                                                                | 12669.47       | 0.11                    | 99.83              | 44.93              | 89.95                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 192.90        | 281.86        | 3.17 | MWD         |      |
| 17900.00                                                                                                | 12669.97       | 0.11                    | 101.59             | 45.56              | 91.22                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 191.66        | 281.88        | 3.12 | MWD         |      |
| 18000.00                                                                                                | 12670.48       | 0.10                    | 103.35             | 46.20              | 92.50                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 190.39        | 281.91        | 3.08 | MWD         |      |
| 18100.00                                                                                                | 12670.99       | 0.10                    | 105.11             | 46.84              | 93.78                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 189.12        | 281.93        | 3.04 | MWD         |      |
| 18200.00                                                                                                | 12671.50       | 0.10                    | 106.87             | 47.49              | 95.06                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 187.84        | 281.95        | 3.00 | MWD         |      |
| 18300.00                                                                                                | 12672.00       | 0.10                    | 108.64             | 48.13              | 96.36                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 186.56        | 281.98        | 2.96 | MWD         |      |
| 18400.00                                                                                                | 12672.51       | 0.10                    | 110.41             | 48.78              | 97.65                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 185.27        | 282.00        | 2.92 | MWD         |      |
| 18500.00                                                                                                | 12673.02       | 0.09                    | 112.18             | 49.43              | 98.95                 | Seawolf 1-<br>12 Fed 93H<br>(p) | 183.98        | 282.02        | 2.88 | MWD         |      |
| 18600.00                                                                                                | 12673.53       | 0.09                    | 113.95             | 50.08              | 100.26                | Seawolf 1-<br>12 Fed 93H<br>(p) | 182.69        | 282.05        | 2.84 | MWD         |      |
| 18700.00                                                                                                | 12674.04       | 0.09                    | 115.72             | 50.74              | 101.57                | Seawolf 1-<br>12 Fed 93H<br>(p) | 181.39        | 282.07        | 2.80 | MWD         |      |
| 18800.00                                                                                                | 12674.54       | 0.09                    | 117.50             | 51.40              | 102.88                | Seawolf 1-<br>12 Fed 93H<br>(p) | 180.09        | 282.09        | 2.77 | MWD         |      |
| 18900.00                                                                                                | 12675.05       | 0.08                    | 119.27             | 52.06              | 104.20                | Seawolf 1-<br>12 Fed 93H<br>(p) | 178.78        | 282.12        | 2.73 | MWD         |      |
| 19000.00                                                                                                | 12675.56       | 0.08                    | 121.05             | 52.72              | 105.52                | Seawolf 1-<br>12 Fed 93H<br>(p) | 177.48        | 282.14        | 2.70 | MWD         |      |
| 19100.00                                                                                                | 12676.07       | 0.08                    | 122.83             | 53.38              | 106.85                | Seawolf 1-<br>12 Fed 93H<br>(p) | 176.16        | 282.17        | 2.66 | MWD         |      |
| 19200.00                                                                                                | 12676.57       | 0.08                    | 124.61             | 54.05              | 108.18                |                                 | 174.85        | 282.19        | 2.63 | MWD         |      |

## 5D Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                    |                    |                       |                                 |               |               |      |             |        |
|---------------------------------------------------------------------------------------------------------|----------------|-------------------------|--------------------|--------------------|-----------------------|---------------------------------|---------------|---------------|------|-------------|--------|
| MD<br>(US ft)                                                                                           | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well                 | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk   |
|                                                                                                         |                |                         |                    |                    |                       | Seawolf 1-<br>12 Fed 93H<br>(p) |               |               |      |             |        |
| 19300.00                                                                                                | 12677.08       | 0.08                    | 126.39             | 54.71              | 109.51                | Seawolf 1-<br>12 Fed 93H<br>(p) | 173.53        | 282.21        | 2.60 | MWD         |        |
| 19400.00                                                                                                | 12677.59       | 0.07                    | 128.18             | 55.38              | 110.85                | Seawolf 1-<br>12 Fed 93H<br>(p) | 172.21        | 282.24        | 2.57 | MWD         |        |
| 19500.00                                                                                                | 12678.10       | 0.07                    | 129.96             | 56.05              | 112.19                | Seawolf 1-<br>12 Fed 93H<br>(p) | 170.89        | 282.26        | 2.53 | MWD         |        |
| 19600.00                                                                                                | 12678.61       | 0.07                    | 131.75             | 56.72              | 113.53                | Seawolf 1-<br>12 Fed 93H<br>(p) | 169.56        | 282.28        | 2.50 | MWD         |        |
| 19700.00                                                                                                | 12679.11       | 0.07                    | 133.54             | 57.40              | 114.88                | Seawolf 1-<br>12 Fed 93H<br>(p) | 168.23        | 282.31        | 2.47 | MWD         | SF(Lo) |
| 19800.00                                                                                                | 12679.62       | 0.06                    | 135.32             | 58.07              | 116.23                | Seawolf 1-<br>12 Fed 93H<br>(p) | 166.90        | 282.33        | 2.45 | MWD         | SF(Lo) |
| 19900.00                                                                                                | 12680.13       | 0.06                    | 137.11             | 58.75              | 117.58                | Seawolf 1-<br>12 Fed 93H<br>(p) | 165.56        | 282.35        | 2.42 | MWD         | SF(Lo) |
| 20000.00                                                                                                | 12680.64       | 0.06                    | 138.90             | 59.43              | 118.93                | Seawolf 1-<br>12 Fed 93H<br>(p) | 164.23        | 282.38        | 2.39 | MWD         | SF(Lo) |
| 20100.00                                                                                                | 12681.14       | 0.06                    | 140.70             | 60.10              | 120.29                | Seawolf 1-<br>12 Fed 93H<br>(p) | 162.89        | 282.40        | 2.36 | MWD         | SF(Lo) |
| 20200.00                                                                                                | 12681.65       | 0.06                    | 142.49             | 60.78              | 121.65                | Seawolf 1-<br>12 Fed 93H<br>(p) | 161.54        | 282.42        | 2.34 | MWD         | SF(Lo) |
| 20300.00                                                                                                | 12682.16       | 0.05                    | 144.28             | 61.47              | 123.01                | Seawolf 1-<br>12 Fed 93H<br>(p) | 160.20        | 282.45        | 2.31 | MWD         | SF(Lo) |
| 20400.00                                                                                                | 12682.67       | 0.05                    | 146.08             | 62.15              | 124.38                | Seawolf 1-<br>12 Fed 93H<br>(p) | 158.85        | 282.47        | 2.29 | MWD         | SF(Lo) |
| 20500.00                                                                                                | 12683.17       | 0.05                    | 147.87             | 62.83              | 125.74                | Seawolf 1-<br>12 Fed 93H<br>(p) | 157.50        | 282.49        | 2.26 | MWD         | SF(Lo) |
| 20600.00                                                                                                | 12683.68       | 0.05                    | 149.67             | 63.52              | 127.11                | Seawolf 1-<br>12 Fed 93H<br>(p) | 156.15        | 282.52        | 2.24 | MWD         | SF(Lo) |
| 20700.00                                                                                                | 12684.19       | 0.04                    | 151.46             | 64.20              | 128.48                | Seawolf 1-<br>12 Fed 93H<br>(p) | 154.80        | 282.54        | 2.21 | MWD         | SF(Lo) |
| 20800.00                                                                                                | 12684.70       | 0.04                    | 153.26             | 64.89              | 129.86                | Seawolf 1-<br>12 Fed 93H<br>(p) | 153.45        | 282.57        | 2.19 | MWD         | SF(Lo) |
| 20900.00                                                                                                | 12685.21       | 0.04                    | 155.06             | 65.58              | 131.23                | Seawolf 1-<br>12 Fed 93H<br>(p) | 152.09        | 282.59        | 2.17 | MWD         | SF(Lo) |
| 21000.00                                                                                                | 12685.71       | 0.04                    | 156.86             | 66.26              | 132.61                | Seawolf 1-<br>12 Fed 93H<br>(p) | 150.73        | 282.61        | 2.14 | MWD         | SF(Lo) |
| 21100.00                                                                                                | 12686.22       | 0.03                    | 158.65             | 66.95              | 133.99                | Seawolf 1-<br>12 Fed 93H<br>(p) | 149.37        | 282.64        | 2.12 | MWD         | SF(Lo) |
| 21200.00                                                                                                | 12686.73       | 0.03                    | 160.45             | 67.65              | 135.37                | Seawolf 1-<br>12 Fed 93H<br>(p) | 148.01        | 282.66        | 2.10 | MWD         | SF(Lo) |
| 21300.00                                                                                                | 12687.24       | 0.03                    | 162.25             | 68.34              | 136.75                | Seawolf 1-<br>12 Fed 93H<br>(p) | 146.65        | 282.68        | 2.08 | MWD         | SF(Lo) |
| 21400.00                                                                                                | 12687.74       | 0.03                    | 164.06             | 69.03              | 138.14                | Seawolf 1-<br>12 Fed 93H<br>(p) | 145.28        | 282.71        | 2.06 | MWD         | SF(Lo) |
| 21500.00                                                                                                | 12688.25       | 0.03                    | 165.86             | 69.72              | 139.52                | Seawolf 1-<br>12 Fed 93H<br>(p) | 143.92        | 282.73        | 2.04 | MWD         | SF(Lo) |
| 21600.00                                                                                                | 12688.76       | 0.02                    | 167.66             | 70.42              | 140.91                | Seawolf 1-<br>12 Fed 93H<br>(p) | 142.55        | 282.75        | 2.02 | MWD         | SF(Lo) |
| 21700.00                                                                                                | 12689.27       | 0.02                    | 169.46             | 71.11              | 142.30                |                                 | 141.18        | 282.78        | 2.00 | MWD         | SF(Lo) |

## SD Anti-Collision Report

| Primary Well: Seawolf 1-12 Fed 84H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)   |                |                         |                         |                    |                       |                                 |               |               |       |             |        |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------------|-------------------------|--------------------|-----------------------|---------------------------------|---------------|---------------|-------|-------------|--------|
| MD<br>(US ft)                                                                                             | TVD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft)      | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | Nearest<br>Well                 | ES<br>(US ft) | CC<br>(US ft) | SF    | Survey Tool | Risk   |
|                                                                                                           |                |                         |                         |                    |                       | Seawolf 1-<br>12 Fed 93H<br>(p) |               |               |       |             |        |
| 21800.00                                                                                                  | 12689.78       | 0.02                    | 171.27                  | 71.81              | 143.69                | Seawolf 1-<br>12 Fed 93H<br>(p) | 139.81        | 282.80        | 1.98  | MWD         | SF(Lo) |
| 21900.00                                                                                                  | 12690.28       | 0.02                    | 173.07                  | 72.50              | 145.08                | Seawolf 1-<br>12 Fed 93H<br>(p) | 138.43        | 282.82        | 1.96  | MWD         | SF(Lo) |
| 22000.00                                                                                                  | 12690.79       | 0.01                    | 174.87                  | 73.20              | 146.48                | Seawolf 1-<br>12 Fed 93H<br>(p) | 137.06        | 282.85        | 1.94  | MWD         | SF(Lo) |
| 22100.00                                                                                                  | 12691.30       | 0.01                    | 176.68                  | 73.90              | 147.87                | Seawolf 1-<br>12 Fed 93H<br>(p) | 135.69        | 282.87        | 1.92  | MWD         | SF(Lo) |
| 22200.00                                                                                                  | 12691.81       | 0.01                    | 178.48                  | 74.60              | 149.27                | Seawolf 1-<br>12 Fed 93H<br>(p) | 134.31        | 282.89        | 1.90  | MWD         | SF(Lo) |
| 22300.00                                                                                                  | 12692.31       | 0.01                    | 180.29                  | 75.30              | 150.67                | Seawolf 1-<br>12 Fed 93H<br>(p) | 132.93        | 282.92        | 1.89  | MWD         | SF(Lo) |
| 22400.00                                                                                                  | 12692.82       | 0.01                    | 182.10                  | 76.00              | 152.07                | Seawolf 1-<br>12 Fed 93H<br>(p) | 131.55        | 282.94        | 1.87  | MWD         | SF(Lo) |
| 22500.00                                                                                                  | 12693.33       | 0.00                    | 183.90                  | 76.70              | 153.47                | Seawolf 1-<br>12 Fed 93H<br>(p) | 130.17        | 282.97        | 1.85  | MWD         | SF(Lo) |
| 22600.00                                                                                                  | 12693.84       | 0.00                    | 185.71                  | 77.40              | 154.87                | Seawolf 1-<br>12 Fed 93H<br>(p) | 128.79        | 282.99        | 1.84  | MWD         | SF(Lo) |
| 22632.05                                                                                                  | 12694.00       | 0.00                    | 186.29                  | 77.62              | 155.32                | Seawolf 1-<br>12 Fed 93H<br>(p) | 128.32        | 283.00        | 1.83  | MWD         | SF(Lo) |
| Secondary Well: Seawolf 1-12 Fed 83H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                         |                         |                    |                       |                                 |               |               |       |             |        |
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft)       | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft)    | TVD Spread<br>(US ft)           | ES<br>(US ft) | CC<br>(US ft) | SF    | Survey Tool | Risk   |
| 0.00                                                                                                      | 0.00           | 0.00                    | 269.60                  | 0.00               | 0.00                  | 0.00                            | 59.37         | 60.10         | 81.96 | MWD         |        |
| 100.00                                                                                                    | 100.00         | 100.00                  | 269.60                  | 0.11               | 0.11                  | 4.60                            | 59.15         | 60.10         | 63.00 | MWD         |        |
| 200.00                                                                                                    | 200.00         | 200.00                  | 269.60                  | 0.34               | 0.34                  | 4.62                            | 58.70         | 60.10         | 42.82 | MWD         |        |
| 300.00                                                                                                    | 300.00         | 300.00                  | 269.60                  | 0.56               | 0.56                  | 4.65                            | 58.25         | 60.10         | 32.43 | MWD         |        |
| 400.00                                                                                                    | 400.00         | 400.00                  | 269.60                  | 0.79               | 0.79                  | 4.69                            | 57.80         | 60.10         | 26.10 | MWD         |        |
| 500.00                                                                                                    | 500.00         | 500.00                  | 269.60                  | 1.01               | 1.01                  | 4.75                            | 57.35         | 60.10         | 21.84 | MWD         |        |
| 600.00                                                                                                    | 600.00         | 600.00                  | 269.60                  | 1.24               | 1.24                  | 4.81                            | 56.90         | 60.10         | 18.77 | MWD         |        |
| 700.00                                                                                                    | 700.00         | 700.00                  | 269.60                  | 1.46               | 1.46                  | 4.89                            | 56.45         | 60.10         | 16.46 | MWD         |        |
| 800.00                                                                                                    | 800.00         | 800.00                  | 269.60                  | 1.69               | 1.69                  | 4.97                            | 56.00         | 60.10         | 14.66 | MWD         |        |
| 900.00                                                                                                    | 900.00         | 900.00                  | 269.60                  | 1.91               | 1.91                  | 5.06                            | 55.55         | 60.10         | 13.21 | MWD         |        |
| 1000.00                                                                                                   | 1000.00        | 1000.00                 | 269.60                  | 2.14               | 2.14                  | 5.16                            | 55.10         | 60.10         | 12.02 | MWD         |        |
| 1100.00                                                                                                   | 1100.00        | 1100.00                 | 269.60                  | 2.36               | 2.36                  | 5.27                            | 54.65         | 60.10         | 11.03 | MWD         |        |
| 1200.00                                                                                                   | 1200.00        | 1200.00                 | 269.60                  | 2.59               | 2.59                  | 5.38                            | 54.20         | 60.10         | 10.19 | MWD         |        |
| 1300.00                                                                                                   | 1300.00        | 1300.00                 | 269.60                  | 2.81               | 2.81                  | 5.50                            | 53.75         | 60.10         | 9.47  | MWD         |        |
| 1400.00                                                                                                   | 1400.00        | 1400.00                 | 269.60                  | 3.03               | 3.03                  | 5.62                            | 53.30         | 60.10         | 8.84  | MWD         |        |
| 1500.00                                                                                                   | 1500.00        | 1500.00                 | 269.60                  | 3.26               | 3.26                  | 5.75                            | 52.85         | 60.10         | 8.29  | MWD         |        |
| 1600.00                                                                                                   | 1600.00        | 1600.00                 | 269.60                  | 3.48               | 3.48                  | 5.89                            | 52.40         | 60.10         | 7.81  | MWD         |        |
| 1700.00                                                                                                   | 1700.00        | 1700.00                 | 269.60                  | 3.71               | 3.71                  | 6.03                            | 51.95         | 60.10         | 7.38  | MWD         |        |
| 1800.00                                                                                                   | 1800.00        | 1800.00                 | 269.60                  | 3.93               | 3.93                  | 6.17                            | 51.50         | 60.10         | 6.99  | MWD         |        |
| 1900.00                                                                                                   | 1900.00        | 1900.00                 | 269.60                  | 4.16               | 4.16                  | 6.32                            | 51.06         | 60.10         | 6.64  | MWD         |        |
| 2000.00                                                                                                   | 2000.00        | 2000.00                 | 269.60                  | 4.38               | 4.38                  | 6.47                            | 50.61         | 60.10         | 6.33  | MWD         |        |
| 2100.00                                                                                                   | 2100.00        | 2100.00                 | 269.60                  | 4.61               | 4.61                  | 6.62                            | 50.16         | 60.10         | 6.04  | MWD         |        |
| 2200.00                                                                                                   | 2200.00        | 2200.00                 | 269.60                  | 4.83               | 4.83                  | 6.78                            | 49.71         | 60.10         | 5.78  | MWD         |        |
| 2300.00                                                                                                   | 2300.00        | 2300.00                 | 269.60                  | 5.06               | 5.06                  | 6.94                            | 49.26         | 60.10         | 5.54  | MWD         |        |
| 2400.00                                                                                                   | 2400.00        | 2400.00                 | 269.60                  | 5.28               | 5.28                  | 7.10                            | 48.81         | 60.10         | 5.32  | MWD         |        |
| 2500.00                                                                                                   | 2500.00        | 2500.00                 | 269.60                  | 5.51               | 5.51                  | 7.27                            | 48.36         | 60.10         | 5.12  | MWD         |        |
| 2600.00                                                                                                   | 2599.99        | 2599.99                 | 197.48                  | 5.73               | 5.73                  | 7.44                            | 48.76         | 60.93         | 5.01  | MWD         |        |
| 2700.00                                                                                                   | 2699.96        | 2699.96                 | 196.78                  | 5.96               | 5.96                  | 7.61                            | 50.83         | 63.43         | 5.03  | MWD         |        |
| 2800.00                                                                                                   | 2799.86        | 2799.86                 | 195.72                  | 6.18               | 6.18                  | 7.79                            | 54.59         | 67.62         | 5.19  | MWD         |        |

## 5D Anti-Collision Report

| Secondary Well: Seawolf 1-12 Fed 83H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |       |             |      |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|-------|-------------|------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF    | Survey Tool | Risk |
| 2900.00                                                                                                   | 2899.73        | 2899.73           | 194.61                  | 6.41               | 6.41               | 7.97                  | 59.17         | 72.63         | 5.40  | MWD         |      |
| 3000.00                                                                                                   | 2999.59        | 2999.59           | 193.65                  | 6.63               | 6.63               | 8.15                  | 63.78         | 77.67         | 5.59  | MWD         |      |
| 3100.00                                                                                                   | 3099.46        | 3099.46           | 192.80                  | 6.85               | 6.85               | 8.33                  | 68.40         | 82.72         | 5.77  | MWD         |      |
| 3200.00                                                                                                   | 3199.32        | 3199.32           | 192.05                  | 7.08               | 7.08               | 8.51                  | 73.02         | 87.79         | 5.95  | MWD         |      |
| 3300.00                                                                                                   | 3299.19        | 3299.19           | 191.38                  | 7.30               | 7.30               | 8.70                  | 77.66         | 92.87         | 6.11  | MWD         |      |
| 3400.00                                                                                                   | 3399.05        | 3399.05           | 190.78                  | 7.53               | 7.53               | 8.89                  | 82.32         | 97.97         | 6.26  | MWD         |      |
| 3500.00                                                                                                   | 3498.92        | 3498.92           | 190.24                  | 7.75               | 7.75               | 9.09                  | 86.98         | 103.07        | 6.41  | MWD         |      |
| 3600.00                                                                                                   | 3598.78        | 3598.78           | 189.75                  | 7.98               | 7.98               | 9.28                  | 91.65         | 108.18        | 6.54  | MWD         |      |
| 3700.00                                                                                                   | 3698.65        | 3698.65           | 189.31                  | 8.20               | 8.20               | 9.48                  | 96.33         | 113.30        | 6.68  | MWD         |      |
| 3800.00                                                                                                   | 3798.51        | 3798.51           | 188.90                  | 8.43               | 8.43               | 9.68                  | 101.01        | 118.43        | 6.80  | MWD         |      |
| 3900.00                                                                                                   | 3898.38        | 3898.38           | 188.53                  | 8.65               | 8.65               | 9.89                  | 105.70        | 123.56        | 6.92  | MWD         |      |
| 4000.00                                                                                                   | 3998.25        | 3998.25           | 188.19                  | 8.88               | 8.88               | 10.10                 | 110.39        | 128.69        | 7.03  | MWD         |      |
| 4100.00                                                                                                   | 4098.11        | 4098.11           | 187.87                  | 9.10               | 9.10               | 10.31                 | 115.09        | 133.83        | 7.14  | MWD         |      |
| 4200.00                                                                                                   | 4197.98        | 4197.98           | 187.58                  | 9.32               | 9.32               | 10.52                 | 119.79        | 138.98        | 7.24  | MWD         |      |
| 4300.00                                                                                                   | 4297.84        | 4297.84           | 187.31                  | 9.55               | 9.55               | 10.74                 | 124.50        | 144.12        | 7.34  | MWD         |      |
| 4400.00                                                                                                   | 4397.71        | 4397.71           | 187.05                  | 9.77               | 9.77               | 10.96                 | 129.20        | 149.27        | 7.44  | MWD         |      |
| 4500.00                                                                                                   | 4497.57        | 4497.57           | 186.82                  | 10.00              | 10.00              | 11.18                 | 133.91        | 154.43        | 7.53  | MWD         |      |
| 4600.00                                                                                                   | 4597.44        | 4597.44           | 186.59                  | 10.22              | 10.22              | 11.41                 | 138.63        | 159.58        | 7.62  | MWD         |      |
| 4700.00                                                                                                   | 4697.30        | 4697.30           | 186.39                  | 10.45              | 10.45              | 11.64                 | 143.34        | 164.74        | 7.70  | MWD         |      |
| 4800.00                                                                                                   | 4797.17        | 4797.17           | 186.19                  | 10.67              | 10.67              | 11.88                 | 148.06        | 169.90        | 7.78  | MWD         |      |
| 4900.00                                                                                                   | 4897.03        | 4897.03           | 186.01                  | 10.90              | 10.90              | 12.12                 | 152.77        | 175.06        | 7.86  | MWD         |      |
| 5000.00                                                                                                   | 4996.90        | 4996.90           | 185.84                  | 11.12              | 11.12              | 12.36                 | 157.49        | 180.22        | 7.93  | MWD         |      |
| 5100.00                                                                                                   | 5096.76        | 5096.76           | 185.67                  | 11.34              | 11.34              | 12.60                 | 162.21        | 185.39        | 8.00  | MWD         |      |
| 5200.00                                                                                                   | 5196.63        | 5196.63           | 185.52                  | 11.57              | 11.57              | 12.85                 | 166.94        | 190.55        | 8.07  | MWD         |      |
| 5300.00                                                                                                   | 5296.49        | 5296.49           | 185.37                  | 11.79              | 11.79              | 13.11                 | 171.66        | 195.72        | 8.13  | MWD         |      |
| 5400.00                                                                                                   | 5396.36        | 5396.36           | 185.23                  | 12.02              | 12.02              | 13.36                 | 176.38        | 200.89        | 8.20  | MWD         |      |
| 5500.00                                                                                                   | 5496.22        | 5496.22           | 185.10                  | 12.24              | 12.24              | 13.63                 | 181.11        | 206.06        | 8.26  | MWD         |      |
| 5600.00                                                                                                   | 5596.09        | 5596.09           | 184.98                  | 12.47              | 12.47              | 13.89                 | 185.83        | 211.23        | 8.32  | MWD         |      |
| 5700.00                                                                                                   | 5695.95        | 5695.95           | 184.86                  | 12.69              | 12.69              | 14.16                 | 190.56        | 216.40        | 8.37  | MWD         |      |
| 5800.00                                                                                                   | 5795.82        | 5795.82           | 184.74                  | 12.92              | 12.92              | 14.44                 | 195.29        | 221.57        | 8.43  | MWD         |      |
| 5900.00                                                                                                   | 5895.68        | 5895.68           | 184.64                  | 13.14              | 13.14              | 14.72                 | 200.01        | 226.74        | 8.48  | MWD         |      |
| 6000.00                                                                                                   | 5995.55        | 5995.55           | 184.53                  | 13.36              | 13.36              | 15.00                 | 204.74        | 231.92        | 8.53  | MWD         |      |
| 6100.00                                                                                                   | 6093.22        | 6093.23           | 184.59                  | 13.58              | 13.58              | 15.28                 | 209.93        | 237.53        | 8.60  | MWD         |      |
| 6200.00                                                                                                   | 6190.63        | 6190.67           | 184.96                  | 13.79              | 13.78              | 15.56                 | 216.08        | 244.11        | 8.71  | MWD         |      |
| 6300.00                                                                                                   | 6289.41        | 6289.52           | 185.57                  | 14.00              | 14.00              | 15.86                 | 222.99        | 251.48        | 8.83  | MWD         |      |
| 6400.00                                                                                                   | 6389.02        | 6389.21           | 186.16                  | 14.22              | 14.21              | 16.16                 | 230.00        | 258.93        | 8.95  | MWD         |      |
| 6500.00                                                                                                   | 6488.63        | 6488.89           | 186.72                  | 14.44              | 14.43              | 16.46                 | 237.04        | 266.41        | 9.07  | MWD         |      |
| 6600.00                                                                                                   | 6588.24        | 6588.58           | 187.25                  | 14.66              | 14.64              | 16.77                 | 244.12        | 273.92        | 9.19  | MWD         |      |
| 6700.00                                                                                                   | 6687.85        | 6688.27           | 187.76                  | 14.87              | 14.86              | 17.09                 | 251.22        | 281.45        | 9.31  | MWD         |      |
| 6800.00                                                                                                   | 6787.46        | 6787.95           | 188.23                  | 15.09              | 15.07              | 17.41                 | 258.35        | 288.99        | 9.43  | MWD         |      |
| 6900.00                                                                                                   | 6887.07        | 6887.64           | 188.69                  | 15.31              | 15.29              | 17.73                 | 265.49        | 296.56        | 9.54  | MWD         |      |
| 7000.00                                                                                                   | 6986.68        | 6987.33           | 189.12                  | 15.53              | 15.51              | 18.06                 | 272.65        | 304.15        | 9.66  | MWD         |      |
| 7100.00                                                                                                   | 7086.29        | 7087.01           | 189.52                  | 15.75              | 15.72              | 18.40                 | 279.80        | 311.75        | 9.76  | MWD         |      |
| 7200.00                                                                                                   | 7185.90        | 7186.70           | 189.91                  | 15.97              | 15.94              | 18.74                 | 286.97        | 319.36        | 9.86  | MWD         |      |
| 7300.00                                                                                                   | 7285.51        | 7286.39           | 190.29                  | 16.19              | 16.16              | 19.08                 | 294.16        | 326.99        | 9.96  | MWD         |      |
| 7400.00                                                                                                   | 7385.12        | 7386.07           | 190.64                  | 16.41              | 16.37              | 19.43                 | 301.37        | 334.63        | 10.06 | MWD         |      |
| 7500.00                                                                                                   | 7484.73        | 7485.76           | 190.98                  | 16.64              | 16.59              | 19.78                 | 308.57        | 342.29        | 10.15 | MWD         |      |
| 7600.00                                                                                                   | 7584.34        | 7585.45           | 191.30                  | 16.86              | 16.81              | 20.15                 | 315.78        | 349.95        | 10.24 | MWD         |      |
| 7700.00                                                                                                   | 7683.95        | 7685.13           | 191.61                  | 17.08              | 17.03              | 20.51                 | 323.00        | 357.63        | 10.33 | MWD         |      |
| 7800.00                                                                                                   | 7783.56        | 7784.82           | 191.91                  | 17.30              | 17.25              | 20.88                 | 330.23        | 365.31        | 10.41 | MWD         |      |
| 7900.00                                                                                                   | 7883.17        | 7884.51           | 192.19                  | 17.52              | 17.47              | 21.26                 | 337.48        | 373.01        | 10.50 | MWD         |      |
| 8000.00                                                                                                   | 7982.78        | 7984.19           | 192.47                  | 17.75              | 17.68              | 21.64                 | 344.73        | 380.72        | 10.58 | MWD         |      |
| 8100.00                                                                                                   | 8082.39        | 8083.88           | 192.73                  | 17.97              | 17.90              | 22.03                 | 351.99        | 388.43        | 10.66 | MWD         |      |
| 8200.00                                                                                                   | 8182.00        | 8183.57           | 192.98                  | 18.19              | 18.12              | 22.42                 | 359.26        | 396.15        | 10.74 | MWD         |      |
| 8300.00                                                                                                   | 8281.61        | 8283.25           | 193.22                  | 18.42              | 18.34              | 22.82                 | 366.54        | 403.88        | 10.82 | MWD         |      |
| 8400.00                                                                                                   | 8381.22        | 8382.94           | 193.46                  | 18.64              | 18.56              | 23.22                 | 373.82        | 411.61        | 10.89 | MWD         |      |
| 8500.00                                                                                                   | 8480.83        | 8482.63           | 193.68                  | 18.87              | 18.78              | 23.63                 | 381.11        | 419.35        | 10.97 | MWD         |      |
| 8600.00                                                                                                   | 8580.44        | 8582.32           | 193.90                  | 19.09              | 19.00              | 24.05                 | 388.41        | 427.10        | 11.04 | MWD         |      |

## 5D Anti-Collision Report

| Secondary Well: Seawolf 1-12 Fed 83H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |       |             |      |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|-------|-------------|------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF    | Survey Tool | Risk |
| 8700.00                                                                                                   | 8680.05        | 8682.00           | 194.11                  | 19.31              | 19.22              | 24.47                 | 395.71        | 434.85        | 11.11 | MWD         |      |
| 8800.00                                                                                                   | 8779.66        | 8781.69           | 194.31                  | 19.54              | 19.44              | 24.89                 | 403.02        | 442.61        | 11.18 | MWD         |      |
| 8900.00                                                                                                   | 8879.27        | 8881.38           | 194.50                  | 19.76              | 19.66              | 25.32                 | 410.34        | 450.38        | 11.25 | MWD         |      |
| 9000.00                                                                                                   | 8978.88        | 8981.06           | 194.69                  | 19.99              | 19.88              | 25.76                 | 417.66        | 458.14        | 11.32 | MWD         |      |
| 9100.00                                                                                                   | 9078.49        | 9080.75           | 194.87                  | 20.22              | 20.10              | 26.20                 | 424.98        | 465.92        | 11.38 | MWD         |      |
| 9200.00                                                                                                   | 9178.10        | 9180.44           | 195.05                  | 20.44              | 20.32              | 26.65                 | 432.31        | 473.70        | 11.45 | MWD         |      |
| 9300.00                                                                                                   | 9277.71        | 9280.12           | 195.22                  | 20.67              | 20.54              | 27.11                 | 439.65        | 481.48        | 11.51 | MWD         |      |
| 9400.00                                                                                                   | 9377.32        | 9379.81           | 195.38                  | 20.89              | 20.76              | 27.57                 | 446.99        | 489.27        | 11.57 | MWD         |      |
| 9500.00                                                                                                   | 9476.93        | 9479.50           | 195.54                  | 21.12              | 20.99              | 28.03                 | 454.33        | 497.06        | 11.63 | MWD         |      |
| 9600.00                                                                                                   | 9576.54        | 9579.18           | 195.70                  | 21.35              | 21.21              | 28.50                 | 461.67        | 504.85        | 11.69 | MWD         |      |
| 9700.00                                                                                                   | 9676.15        | 9678.87           | 195.85                  | 21.57              | 21.43              | 28.98                 | 469.02        | 512.65        | 11.75 | MWD         |      |
| 9800.00                                                                                                   | 9775.76        | 9778.56           | 195.99                  | 21.80              | 21.65              | 29.46                 | 476.38        | 520.45        | 11.81 | MWD         |      |
| 9900.00                                                                                                   | 9875.37        | 9878.24           | 196.13                  | 22.03              | 21.87              | 29.95                 | 483.73        | 528.25        | 11.86 | MWD         |      |
| 10000.00                                                                                                  | 9974.98        | 9977.93           | 196.27                  | 22.25              | 22.09              | 30.45                 | 491.09        | 536.06        | 11.92 | MWD         |      |
| 10100.00                                                                                                  | 10074.59       | 10077.62          | 196.40                  | 22.48              | 22.31              | 30.95                 | 498.45        | 543.87        | 11.97 | MWD         |      |
| 10200.00                                                                                                  | 10174.20       | 10177.30          | 196.53                  | 22.71              | 22.53              | 31.46                 | 505.82        | 551.69        | 12.03 | MWD         |      |
| 10300.00                                                                                                  | 10273.81       | 10276.99          | 196.66                  | 22.93              | 22.76              | 31.97                 | 513.18        | 559.50        | 12.08 | MWD         |      |
| 10400.00                                                                                                  | 10373.42       | 10376.68          | 196.78                  | 23.16              | 22.98              | 32.49                 | 520.55        | 567.32        | 12.13 | MWD         |      |
| 10500.00                                                                                                  | 10473.03       | 10476.36          | 196.90                  | 23.39              | 23.20              | 33.01                 | 527.93        | 575.14        | 12.18 | MWD         |      |
| 10600.00                                                                                                  | 10572.64       | 10576.05          | 197.01                  | 23.62              | 23.42              | 33.54                 | 535.30        | 582.97        | 12.23 | MWD         |      |
| 10700.00                                                                                                  | 10672.25       | 10675.74          | 197.13                  | 23.84              | 23.64              | 34.08                 | 542.68        | 590.79        | 12.28 | MWD         |      |
| 10800.00                                                                                                  | 10771.86       | 10775.42          | 197.24                  | 24.07              | 23.87              | 34.62                 | 550.06        | 598.62        | 12.33 | MWD         |      |
| 10900.00                                                                                                  | 10871.47       | 10875.11          | 197.34                  | 24.30              | 24.09              | 35.17                 | 557.44        | 606.45        | 12.37 | MWD         |      |
| 11000.00                                                                                                  | 10971.08       | 10974.80          | 197.45                  | 24.53              | 24.31              | 35.72                 | 564.82        | 614.28        | 12.42 | MWD         |      |
| 11100.00                                                                                                  | 11070.69       | 11074.48          | 197.55                  | 24.76              | 24.53              | 36.28                 | 572.21        | 622.12        | 12.47 | MWD         |      |
| 11200.00                                                                                                  | 11170.30       | 11174.17          | 197.65                  | 24.99              | 24.75              | 36.85                 | 579.60        | 629.95        | 12.51 | MWD         |      |
| 11300.00                                                                                                  | 11269.91       | 11273.86          | 197.74                  | 25.21              | 24.98              | 37.42                 | 586.99        | 637.79        | 12.55 | MWD         |      |
| 11400.00                                                                                                  | 11369.52       | 11373.54          | 197.84                  | 25.44              | 25.20              | 38.00                 | 594.38        | 645.63        | 12.60 | MWD         |      |
| 11500.00                                                                                                  | 11469.13       | 11473.23          | 197.93                  | 25.67              | 25.42              | 38.58                 | 601.77        | 653.47        | 12.64 | MWD         |      |
| 11600.00                                                                                                  | 11568.74       | 11572.92          | 198.02                  | 25.90              | 25.64              | 39.17                 | 609.16        | 661.31        | 12.68 | MWD         |      |
| 11700.00                                                                                                  | 11668.35       | 11672.60          | 198.11                  | 26.13              | 25.87              | 39.77                 | 616.56        | 669.16        | 12.72 | MWD         |      |
| 11800.00                                                                                                  | 11772.86       | 11777.18          | 198.18                  | 26.35              | 26.09              | 40.40                 | 623.75        | 676.81        | 12.76 | MWD         |      |
| 11900.00                                                                                                  | 11882.36       | 11886.70          | 198.17                  | 26.55              | 26.29              | 41.07                 | 628.73        | 682.18        | 12.76 | MWD         |      |
| 12000.00                                                                                                  | 11987.85       | 11992.25          | 197.96                  | 26.71              | 26.46              | 41.72                 | 630.80        | 684.61        | 12.72 | MWD         |      |
| 12100.00                                                                                                  | 12084.25       | 12090.10          | 88.90                   | 26.72              | 26.43              | 42.30                 | 631.19        | 685.33        | 12.66 | MWD         |      |
| 12200.00                                                                                                  | 12172.65       | 12183.73          | 87.12                   | 26.79              | 26.08              | 42.82                 | 631.74        | 686.10        | 12.62 | MWD         |      |
| 12300.00                                                                                                  | 12252.45       | 12274.43          | 85.45                   | 26.88              | 25.51              | 43.27                 | 633.03        | 687.45        | 12.63 | MWD         |      |
| 12400.00                                                                                                  | 12322.67       | 12362.69          | 83.92                   | 26.98              | 24.82              | 43.66                 | 634.54        | 689.19        | 12.61 | MWD         |      |
| 12500.00                                                                                                  | 12382.58       | 12448.93          | 82.57                   | 27.10              | 24.11              | 43.98                 | 636.28        | 691.14        | 12.60 | MWD         |      |
| 12600.00                                                                                                  | 12431.70       | 12533.56          | 81.42                   | 27.26              | 23.45              | 44.25                 | 637.97        | 693.09        | 12.57 | MWD         |      |
| 12700.00                                                                                                  | 12469.67       | 12616.94          | 80.49                   | 27.47              | 22.91              | 44.48                 | 639.36        | 694.84        | 12.52 | MWD         |      |
| 12800.00                                                                                                  | 12496.25       | 12699.40          | 79.82                   | 27.73              | 22.56              | 44.68                 | 640.20        | 696.23        | 12.43 | MWD         |      |
| 12900.00                                                                                                  | 12511.30       | 12781.26          | 79.40                   | 28.06              | 22.43              | 44.87                 | 640.41        | 697.13        | 12.29 | MWD         |      |
| 13000.00                                                                                                  | 12515.05       | 12866.87          | 79.25                   | 28.46              | 22.53              | 45.06                 | 639.91        | 697.45        | 12.12 | MWD         |      |
| 13100.00                                                                                                  | 12515.31       | 12966.87          | 79.23                   | 29.03              | 22.65              | 45.31                 | 638.97        | 697.50        | 11.92 | MWD         |      |
| 13200.00                                                                                                  | 12515.57       | 13066.87          | 79.21                   | 29.70              | 22.80              | 45.61                 | 637.58        | 697.55        | 11.63 | MWD         |      |
| 13300.00                                                                                                  | 12515.83       | 13166.87          | 79.19                   | 30.46              | 22.97              | 45.96                 | 636.19        | 697.60        | 11.36 | MWD         |      |
| 13400.00                                                                                                  | 12516.09       | 13266.87          | 79.17                   | 31.31              | 23.17              | 46.34                 | 634.63        | 697.65        | 11.07 | MWD         |      |
| 13500.00                                                                                                  | 12516.35       | 13366.87          | 79.15                   | 32.24              | 23.38              | 46.77                 | 632.85        | 697.70        | 10.76 | MWD         |      |
| 13600.00                                                                                                  | 12516.61       | 13466.87          | 79.13                   | 33.25              | 23.61              | 47.25                 | 630.99        | 697.75        | 10.45 | MWD         |      |
| 13700.00                                                                                                  | 12516.87       | 13566.87          | 79.11                   | 34.32              | 23.87              | 47.76                 | 628.97        | 697.81        | 10.14 | MWD         |      |
| 13800.00                                                                                                  | 12517.13       | 13666.87          | 79.09                   | 35.46              | 24.15              | 48.31                 | 626.84        | 697.86        | 9.83  | MWD         |      |
| 13900.00                                                                                                  | 12517.38       | 13766.87          | 79.07                   | 36.65              | 24.44              | 48.90                 | 624.61        | 697.91        | 9.52  | MWD         |      |
| 14000.00                                                                                                  | 12517.64       | 13866.87          | 79.05                   | 37.89              | 24.75              | 49.53                 | 622.20        | 697.96        | 9.21  | MWD         |      |
| 14100.00                                                                                                  | 12517.90       | 13966.87          | 79.03                   | 39.18              | 25.08              | 50.19                 | 619.72        | 698.01        | 8.92  | MWD         |      |
| 14200.00                                                                                                  | 12518.16       | 14066.87          | 79.01                   | 40.51              | 25.43              | 50.88                 | 617.19        | 698.06        | 8.63  | MWD         |      |
| 14300.00                                                                                                  | 12518.42       | 14166.87          | 78.99                   | 41.87              | 25.79              | 51.61                 | 614.61        | 698.11        | 8.36  | MWD         |      |
| 14400.00                                                                                                  | 12518.68       | 14266.87          | 78.97                   | 43.27              | 26.17              | 52.36                 | 611.89        | 698.17        | 8.09  | MWD         |      |

## 5D Anti-Collision Report

| Secondary Well: Seawolf 1-12 Fed 83H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |      |             |      |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|------|-------------|------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk |
| 14500.00                                                                                                  | 12518.94       | 14366.87          | 78.95                   | 44.71              | 26.56              | 53.15                 | 609.12        | 698.22        | 7.84 | MWD         |      |
| 14600.00                                                                                                  | 12519.20       | 14466.87          | 78.93                   | 46.17              | 26.97              | 53.97                 | 606.31        | 698.27        | 7.59 | MWD         |      |
| 14700.00                                                                                                  | 12519.46       | 14566.87          | 78.91                   | 47.65              | 27.39              | 54.81                 | 603.47        | 698.32        | 7.36 | MWD         |      |
| 14800.00                                                                                                  | 12519.72       | 14666.87          | 78.89                   | 49.16              | 27.83              | 55.68                 | 600.60        | 698.37        | 7.14 | MWD         |      |
| 14900.00                                                                                                  | 12519.97       | 14766.87          | 78.87                   | 50.69              | 28.28              | 56.57                 | 597.70        | 698.42        | 6.93 | MWD         |      |
| 15000.00                                                                                                  | 12520.23       | 14866.87          | 78.85                   | 52.24              | 28.73              | 57.49                 | 594.72        | 698.48        | 6.73 | MWD         |      |
| 15100.00                                                                                                  | 12520.49       | 14966.86          | 78.83                   | 53.80              | 29.20              | 58.43                 | 591.71        | 698.53        | 6.54 | MWD         |      |
| 15200.00                                                                                                  | 12520.75       | 15066.86          | 78.81                   | 55.39              | 29.68              | 59.39                 | 588.68        | 698.58        | 6.36 | MWD         |      |
| 15300.00                                                                                                  | 12521.01       | 15166.86          | 78.79                   | 56.98              | 30.17              | 60.37                 | 585.62        | 698.63        | 6.18 | MWD         |      |
| 15400.00                                                                                                  | 12521.27       | 15266.86          | 78.77                   | 58.59              | 30.67              | 61.37                 | 582.53        | 698.69        | 6.02 | MWD         |      |
| 15500.00                                                                                                  | 12521.53       | 15366.86          | 78.75                   | 60.22              | 31.18              | 62.39                 | 579.42        | 698.74        | 5.86 | MWD         |      |
| 15600.00                                                                                                  | 12521.79       | 15466.86          | 78.73                   | 61.85              | 31.70              | 63.43                 | 576.28        | 698.79        | 5.70 | MWD         |      |
| 15700.00                                                                                                  | 12522.05       | 15566.86          | 78.71                   | 63.49              | 32.23              | 64.48                 | 573.13        | 698.84        | 5.56 | MWD         |      |
| 15800.00                                                                                                  | 12522.31       | 15666.86          | 78.70                   | 65.15              | 32.76              | 65.55                 | 569.96        | 698.90        | 5.42 | MWD         |      |
| 15900.00                                                                                                  | 12522.56       | 15766.86          | 78.68                   | 66.81              | 33.31              | 66.64                 | 566.77        | 698.95        | 5.29 | MWD         |      |
| 16000.00                                                                                                  | 12522.82       | 15866.86          | 78.66                   | 68.48              | 33.85              | 67.73                 | 563.56        | 699.00        | 5.16 | MWD         |      |
| 16100.00                                                                                                  | 12523.08       | 15966.86          | 78.64                   | 70.16              | 34.41              | 68.85                 | 560.34        | 699.06        | 5.04 | MWD         |      |
| 16200.00                                                                                                  | 12523.34       | 16066.86          | 78.62                   | 71.85              | 34.97              | 69.97                 | 557.10        | 699.11        | 4.92 | MWD         |      |
| 16300.00                                                                                                  | 12523.60       | 16166.86          | 78.60                   | 73.54              | 35.54              | 71.11                 | 553.85        | 699.16        | 4.81 | MWD         |      |
| 16400.00                                                                                                  | 12523.86       | 16266.86          | 78.58                   | 75.24              | 36.12              | 72.26                 | 550.59        | 699.22        | 4.70 | MWD         |      |
| 16500.00                                                                                                  | 12524.12       | 16366.86          | 78.56                   | 76.95              | 36.70              | 73.42                 | 547.32        | 699.27        | 4.60 | MWD         |      |
| 16600.00                                                                                                  | 12524.38       | 16466.86          | 78.54                   | 78.66              | 37.28              | 74.59                 | 544.03        | 699.32        | 4.50 | MWD         |      |
| 16700.00                                                                                                  | 12524.64       | 16566.86          | 78.52                   | 80.38              | 37.88              | 75.78                 | 540.74        | 699.38        | 4.41 | MWD         |      |
| 16800.00                                                                                                  | 12524.90       | 16666.86          | 78.50                   | 82.10              | 38.47              | 76.97                 | 537.44        | 699.43        | 4.32 | MWD         |      |
| 16900.00                                                                                                  | 12525.16       | 16766.86          | 78.48                   | 83.82              | 39.07              | 78.17                 | 534.13        | 699.48        | 4.23 | MWD         |      |
| 17000.00                                                                                                  | 12525.41       | 16866.86          | 78.46                   | 85.55              | 39.68              | 79.38                 | 530.81        | 699.54        | 4.15 | MWD         |      |
| 17100.00                                                                                                  | 12525.67       | 16966.86          | 78.44                   | 87.29              | 40.29              | 80.60                 | 527.48        | 699.59        | 4.06 | MWD         |      |
| 17200.00                                                                                                  | 12525.93       | 17066.86          | 78.42                   | 89.03              | 40.90              | 81.83                 | 524.15        | 699.65        | 3.99 | MWD         |      |
| 17300.00                                                                                                  | 12526.19       | 17166.86          | 78.40                   | 90.77              | 41.52              | 83.06                 | 520.81        | 699.70        | 3.91 | MWD         |      |
| 17400.00                                                                                                  | 12526.45       | 17266.86          | 78.38                   | 92.51              | 42.14              | 84.30                 | 517.46        | 699.75        | 3.84 | MWD         |      |
| 17500.00                                                                                                  | 12526.71       | 17366.86          | 78.36                   | 94.26              | 42.76              | 85.55                 | 514.11        | 699.81        | 3.77 | MWD         |      |
| 17600.00                                                                                                  | 12526.97       | 17466.86          | 78.34                   | 96.01              | 43.39              | 86.81                 | 510.75        | 699.86        | 3.70 | MWD         |      |
| 17700.00                                                                                                  | 12527.23       | 17566.86          | 78.32                   | 97.76              | 44.02              | 88.07                 | 507.39        | 699.92        | 3.64 | MWD         |      |
| 17800.00                                                                                                  | 12527.49       | 17666.86          | 78.30                   | 99.52              | 44.66              | 89.34                 | 504.02        | 699.97        | 3.57 | MWD         |      |
| 17900.00                                                                                                  | 12527.75       | 17766.86          | 78.28                   | 101.28             | 45.29              | 90.61                 | 500.65        | 700.03        | 3.51 | MWD         |      |
| 18000.00                                                                                                  | 12528.00       | 17866.86          | 78.26                   | 103.04             | 45.93              | 91.89                 | 497.27        | 700.08        | 3.45 | MWD         |      |
| 18100.00                                                                                                  | 12528.26       | 17966.86          | 78.24                   | 104.80             | 46.58              | 93.18                 | 493.89        | 700.14        | 3.39 | MWD         |      |
| 18200.00                                                                                                  | 12528.52       | 18066.86          | 78.22                   | 106.57             | 47.22              | 94.47                 | 490.51        | 700.19        | 3.34 | MWD         |      |
| 18300.00                                                                                                  | 12528.78       | 18166.85          | 78.20                   | 108.33             | 47.87              | 95.77                 | 487.12        | 700.25        | 3.29 | MWD         |      |
| 18400.00                                                                                                  | 12529.04       | 18266.85          | 78.18                   | 110.10             | 48.52              | 97.07                 | 483.73        | 700.30        | 3.23 | MWD         |      |
| 18500.00                                                                                                  | 12529.30       | 18366.85          | 78.16                   | 111.88             | 49.18              | 98.38                 | 480.33        | 700.36        | 3.18 | MWD         |      |
| 18600.00                                                                                                  | 12529.56       | 18466.85          | 78.14                   | 113.65             | 49.83              | 99.69                 | 476.93        | 700.41        | 3.13 | MWD         |      |
| 18700.00                                                                                                  | 12529.82       | 18566.85          | 78.12                   | 115.42             | 50.49              | 101.00                | 473.53        | 700.47        | 3.09 | MWD         |      |
| 18800.00                                                                                                  | 12530.08       | 18666.85          | 78.10                   | 117.20             | 51.15              | 102.32                | 470.13        | 700.52        | 3.04 | MWD         |      |
| 18900.00                                                                                                  | 12530.34       | 18766.85          | 78.08                   | 118.98             | 51.81              | 103.64                | 466.72        | 700.58        | 3.00 | MWD         |      |
| 19000.00                                                                                                  | 12530.59       | 18866.85          | 78.06                   | 120.76             | 52.47              | 104.97                | 463.31        | 700.63        | 2.95 | MWD         |      |
| 19100.00                                                                                                  | 12530.85       | 18966.85          | 78.04                   | 122.54             | 53.14              | 106.30                | 459.90        | 700.69        | 2.91 | MWD         |      |
| 19200.00                                                                                                  | 12531.11       | 19066.85          | 78.02                   | 124.32             | 53.80              | 107.63                | 456.49        | 700.74        | 2.87 | MWD         |      |
| 19300.00                                                                                                  | 12531.37       | 19166.85          | 78.00                   | 126.10             | 54.47              | 108.97                | 453.07        | 700.80        | 2.83 | MWD         |      |
| 19400.00                                                                                                  | 12531.63       | 19266.85          | 77.98                   | 127.89             | 55.14              | 110.31                | 449.65        | 700.85        | 2.79 | MWD         |      |
| 19500.00                                                                                                  | 12531.89       | 19366.85          | 77.96                   | 129.67             | 55.81              | 111.65                | 446.23        | 700.91        | 2.75 | MWD         |      |
| 19600.00                                                                                                  | 12532.15       | 19466.85          | 77.94                   | 131.46             | 56.49              | 113.00                | 442.81        | 700.97        | 2.72 | MWD         |      |
| 19700.00                                                                                                  | 12532.41       | 19566.85          | 77.92                   | 133.25             | 57.16              | 114.35                | 439.39        | 701.02        | 2.68 | MWD         |      |
| 19800.00                                                                                                  | 12532.67       | 19666.85          | 77.90                   | 135.04             | 57.84              | 115.70                | 435.96        | 701.08        | 2.64 | MWD         |      |
| 19900.00                                                                                                  | 12532.93       | 19766.85          | 77.88                   | 136.83             | 58.52              | 117.06                | 432.53        | 701.14        | 2.61 | MWD         |      |
| 20000.00                                                                                                  | 12533.19       | 19866.85          | 77.86                   | 138.62             | 59.20              | 118.42                | 429.11        | 701.19        | 2.58 | MWD         |      |
| 20100.00                                                                                                  | 12533.44       | 19966.85          | 77.84                   | 140.41             | 59.88              | 119.78                | 425.68        | 701.25        | 2.54 | MWD         |      |
| 20200.00                                                                                                  | 12533.70       | 20066.85          | 77.82                   | 142.21             | 60.56              | 121.14                | 422.24        | 701.30        | 2.51 | MWD         |      |

## 5D Anti-Collision Report

| Secondary Well: Seawolf 1-12 Fed 83H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |      |             |        |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|------|-------------|--------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk   |
| 20300.00                                                                                                  | 12533.96       | 20166.85          | 77.80                   | 144.00             | 61.24              | 122.51                | 418.81        | 701.36        | 2.48 | MWD         | SF(Lo) |
| 20400.00                                                                                                  | 12534.22       | 20266.85          | 77.78                   | 145.79             | 61.92              | 123.87                | 415.38        | 701.42        | 2.45 | MWD         | SF(Lo) |
| 20500.00                                                                                                  | 12534.48       | 20366.85          | 77.76                   | 147.59             | 62.61              | 125.24                | 411.94        | 701.47        | 2.42 | MWD         | SF(Lo) |
| 20600.00                                                                                                  | 12534.74       | 20466.85          | 77.74                   | 149.39             | 63.30              | 126.62                | 408.51        | 701.53        | 2.39 | MWD         | SF(Lo) |
| 20700.00                                                                                                  | 12535.00       | 20566.85          | 77.72                   | 151.18             | 63.98              | 127.99                | 405.07        | 701.59        | 2.37 | MWD         | SF(Lo) |
| 20800.00                                                                                                  | 12535.26       | 20666.85          | 77.70                   | 152.98             | 64.67              | 129.37                | 401.63        | 701.65        | 2.34 | MWD         | SF(Lo) |
| 20900.00                                                                                                  | 12535.52       | 20766.85          | 77.68                   | 154.78             | 65.36              | 130.75                | 398.19        | 701.70        | 2.31 | MWD         | SF(Lo) |
| 21000.00                                                                                                  | 12535.78       | 20866.85          | 77.66                   | 156.58             | 66.05              | 132.13                | 394.75        | 701.76        | 2.29 | MWD         | SF(Lo) |
| 21100.00                                                                                                  | 12536.03       | 20966.85          | 77.64                   | 158.38             | 66.74              | 133.51                | 391.31        | 701.82        | 2.26 | MWD         | SF(Lo) |
| 21200.00                                                                                                  | 12536.29       | 21066.85          | 77.62                   | 160.18             | 67.43              | 134.89                | 387.87        | 701.87        | 2.24 | MWD         | SF(Lo) |
| 21300.00                                                                                                  | 12536.55       | 21166.85          | 77.60                   | 161.98             | 68.13              | 136.28                | 384.43        | 701.93        | 2.21 | MWD         | SF(Lo) |
| 21400.00                                                                                                  | 12536.81       | 21266.85          | 77.58                   | 163.78             | 68.82              | 137.66                | 380.99        | 701.99        | 2.19 | MWD         | SF(Lo) |
| 21500.00                                                                                                  | 12537.07       | 21366.85          | 77.56                   | 165.59             | 69.51              | 139.05                | 377.54        | 702.05        | 2.16 | MWD         | SF(Lo) |
| 21600.00                                                                                                  | 12537.33       | 21466.84          | 77.54                   | 167.39             | 70.21              | 140.44                | 374.10        | 702.10        | 2.14 | MWD         | SF(Lo) |
| 21700.00                                                                                                  | 12537.59       | 21566.84          | 77.52                   | 169.19             | 70.91              | 141.84                | 370.65        | 702.16        | 2.12 | MWD         | SF(Lo) |
| 21800.00                                                                                                  | 12537.85       | 21666.84          | 77.51                   | 171.00             | 71.60              | 143.23                | 367.21        | 702.22        | 2.10 | MWD         | SF(Lo) |
| 21900.00                                                                                                  | 12538.11       | 21766.84          | 77.49                   | 172.80             | 72.30              | 144.62                | 363.76        | 702.28        | 2.07 | MWD         | SF(Lo) |
| 22000.00                                                                                                  | 12538.37       | 21866.84          | 77.47                   | 174.60             | 73.00              | 146.02                | 360.31        | 702.34        | 2.05 | MWD         | SF(Lo) |
| 22100.00                                                                                                  | 12538.62       | 21966.84          | 77.45                   | 176.41             | 73.70              | 147.42                | 356.87        | 702.39        | 2.03 | MWD         | SF(Lo) |
| 22200.00                                                                                                  | 12538.88       | 22066.84          | 77.43                   | 178.22             | 74.40              | 148.82                | 353.42        | 702.45        | 2.01 | MWD         | SF(Lo) |
| 22300.00                                                                                                  | 12539.14       | 22166.84          | 77.41                   | 180.02             | 75.10              | 150.22                | 349.97        | 702.51        | 1.99 | MWD         | SF(Lo) |
| 22400.00                                                                                                  | 12539.40       | 22266.84          | 77.39                   | 181.83             | 75.80              | 151.62                | 346.52        | 702.57        | 1.97 | MWD         | SF(Lo) |
| 22500.00                                                                                                  | 12539.66       | 22366.84          | 77.37                   | 183.64             | 76.50              | 153.02                | 343.07        | 702.63        | 1.95 | MWD         | SF(Lo) |
| 22600.00                                                                                                  | 12539.92       | 22466.84          | 77.35                   | 185.44             | 77.20              | 154.43                | 339.63        | 702.69        | 1.94 | MWD         | SF(Lo) |
| 22632.05                                                                                                  | 12540.00       | 22497.78          | 77.34                   | 186.00             | 77.42              | 154.86                | 338.55        | 702.71        | 1.93 | MWD         | SF(Lo) |

| Secondary Well: Seawolf 1-12 Fed 93H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |       |             |      |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|-------|-------------|------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF    | Survey Tool | Risk |
| 0.00                                                                                                      | 0.00           | 0.00              | 269.48                  | 0.00               | 0.00               | 0.00                  | 29.29         | 30.02         | 40.94 | MWD         |      |
| 100.00                                                                                                    | 100.00         | 100.00            | 269.48                  | 0.11               | 0.11               | 4.60                  | 29.07         | 30.02         | 31.47 | MWD         |      |
| 200.00                                                                                                    | 200.00         | 200.00            | 269.48                  | 0.34               | 0.34               | 4.62                  | 28.62         | 30.02         | 21.39 | MWD         |      |
| 300.00                                                                                                    | 300.00         | 300.00            | 269.48                  | 0.56               | 0.56               | 4.65                  | 28.17         | 30.02         | 16.20 | MWD         |      |
| 400.00                                                                                                    | 400.00         | 400.00            | 269.48                  | 0.79               | 0.79               | 4.69                  | 27.72         | 30.02         | 13.04 | MWD         |      |
| 500.00                                                                                                    | 500.00         | 500.00            | 269.48                  | 1.01               | 1.01               | 4.75                  | 27.27         | 30.02         | 10.91 | MWD         |      |
| 600.00                                                                                                    | 600.00         | 600.00            | 269.48                  | 1.24               | 1.24               | 4.81                  | 26.82         | 30.02         | 9.38  | MWD         |      |
| 700.00                                                                                                    | 700.00         | 700.00            | 269.48                  | 1.46               | 1.46               | 4.89                  | 26.37         | 30.02         | 8.22  | MWD         |      |
| 800.00                                                                                                    | 800.00         | 800.00            | 269.48                  | 1.69               | 1.69               | 4.97                  | 25.92         | 30.02         | 7.32  | MWD         |      |
| 900.00                                                                                                    | 900.00         | 900.00            | 269.48                  | 1.91               | 1.91               | 5.06                  | 25.47         | 30.02         | 6.60  | MWD         |      |
| 1000.00                                                                                                   | 1000.00        | 1000.00           | 269.48                  | 2.14               | 2.14               | 5.16                  | 25.02         | 30.02         | 6.00  | MWD         |      |
| 1100.00                                                                                                   | 1100.00        | 1100.00           | 269.48                  | 2.36               | 2.36               | 5.27                  | 24.57         | 30.02         | 5.51  | MWD         |      |
| 1200.00                                                                                                   | 1200.00        | 1200.00           | 269.48                  | 2.59               | 2.59               | 5.38                  | 24.12         | 30.02         | 5.09  | MWD         |      |
| 1300.00                                                                                                   | 1300.00        | 1300.00           | 269.48                  | 2.81               | 2.81               | 5.50                  | 23.67         | 30.02         | 4.73  | MWD         |      |
| 1400.00                                                                                                   | 1400.00        | 1400.00           | 269.48                  | 3.03               | 3.03               | 5.62                  | 23.22         | 30.02         | 4.42  | MWD         |      |
| 1500.00                                                                                                   | 1500.00        | 1500.00           | 269.48                  | 3.26               | 3.26               | 5.75                  | 22.77         | 30.02         | 4.14  | MWD         |      |
| 1600.00                                                                                                   | 1600.00        | 1600.00           | 269.48                  | 3.48               | 3.48               | 5.89                  | 22.32         | 30.02         | 3.90  | MWD         |      |
| 1700.00                                                                                                   | 1700.00        | 1700.00           | 269.48                  | 3.71               | 3.71               | 6.03                  | 21.87         | 30.02         | 3.69  | MWD         |      |
| 1800.00                                                                                                   | 1800.00        | 1800.00           | 269.48                  | 3.93               | 3.93               | 6.17                  | 21.42         | 30.02         | 3.49  | MWD         |      |
| 1900.00                                                                                                   | 1900.00        | 1900.00           | 269.48                  | 4.16               | 4.16               | 6.32                  | 20.98         | 30.02         | 3.32  | MWD         |      |
| 2000.00                                                                                                   | 2000.00        | 2000.00           | 269.48                  | 4.38               | 4.38               | 6.47                  | 20.53         | 30.02         | 3.16  | MWD         |      |
| 2100.00                                                                                                   | 2100.00        | 2100.00           | 269.48                  | 4.61               | 4.61               | 6.62                  | 20.08         | 30.02         | 3.02  | MWD         |      |
| 2200.00                                                                                                   | 2200.00        | 2200.00           | 269.48                  | 4.83               | 4.83               | 6.78                  | 19.63         | 30.02         | 2.89  | MWD         |      |
| 2300.00                                                                                                   | 2300.00        | 2300.00           | 269.48                  | 5.06               | 5.06               | 6.94                  | 19.18         | 30.02         | 2.77  | MWD         |      |
| 2400.00                                                                                                   | 2400.00        | 2400.00           | 269.48                  | 5.28               | 5.28               | 7.10                  | 18.73         | 30.02         | 2.66  | MWD         |      |
| 2500.00                                                                                                   | 2500.00        | 2500.00           | 269.48                  | 5.51               | 5.51               | 7.27                  | 18.28         | 30.02         | 2.56  | MWD         |      |
| 2600.00                                                                                                   | 2599.99        | 2599.99           | 197.13                  | 5.73               | 5.73               | 7.44                  | 18.68         | 30.85         | 2.53  | MWD         |      |
| 2700.00                                                                                                   | 2699.96        | 2699.96           | 195.81                  | 5.96               | 5.96               | 7.61                  | 20.76         | 33.36         | 2.65  | MWD         |      |
| 2800.00                                                                                                   | 2799.86        | 2799.86           | 194.01                  | 6.18               | 6.18               | 7.79                  | 24.55         | 37.58         | 2.88  | MWD         |      |

## SD Anti-Collision Report

| Secondary Well: Seawolf 1-12 Fed 93H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |      |             |        |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|------|-------------|--------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk   |
| 2900.00                                                                                                   | 2899.73        | 2899.73           | 192.32                  | 6.41               | 6.41               | 7.97                  | 29.20         | 42.63         | 3.17 | MWD         |        |
| 3000.00                                                                                                   | 2999.59        | 2999.59           | 190.99                  | 6.63               | 6.63               | 8.15                  | 33.83         | 47.72         | 3.44 | MWD         |        |
| 3100.00                                                                                                   | 3099.46        | 3099.46           | 189.92                  | 6.85               | 6.85               | 8.33                  | 38.49         | 52.82         | 3.69 | MWD         |        |
| 3200.00                                                                                                   | 3199.32        | 3199.32           | 189.03                  | 7.08               | 7.08               | 8.51                  | 43.17         | 57.94         | 3.92 | MWD         |        |
| 3300.00                                                                                                   | 3299.19        | 3299.19           | 188.29                  | 7.30               | 7.30               | 8.70                  | 47.87         | 63.08         | 4.15 | MWD         |        |
| 3400.00                                                                                                   | 3399.05        | 3399.05           | 187.66                  | 7.53               | 7.53               | 8.89                  | 52.57         | 68.22         | 4.36 | MWD         |        |
| 3500.00                                                                                                   | 3498.92        | 3498.92           | 187.12                  | 7.75               | 7.75               | 9.09                  | 57.28         | 73.36         | 4.56 | MWD         |        |
| 3600.00                                                                                                   | 3600.11        | 3600.12           | 186.52                  | 7.97               | 7.96               | 9.28                  | 61.19         | 77.67         | 4.71 | MWD         |        |
| 3700.00                                                                                                   | 3701.41        | 3701.45           | 185.71                  | 8.17               | 8.16               | 9.49                  | 63.36         | 80.26         | 4.75 | MWD         |        |
| 3800.00                                                                                                   | 3802.68        | 3802.83           | 184.66                  | 8.37               | 8.36               | 9.69                  | 63.84         | 81.14         | 4.69 | MWD         |        |
| 3900.00                                                                                                   | 3903.16        | 3903.48           | 183.37                  | 8.58               | 8.55               | 9.89                  | 62.85         | 80.57         | 4.55 | MWD         |        |
| 4000.00                                                                                                   | 4002.95        | 4003.46           | 182.03                  | 8.78               | 8.76               | 10.10                 | 61.68         | 79.84         | 4.40 | MWD         |        |
| 4100.00                                                                                                   | 4102.74        | 4103.44           | 180.67                  | 8.99               | 8.96               | 10.31                 | 60.57         | 79.15         | 4.26 | MWD         |        |
| 4200.00                                                                                                   | 4202.54        | 4203.42           | 179.28                  | 9.20               | 9.16               | 10.53                 | 59.50         | 78.51         | 4.13 | MWD         |        |
| 4300.00                                                                                                   | 4302.33        | 4303.40           | 177.87                  | 9.41               | 9.36               | 10.75                 | 58.49         | 77.91         | 4.01 | MWD         |        |
| 4400.00                                                                                                   | 4402.12        | 4403.38           | 176.44                  | 9.63               | 9.57               | 10.97                 | 57.52         | 77.36         | 3.90 | MWD         |        |
| 4500.00                                                                                                   | 4501.91        | 4503.36           | 174.99                  | 9.84               | 9.78               | 11.19                 | 56.59         | 76.87         | 3.79 | MWD         |        |
| 4600.00                                                                                                   | 4601.70        | 4603.34           | 173.52                  | 10.06              | 9.98               | 11.42                 | 55.71         | 76.42         | 3.69 | MWD         |        |
| 4700.00                                                                                                   | 4701.49        | 4703.32           | 172.04                  | 10.28              | 10.19              | 11.65                 | 54.87         | 76.02         | 3.60 | MWD         |        |
| 4800.00                                                                                                   | 4801.28        | 4803.30           | 170.54                  | 10.50              | 10.40              | 11.89                 | 54.08         | 75.67         | 3.50 | MWD         |        |
| 4900.00                                                                                                   | 4901.07        | 4903.28           | 169.03                  | 10.72              | 10.61              | 12.13                 | 53.34         | 75.38         | 3.42 | MWD         |        |
| 5000.00                                                                                                   | 5000.87        | 5003.26           | 167.50                  | 10.95              | 10.82              | 12.37                 | 52.68         | 75.14         | 3.34 | MWD         |        |
| 5100.00                                                                                                   | 5100.66        | 5103.24           | 165.97                  | 11.17              | 11.03              | 12.62                 | 52.03         | 74.95         | 3.27 | MWD         |        |
| 5200.00                                                                                                   | 5200.45        | 5203.22           | 164.43                  | 11.40              | 11.25              | 12.87                 | 51.45         | 74.82         | 3.20 | MWD         |        |
| 5300.00                                                                                                   | 5300.24        | 5303.20           | 162.89                  | 11.62              | 11.46              | 13.12                 | 50.93         | 74.74         | 3.14 | MWD         |        |
| 5400.00                                                                                                   | 5400.03        | 5403.18           | 161.35                  | 11.85              | 11.67              | 13.38                 | 50.45         | 74.71         | 3.08 | MWD         |        |
| 5500.00                                                                                                   | 5499.82        | 5503.15           | 159.80                  | 12.08              | 11.89              | 13.64                 | 50.01         | 74.74         | 3.02 | MWD         |        |
| 5600.00                                                                                                   | 5599.61        | 5603.13           | 158.26                  | 12.31              | 12.10              | 13.91                 | 49.65         | 74.83         | 2.97 | MWD         |        |
| 5700.00                                                                                                   | 5699.41        | 5703.11           | 156.72                  | 12.54              | 12.32              | 14.18                 | 49.32         | 74.96         | 2.92 | MWD         |        |
| 5800.00                                                                                                   | 5799.20        | 5803.09           | 155.19                  | 12.77              | 12.53              | 14.45                 | 49.04         | 75.16         | 2.88 | MWD         |        |
| 5900.00                                                                                                   | 5898.99        | 5903.07           | 153.67                  | 13.00              | 12.75              | 14.73                 | 48.82         | 75.40         | 2.84 | MWD         |        |
| 6000.00                                                                                                   | 5998.78        | 6003.05           | 152.16                  | 13.23              | 12.97              | 15.02                 | 48.67         | 75.70         | 2.80 | MWD         |        |
| 6100.00                                                                                                   | 6098.57        | 6103.03           | 150.66                  | 13.47              | 13.18              | 15.31                 | 48.54         | 76.05         | 2.76 | MWD         |        |
| 6200.00                                                                                                   | 6198.36        | 6203.01           | 149.18                  | 13.70              | 13.40              | 15.60                 | 48.47         | 76.45         | 2.73 | MWD         |        |
| 6300.00                                                                                                   | 6298.15        | 6302.99           | 147.71                  | 13.93              | 13.62              | 15.90                 | 48.46         | 76.90         | 2.70 | MWD         |        |
| 6400.00                                                                                                   | 6397.94        | 6402.97           | 146.26                  | 14.17              | 13.84              | 16.20                 | 48.47         | 77.40         | 2.68 | MWD         |        |
| 6500.00                                                                                                   | 6497.74        | 6502.95           | 144.84                  | 14.40              | 14.05              | 16.51                 | 48.53         | 77.95         | 2.65 | MWD         |        |
| 6600.00                                                                                                   | 6597.53        | 6602.93           | 143.43                  | 14.64              | 14.27              | 16.82                 | 48.66         | 78.55         | 2.63 | MWD         |        |
| 6700.00                                                                                                   | 6697.32        | 6702.91           | 142.04                  | 14.87              | 14.49              | 17.13                 | 48.85         | 79.19         | 2.61 | MWD         |        |
| 6800.00                                                                                                   | 6797.11        | 6802.89           | 140.68                  | 15.11              | 14.71              | 17.46                 | 49.05         | 79.88         | 2.59 | MWD         |        |
| 6900.00                                                                                                   | 6896.90        | 6902.87           | 139.34                  | 15.35              | 14.93              | 17.78                 | 49.30         | 80.62         | 2.57 | MWD         |        |
| 7000.00                                                                                                   | 6996.69        | 7002.85           | 138.02                  | 15.58              | 15.15              | 18.11                 | 49.61         | 81.40         | 2.56 | MWD         |        |
| 7100.00                                                                                                   | 7096.48        | 7102.83           | 136.74                  | 15.82              | 15.37              | 18.45                 | 49.93         | 82.22         | 2.55 | MWD         |        |
| 7200.00                                                                                                   | 7196.28        | 7202.81           | 135.47                  | 16.06              | 15.59              | 18.79                 | 50.28         | 83.08         | 2.53 | MWD         |        |
| 7300.00                                                                                                   | 7296.07        | 7302.79           | 134.24                  | 16.30              | 15.81              | 19.14                 | 50.70         | 83.98         | 2.52 | MWD         |        |
| 7400.00                                                                                                   | 7395.86        | 7402.77           | 133.03                  | 16.54              | 16.03              | 19.49                 | 51.16         | 84.92         | 2.52 | MWD         |        |
| 7500.00                                                                                                   | 7495.65        | 7502.75           | 131.85                  | 16.78              | 16.25              | 19.85                 | 51.68         | 85.89         | 2.51 | MWD         |        |
| 7600.00                                                                                                   | 7595.44        | 7602.73           | 130.69                  | 17.02              | 16.47              | 20.21                 | 52.19         | 86.91         | 2.50 | MWD         |        |
| 7700.00                                                                                                   | 7695.23        | 7702.71           | 129.56                  | 17.26              | 16.70              | 20.58                 | 52.74         | 87.95         | 2.50 | MWD         | SF(Lo) |
| 7800.00                                                                                                   | 7795.02        | 7802.69           | 128.46                  | 17.50              | 16.92              | 20.95                 | 53.34         | 89.03         | 2.49 | MWD         | SF(Lo) |
| 7900.00                                                                                                   | 7894.81        | 7902.67           | 127.39                  | 17.74              | 17.14              | 21.33                 | 53.97         | 90.14         | 2.49 | MWD         | SF(Lo) |
| 8000.00                                                                                                   | 7994.61        | 8002.65           | 126.34                  | 17.98              | 17.36              | 21.71                 | 54.60         | 91.28         | 2.49 | MWD         | SF(Lo) |
| 8100.00                                                                                                   | 8094.40        | 8102.63           | 125.32                  | 18.22              | 17.58              | 22.10                 | 55.27         | 92.46         | 2.49 | MWD         | SF(Lo) |
| 8200.00                                                                                                   | 8194.19        | 8202.61           | 124.32                  | 18.46              | 17.81              | 22.50                 | 55.98         | 93.66         | 2.49 | MWD         | SF(Lo) |
| 8300.00                                                                                                   | 8293.98        | 8302.59           | 123.35                  | 18.70              | 18.03              | 22.90                 | 56.72         | 94.89         | 2.49 | MWD         | SF(Lo) |
| 8400.00                                                                                                   | 8393.77        | 8402.57           | 122.41                  | 18.94              | 18.25              | 23.30                 | 57.50         | 96.14         | 2.49 | MWD         | SF(Lo) |
| 8500.00                                                                                                   | 8493.56        | 8502.55           | 121.48                  | 19.18              | 18.47              | 23.71                 | 58.32         | 97.42         | 2.49 | MWD         | SF(Lo) |
| 8600.00                                                                                                   | 8593.35        | 8602.53           | 120.59                  | 19.42              | 18.70              | 24.13                 | 59.12         | 98.73         | 2.49 | MWD         | SF(Lo) |

## 5D Anti-Collision Report

| Secondary Well: Seawolf 1-12 Fed 93H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |      |             |        |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|------|-------------|--------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk   |
| 8700.00                                                                                                   | 8693.15        | 8702.51           | 119.71                  | 19.67              | 18.92              | 24.55                 | 59.95         | 100.05        | 2.50 | MWD         | SF(Lo) |
| 8800.00                                                                                                   | 8792.94        | 8802.49           | 118.86                  | 19.91              | 19.14              | 24.98                 | 60.82         | 101.41        | 2.50 | MWD         | SF(Lo) |
| 8900.00                                                                                                   | 8892.73        | 8902.46           | 118.04                  | 20.15              | 19.37              | 25.41                 | 61.71         | 102.78        | 2.50 | MWD         |        |
| 9000.00                                                                                                   | 8992.52        | 9002.44           | 117.23                  | 20.39              | 19.59              | 25.85                 | 62.63         | 104.17        | 2.51 | MWD         |        |
| 9100.00                                                                                                   | 9092.31        | 9102.42           | 116.45                  | 20.64              | 19.81              | 26.30                 | 63.53         | 105.59        | 2.51 | MWD         |        |
| 9200.00                                                                                                   | 9192.10        | 9202.40           | 115.68                  | 20.88              | 20.04              | 26.75                 | 64.45         | 107.02        | 2.51 | MWD         |        |
| 9300.00                                                                                                   | 9291.89        | 9302.38           | 114.94                  | 21.12              | 20.26              | 27.21                 | 65.41         | 108.47        | 2.52 | MWD         |        |
| 9400.00                                                                                                   | 9391.68        | 9402.36           | 114.22                  | 21.37              | 20.49              | 27.67                 | 66.38         | 109.94        | 2.52 | MWD         |        |
| 9500.00                                                                                                   | 9491.48        | 9502.34           | 113.51                  | 21.61              | 20.71              | 28.14                 | 67.38         | 111.43        | 2.53 | MWD         |        |
| 9600.00                                                                                                   | 9591.27        | 9602.32           | 112.83                  | 21.86              | 20.93              | 28.61                 | 68.41         | 112.93        | 2.54 | MWD         |        |
| 9700.00                                                                                                   | 9691.06        | 9702.30           | 112.16                  | 22.10              | 21.16              | 29.09                 | 69.45         | 114.45        | 2.54 | MWD         |        |
| 9800.00                                                                                                   | 9790.85        | 9802.28           | 111.51                  | 22.34              | 21.38              | 29.57                 | 70.52         | 115.98        | 2.55 | MWD         |        |
| 9900.00                                                                                                   | 9890.64        | 9902.26           | 110.88                  | 22.59              | 21.61              | 30.07                 | 71.59         | 117.53        | 2.56 | MWD         |        |
| 10000.00                                                                                                  | 9990.43        | 10002.24          | 110.26                  | 22.83              | 21.83              | 30.56                 | 72.66         | 119.09        | 2.56 | MWD         |        |
| 10100.00                                                                                                  | 10090.22       | 10102.22          | 109.66                  | 23.08              | 22.06              | 31.07                 | 73.74         | 120.66        | 2.57 | MWD         |        |
| 10200.00                                                                                                  | 10190.01       | 10202.20          | 109.08                  | 23.32              | 22.28              | 31.57                 | 74.83         | 122.25        | 2.58 | MWD         |        |
| 10300.00                                                                                                  | 10289.81       | 10302.18          | 108.51                  | 23.57              | 22.51              | 32.09                 | 75.95         | 123.85        | 2.59 | MWD         |        |
| 10400.00                                                                                                  | 10389.60       | 10402.16          | 107.95                  | 23.81              | 22.73              | 32.61                 | 77.08         | 125.47        | 2.59 | MWD         |        |
| 10500.00                                                                                                  | 10489.39       | 10502.14          | 107.41                  | 24.05              | 22.96              | 33.14                 | 78.23         | 127.09        | 2.60 | MWD         |        |
| 10600.00                                                                                                  | 10589.18       | 10602.12          | 106.89                  | 24.30              | 23.18              | 33.67                 | 79.39         | 128.73        | 2.61 | MWD         |        |
| 10700.00                                                                                                  | 10688.97       | 10702.10          | 106.37                  | 24.54              | 23.41              | 34.21                 | 80.53         | 130.37        | 2.62 | MWD         |        |
| 10800.00                                                                                                  | 10788.76       | 10802.08          | 105.87                  | 24.79              | 23.63              | 34.75                 | 81.69         | 132.03        | 2.62 | MWD         |        |
| 10900.00                                                                                                  | 10888.55       | 10902.06          | 105.38                  | 25.04              | 23.86              | 35.30                 | 82.85         | 133.69        | 2.63 | MWD         |        |
| 11000.00                                                                                                  | 10988.35       | 11002.04          | 104.91                  | 25.28              | 24.08              | 35.86                 | 84.03         | 135.37        | 2.64 | MWD         |        |
| 11100.00                                                                                                  | 11088.14       | 11102.02          | 104.44                  | 25.53              | 24.31              | 36.42                 | 85.22         | 137.05        | 2.64 | MWD         |        |
| 11200.00                                                                                                  | 11187.93       | 11202.00          | 103.99                  | 25.77              | 24.53              | 36.99                 | 86.43         | 138.75        | 2.65 | MWD         |        |
| 11300.00                                                                                                  | 11287.72       | 11301.98          | 103.54                  | 26.02              | 24.76              | 37.56                 | 87.64         | 140.45        | 2.66 | MWD         |        |
| 11400.00                                                                                                  | 11387.51       | 11401.96          | 103.11                  | 26.26              | 24.98              | 38.14                 | 88.87         | 142.16        | 2.67 | MWD         |        |
| 11500.00                                                                                                  | 11487.42       | 11502.05          | 102.77                  | 26.50              | 25.20              | 38.73                 | 90.10         | 143.86        | 2.68 | MWD         |        |
| 11600.00                                                                                                  | 11587.54       | 11602.26          | 103.02                  | 26.69              | 25.39              | 39.33                 | 91.23         | 145.42        | 2.68 | MWD         |        |
| 11700.00                                                                                                  | 11687.67       | 11702.43          | 103.95                  | 26.87              | 25.57              | 39.93                 | 92.24         | 146.85        | 2.69 | MWD         |        |
| 11800.00                                                                                                  | 11787.73       | 11802.49          | 105.53                  | 27.05              | 25.75              | 40.53                 | 93.23         | 148.22        | 2.70 | MWD         |        |
| 11900.00                                                                                                  | 11867.22       | 11882.21          | 106.83                  | 27.08              | 25.90              | 41.01                 | 100.75        | 155.67        | 2.83 | MWD         |        |
| 12000.00                                                                                                  | 11941.65       | 11958.17          | 107.67                  | 26.90              | 26.03              | 41.45                 | 121.34        | 176.06        | 3.22 | MWD         |        |
| 12100.00                                                                                                  | 12008.86       | 12029.16          | 0.33                    | 26.60              | 26.15              | 41.85                 | 153.99        | 208.14        | 3.84 | MWD         |        |
| 12200.00                                                                                                  | 12070.00       | 12097.02          | 0.28                    | 26.40              | 26.03              | 42.20                 | 187.57        | 240.83        | 4.52 | MWD         |        |
| 12300.00                                                                                                  | 12126.23       | 12163.61          | 0.24                    | 26.50              | 25.52              | 42.51                 | 215.79        | 268.05        | 5.13 | MWD         |        |
| 12400.00                                                                                                  | 12177.24       | 12229.26          | 0.22                    | 26.66              | 24.93              | 42.79                 | 238.46        | 289.54        | 5.67 | MWD         |        |
| 12500.00                                                                                                  | 12222.78       | 12294.25          | 0.21                    | 26.83              | 24.31              | 43.04                 | 255.23        | 305.08        | 6.12 | MWD         |        |
| 12600.00                                                                                                  | 12262.53       | 12358.82          | 0.20                    | 27.04              | 23.69              | 43.25                 | 265.72        | 314.52        | 6.44 | MWD         |        |
| 12700.00                                                                                                  | 12296.22       | 12423.18          | 0.20                    | 27.27              | 23.13              | 43.45                 | 270.11        | 317.77        | 6.67 | MWD         |        |
| 12800.00                                                                                                  | 12323.55       | 12487.53          | 0.20                    | 27.55              | 22.65              | 43.63                 | 268.09        | 314.80        | 6.74 | MWD         |        |
| 12900.00                                                                                                  | 12344.24       | 12552.09          | 0.20                    | 27.87              | 22.29              | 43.79                 | 259.52        | 305.64        | 6.63 | MWD         |        |
| 13000.00                                                                                                  | 12358.00       | 12617.09          | 0.21                    | 28.22              | 22.08              | 43.95                 | 244.84        | 290.66        | 6.34 | MWD         |        |
| 13100.00                                                                                                  | 12364.53       | 12683.54          | 0.22                    | 28.64              | 22.03              | 44.11                 | 235.56        | 281.30        | 6.15 | MWD         |        |
| 13200.00                                                                                                  | 12365.34       | 12773.47          | 0.21                    | 29.26              | 22.13              | 44.33                 | 234.75        | 280.78        | 6.10 | MWD         |        |
| 13300.00                                                                                                  | 12365.82       | 12873.47          | 0.21                    | 30.03              | 22.28              | 44.62                 | 234.45        | 280.80        | 6.06 | MWD         |        |
| 13400.00                                                                                                  | 12366.31       | 12973.47          | 0.21                    | 30.88              | 22.44              | 44.96                 | 234.11        | 280.82        | 6.01 | MWD         |        |
| 13500.00                                                                                                  | 12366.79       | 13073.47          | 0.21                    | 31.82              | 22.63              | 45.34                 | 233.72        | 280.85        | 5.96 | MWD         |        |
| 13600.00                                                                                                  | 12367.27       | 13173.47          | 0.21                    | 32.84              | 22.84              | 45.77                 | 233.30        | 280.87        | 5.90 | MWD         |        |
| 13700.00                                                                                                  | 12367.76       | 13273.47          | 0.20                    | 33.92              | 23.07              | 46.23                 | 232.82        | 280.90        | 5.84 | MWD         |        |
| 13800.00                                                                                                  | 12368.24       | 13373.47          | 0.20                    | 35.06              | 23.32              | 46.74                 | 232.32        | 280.92        | 5.78 | MWD         |        |
| 13900.00                                                                                                  | 12368.73       | 13473.47          | 0.20                    | 36.26              | 23.60              | 47.29                 | 231.80        | 280.94        | 5.72 | MWD         |        |
| 14000.00                                                                                                  | 12369.21       | 13573.47          | 0.20                    | 37.51              | 23.89              | 47.88                 | 231.22        | 280.97        | 5.65 | MWD         |        |
| 14100.00                                                                                                  | 12369.70       | 13673.47          | 0.19                    | 38.81              | 24.20              | 48.50                 | 230.53        | 280.99        | 5.57 | MWD         |        |
| 14200.00                                                                                                  | 12370.18       | 13773.47          | 0.19                    | 40.14              | 24.53              | 49.16                 | 229.87        | 281.01        | 5.49 | MWD         |        |
| 14300.00                                                                                                  | 12370.66       | 13873.47          | 0.19                    | 41.52              | 24.88              | 49.86                 | 229.27        | 281.04        | 5.43 | MWD         |        |
| 14400.00                                                                                                  | 12371.15       | 13973.47          | 0.19                    | 42.93              | 25.24              | 50.59                 | 228.55        | 281.06        | 5.35 | MWD         |        |

## 5D Anti-Collision Report

| Secondary Well: Seawolf 1-12 Fed 93H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |      |             |        |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|------|-------------|--------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk   |
| 14500.00                                                                                                  | 12371.63       | 14073.47          | 0.18                    | 44.36              | 25.62              | 51.35                 | 227.77        | 281.08        | 5.27 | MWD         |        |
| 14600.00                                                                                                  | 12372.12       | 14173.47          | 0.18                    | 45.83              | 26.02              | 52.14                 | 227.00        | 281.11        | 5.20 | MWD         |        |
| 14700.00                                                                                                  | 12372.60       | 14273.47          | 0.18                    | 47.32              | 26.42              | 52.96                 | 226.22        | 281.13        | 5.12 | MWD         |        |
| 14800.00                                                                                                  | 12373.08       | 14373.47          | 0.18                    | 48.84              | 26.85              | 53.80                 | 225.39        | 281.15        | 5.04 | MWD         |        |
| 14900.00                                                                                                  | 12373.57       | 14473.47          | 0.18                    | 50.37              | 27.28              | 54.67                 | 224.66        | 281.18        | 4.97 | MWD         |        |
| 15000.00                                                                                                  | 12374.05       | 14573.47          | 0.17                    | 51.93              | 27.73              | 55.57                 | 223.81        | 281.20        | 4.90 | MWD         |        |
| 15100.00                                                                                                  | 12374.54       | 14673.47          | 0.17                    | 53.50              | 28.19              | 56.49                 | 222.83        | 281.22        | 4.82 | MWD         |        |
| 15200.00                                                                                                  | 12375.02       | 14773.47          | 0.17                    | 55.08              | 28.67              | 57.44                 | 222.01        | 281.25        | 4.75 | MWD         |        |
| 15300.00                                                                                                  | 12375.51       | 14873.47          | 0.17                    | 56.69              | 29.15              | 58.40                 | 220.95        | 281.27        | 4.66 | MWD         |        |
| 15400.00                                                                                                  | 12375.99       | 14973.47          | 0.16                    | 58.30              | 29.64              | 59.39                 | 220.00        | 281.29        | 4.59 | MWD         |        |
| 15500.00                                                                                                  | 12376.47       | 15073.47          | 0.16                    | 59.93              | 30.15              | 60.40                 | 219.08        | 281.32        | 4.52 | MWD         |        |
| 15600.00                                                                                                  | 12376.96       | 15173.47          | 0.16                    | 61.57              | 30.66              | 61.42                 | 218.05        | 281.34        | 4.44 | MWD         |        |
| 15700.00                                                                                                  | 12377.44       | 15273.47          | 0.16                    | 63.22              | 31.18              | 62.46                 | 217.05        | 281.37        | 4.37 | MWD         |        |
| 15800.00                                                                                                  | 12377.93       | 15373.47          | 0.16                    | 64.87              | 31.71              | 63.52                 | 216.00        | 281.39        | 4.30 | MWD         |        |
| 15900.00                                                                                                  | 12378.41       | 15473.47          | 0.15                    | 66.54              | 32.25              | 64.60                 | 214.90        | 281.41        | 4.23 | MWD         |        |
| 16000.00                                                                                                  | 12378.89       | 15573.47          | 0.15                    | 68.22              | 32.79              | 65.69                 | 213.81        | 281.44        | 4.16 | MWD         |        |
| 16100.00                                                                                                  | 12379.38       | 15673.47          | 0.15                    | 69.90              | 33.35              | 66.79                 | 212.72        | 281.46        | 4.09 | MWD         |        |
| 16200.00                                                                                                  | 12379.86       | 15773.47          | 0.15                    | 71.59              | 33.91              | 67.91                 | 211.62        | 281.48        | 4.03 | MWD         |        |
| 16300.00                                                                                                  | 12380.35       | 15873.47          | 0.14                    | 73.29              | 34.47              | 69.04                 | 210.52        | 281.51        | 3.97 | MWD         |        |
| 16400.00                                                                                                  | 12380.83       | 15973.47          | 0.14                    | 74.99              | 35.04              | 70.18                 | 209.41        | 281.53        | 3.90 | MWD         |        |
| 16500.00                                                                                                  | 12381.32       | 16073.47          | 0.14                    | 76.70              | 35.62              | 71.34                 | 208.30        | 281.55        | 3.84 | MWD         |        |
| 16600.00                                                                                                  | 12381.80       | 16173.47          | 0.14                    | 78.41              | 36.21              | 72.50                 | 207.18        | 281.58        | 3.78 | MWD         |        |
| 16700.00                                                                                                  | 12382.28       | 16273.47          | 0.13                    | 80.13              | 36.79              | 73.68                 | 206.05        | 281.60        | 3.73 | MWD         |        |
| 16800.00                                                                                                  | 12382.77       | 16373.47          | 0.13                    | 81.86              | 37.39              | 74.87                 | 204.91        | 281.62        | 3.67 | MWD         |        |
| 16900.00                                                                                                  | 12383.25       | 16473.47          | 0.13                    | 83.58              | 37.99              | 76.07                 | 203.76        | 281.65        | 3.62 | MWD         |        |
| 17000.00                                                                                                  | 12383.74       | 16573.47          | 0.13                    | 85.32              | 38.59              | 77.27                 | 202.60        | 281.67        | 3.56 | MWD         |        |
| 17100.00                                                                                                  | 12384.22       | 16673.47          | 0.13                    | 87.05              | 39.20              | 78.49                 | 201.41        | 281.69        | 3.51 | MWD         |        |
| 17200.00                                                                                                  | 12384.71       | 16773.47          | 0.12                    | 88.79              | 39.81              | 79.71                 | 200.21        | 281.72        | 3.46 | MWD         |        |
| 17300.00                                                                                                  | 12385.19       | 16873.47          | 0.12                    | 90.54              | 40.43              | 80.94                 | 199.01        | 281.74        | 3.41 | MWD         |        |
| 17400.00                                                                                                  | 12385.67       | 16973.47          | 0.12                    | 92.28              | 41.05              | 82.18                 | 197.80        | 281.77        | 3.36 | MWD         |        |
| 17500.00                                                                                                  | 12386.16       | 17073.47          | 0.12                    | 94.03              | 41.67              | 83.43                 | 196.58        | 281.79        | 3.31 | MWD         |        |
| 17600.00                                                                                                  | 12386.64       | 17173.47          | 0.11                    | 95.79              | 42.30              | 84.69                 | 195.36        | 281.81        | 3.26 | MWD         |        |
| 17700.00                                                                                                  | 12387.13       | 17273.47          | 0.11                    | 97.54              | 42.93              | 85.95                 | 194.13        | 281.84        | 3.21 | MWD         |        |
| 17800.00                                                                                                  | 12387.61       | 17373.47          | 0.11                    | 99.30              | 43.56              | 87.21                 | 192.90        | 281.86        | 3.17 | MWD         |        |
| 17900.00                                                                                                  | 12388.09       | 17473.47          | 0.11                    | 101.06             | 44.20              | 88.49                 | 191.66        | 281.88        | 3.12 | MWD         |        |
| 18000.00                                                                                                  | 12388.58       | 17573.47          | 0.10                    | 102.82             | 44.84              | 89.77                 | 190.39        | 281.91        | 3.08 | MWD         |        |
| 18100.00                                                                                                  | 12389.06       | 17673.47          | 0.10                    | 104.59             | 45.48              | 91.05                 | 189.12        | 281.93        | 3.04 | MWD         |        |
| 18200.00                                                                                                  | 12389.55       | 17773.47          | 0.10                    | 106.35             | 46.13              | 92.34                 | 187.84        | 281.95        | 3.00 | MWD         |        |
| 18300.00                                                                                                  | 12390.03       | 17873.47          | 0.10                    | 108.12             | 46.78              | 93.64                 | 186.56        | 281.98        | 2.96 | MWD         |        |
| 18400.00                                                                                                  | 12390.52       | 17973.47          | 0.10                    | 109.89             | 47.43              | 94.94                 | 185.27        | 282.00        | 2.92 | MWD         |        |
| 18500.00                                                                                                  | 12391.00       | 18073.47          | 0.09                    | 111.67             | 48.08              | 96.24                 | 183.98        | 282.02        | 2.88 | MWD         |        |
| 18600.00                                                                                                  | 12391.48       | 18173.47          | 0.09                    | 113.44             | 48.74              | 97.55                 | 182.69        | 282.05        | 2.84 | MWD         |        |
| 18700.00                                                                                                  | 12391.97       | 18273.47          | 0.09                    | 115.22             | 49.40              | 98.87                 | 181.39        | 282.07        | 2.80 | MWD         |        |
| 18800.00                                                                                                  | 12392.45       | 18373.47          | 0.09                    | 117.00             | 50.05              | 100.19                | 180.09        | 282.09        | 2.77 | MWD         |        |
| 18900.00                                                                                                  | 12392.94       | 18473.47          | 0.08                    | 118.78             | 50.72              | 101.51                | 178.78        | 282.12        | 2.73 | MWD         |        |
| 19000.00                                                                                                  | 12393.42       | 18573.47          | 0.08                    | 120.56             | 51.38              | 102.84                | 177.48        | 282.14        | 2.70 | MWD         |        |
| 19100.00                                                                                                  | 12393.90       | 18673.47          | 0.08                    | 122.34             | 52.05              | 104.17                | 176.16        | 282.17        | 2.66 | MWD         |        |
| 19200.00                                                                                                  | 12394.39       | 18773.47          | 0.08                    | 124.12             | 52.71              | 105.50                | 174.85        | 282.19        | 2.63 | MWD         |        |
| 19300.00                                                                                                  | 12394.87       | 18873.47          | 0.08                    | 125.91             | 53.38              | 106.84                | 173.53        | 282.21        | 2.60 | MWD         |        |
| 19400.00                                                                                                  | 12395.36       | 18973.47          | 0.07                    | 127.69             | 54.05              | 108.18                | 172.21        | 282.24        | 2.57 | MWD         |        |
| 19500.00                                                                                                  | 12395.84       | 19073.47          | 0.07                    | 129.48             | 54.72              | 109.52                | 170.89        | 282.26        | 2.53 | MWD         |        |
| 19600.00                                                                                                  | 12396.33       | 19173.47          | 0.07                    | 131.27             | 55.40              | 110.87                | 169.56        | 282.28        | 2.50 | MWD         |        |
| 19700.00                                                                                                  | 12396.81       | 19273.47          | 0.07                    | 133.06             | 56.07              | 112.22                | 168.23        | 282.31        | 2.47 | MWD         | SF(Lo) |
| 19800.00                                                                                                  | 12397.29       | 19373.47          | 0.06                    | 134.85             | 56.75              | 113.57                | 166.90        | 282.33        | 2.45 | MWD         | SF(Lo) |
| 19900.00                                                                                                  | 12397.78       | 19473.47          | 0.06                    | 136.64             | 57.43              | 114.93                | 165.56        | 282.35        | 2.42 | MWD         | SF(Lo) |
| 20000.00                                                                                                  | 12398.26       | 19573.47          | 0.06                    | 138.43             | 58.11              | 116.29                | 164.23        | 282.38        | 2.39 | MWD         | SF(Lo) |
| 20100.00                                                                                                  | 12398.75       | 19673.47          | 0.06                    | 140.23             | 58.79              | 117.65                | 162.89        | 282.40        | 2.36 | MWD         | SF(Lo) |
| 20200.00                                                                                                  | 12399.23       | 19773.47          | 0.06                    | 142.02             | 59.47              | 119.01                | 161.54        | 282.42        | 2.34 | MWD         | SF(Lo) |

## 5D Anti-Collision Report

| Secondary Well: Seawolf 1-12 Fed 93H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH) |                |                   |                         |                    |                    |                       |               |               |      |             |        |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|--------------------|-----------------------|---------------|---------------|------|-------------|--------|
| Pri MD<br>(US ft)                                                                                         | TVD<br>(US ft) | Sec MD<br>(US ft) | T.Face to<br>Sec<br>(°) | S.Major<br>(US ft) | S.Minor<br>(US ft) | TVD Spread<br>(US ft) | ES<br>(US ft) | CC<br>(US ft) | SF   | Survey Tool | Risk   |
| 20300.00                                                                                                  | 12399.72       | 19873.47          | 0.05                    | 143.81             | 60.15              | 120.38                | 160.20        | 282.45        | 2.31 | MWD         | SF(Lo) |
| 20400.00                                                                                                  | 12400.20       | 19973.47          | 0.05                    | 145.61             | 60.84              | 121.75                | 158.85        | 282.47        | 2.29 | MWD         | SF(Lo) |
| 20500.00                                                                                                  | 12400.68       | 20073.47          | 0.05                    | 147.41             | 61.52              | 123.12                | 157.50        | 282.49        | 2.26 | MWD         | SF(Lo) |
| 20600.00                                                                                                  | 12401.17       | 20173.47          | 0.05                    | 149.20             | 62.21              | 124.49                | 156.15        | 282.52        | 2.24 | MWD         | SF(Lo) |
| 20700.00                                                                                                  | 12401.65       | 20273.47          | 0.04                    | 151.00             | 62.90              | 125.87                | 154.80        | 282.54        | 2.21 | MWD         | SF(Lo) |
| 20800.00                                                                                                  | 12402.14       | 20373.47          | 0.04                    | 152.80             | 63.59              | 127.24                | 153.45        | 282.57        | 2.19 | MWD         | SF(Lo) |
| 20900.00                                                                                                  | 12402.62       | 20473.47          | 0.04                    | 154.60             | 64.28              | 128.62                | 152.09        | 282.59        | 2.17 | MWD         | SF(Lo) |
| 21000.00                                                                                                  | 12403.10       | 20573.47          | 0.04                    | 156.40             | 64.97              | 130.00                | 150.73        | 282.61        | 2.14 | MWD         | SF(Lo) |
| 21100.00                                                                                                  | 12403.59       | 20673.47          | 0.03                    | 158.20             | 65.66              | 131.39                | 149.37        | 282.64        | 2.12 | MWD         | SF(Lo) |
| 21200.00                                                                                                  | 12404.07       | 20773.47          | 0.03                    | 160.00             | 66.35              | 132.77                | 148.01        | 282.66        | 2.10 | MWD         | SF(Lo) |
| 21300.00                                                                                                  | 12404.56       | 20873.47          | 0.03                    | 161.80             | 67.05              | 134.16                | 146.65        | 282.68        | 2.08 | MWD         | SF(Lo) |
| 21400.00                                                                                                  | 12405.04       | 20973.47          | 0.03                    | 163.61             | 67.74              | 135.55                | 145.28        | 282.71        | 2.06 | MWD         | SF(Lo) |
| 21500.00                                                                                                  | 12405.53       | 21073.47          | 0.03                    | 165.41             | 68.43              | 136.93                | 143.92        | 282.73        | 2.04 | MWD         | SF(Lo) |
| 21600.00                                                                                                  | 12406.01       | 21173.47          | 0.02                    | 167.21             | 69.13              | 138.33                | 142.55        | 282.75        | 2.02 | MWD         | SF(Lo) |
| 21700.00                                                                                                  | 12406.49       | 21273.47          | 0.02                    | 169.02             | 69.83              | 139.72                | 141.18        | 282.78        | 2.00 | MWD         | SF(Lo) |
| 21800.00                                                                                                  | 12406.98       | 21373.47          | 0.02                    | 170.82             | 70.52              | 141.11                | 139.81        | 282.80        | 1.98 | MWD         | SF(Lo) |
| 21900.00                                                                                                  | 12407.46       | 21473.47          | 0.02                    | 172.63             | 71.22              | 142.51                | 138.43        | 282.82        | 1.96 | MWD         | SF(Lo) |
| 22000.00                                                                                                  | 12407.95       | 21573.47          | 0.01                    | 174.43             | 71.92              | 143.91                | 137.06        | 282.85        | 1.94 | MWD         | SF(Lo) |
| 22100.00                                                                                                  | 12408.43       | 21673.47          | 0.01                    | 176.24             | 72.62              | 145.31                | 135.69        | 282.87        | 1.92 | MWD         | SF(Lo) |
| 22200.00                                                                                                  | 12408.91       | 21773.47          | 0.01                    | 178.05             | 73.32              | 146.70                | 134.31        | 282.89        | 1.90 | MWD         | SF(Lo) |
| 22300.00                                                                                                  | 12409.40       | 21873.47          | 0.01                    | 179.85             | 74.02              | 148.11                | 132.93        | 282.92        | 1.89 | MWD         | SF(Lo) |
| 22400.00                                                                                                  | 12409.88       | 21973.47          | 0.01                    | 181.66             | 74.72              | 149.51                | 131.55        | 282.94        | 1.87 | MWD         | SF(Lo) |
| 22500.00                                                                                                  | 12410.37       | 22073.47          | 0.00                    | 183.47             | 75.42              | 150.91                | 130.17        | 282.97        | 1.85 | MWD         | SF(Lo) |
| 22600.00                                                                                                  | 12410.85       | 22173.47          | 0.00                    | 185.28             | 76.13              | 152.32                | 128.79        | 282.99        | 1.84 | MWD         | SF(Lo) |
| 22632.05                                                                                                  | 12411.00       | 22204.15          | 0.00                    | 185.83             | 76.34              | 152.75                | 128.32        | 283.00        | 1.83 | MWD         | SF(Lo) |



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5D Plan Report

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**Devon Energy****Field Name:** *Lea Co, NM Nad 83 NMEZ***Site Name:** *Seawolf 1-12 Fed Pad***Well Name:** *Seawolf 1-12 Fed 84H***Plan:** *P1:V1*

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6 October 2017





## Seawolf 1-12 Fed 84H

|                                              |                                                                |                                   |                            |                   |
|----------------------------------------------|----------------------------------------------------------------|-----------------------------------|----------------------------|-------------------|
| Field Name:<br><br>Lea Co, NM Nad<br>83 NMEZ | Map Units: US ft                                               |                                   | Company Name: Devon Energy |                   |
|                                              | Vertical Reference Datum (VRD): Mean Sea Level                 |                                   |                            |                   |
|                                              | Projected Coordinate System: NAD83 / New Mexico East (ftUS)    |                                   |                            |                   |
|                                              | Comment:                                                       |                                   |                            |                   |
| Site:<br><br>Seawolf 1-12<br>Fed Pad         | Units: US ft                                                   | North Reference: Grid             | Convergence Angle: 0.43    |                   |
|                                              | Position:                                                      | Northing: 393519.71 US ft         | Latitude: 32.079297215     |                   |
|                                              |                                                                | Easting: 791194.43 US ft          | Longitude: -103.526628853  |                   |
|                                              |                                                                | Elevation above MSL:3316.70 US ft |                            |                   |
| Comment:                                     |                                                                |                                   |                            |                   |
| Slot:<br><br>Seawolf 1-12<br>Fed 84H         | Position (Relative to Site Centre)                             |                                   |                            |                   |
|                                              | +N/-S: 0.42 US ft                                              | Northing: 393520.13 US ft         | Latitude: 32.079297134     |                   |
|                                              | +E/-W: 60.10 US ft                                             | Easting: 791254.53 US ft          | Longitude: -103.526434816  |                   |
|                                              | Slot TVD Reference: Ground Elevation                           |                                   |                            |                   |
|                                              | Elevation above MSL: 3316.70 US ft                             |                                   |                            |                   |
|                                              | Comment:                                                       |                                   |                            |                   |
| Well:<br><br>Seawolf 1-12<br>Fed 84H         | Type:Main well                                                 |                                   | UWI:                       | Plan:P1:V1        |
|                                              | File Number:                                                   | Comment:                          |                            |                   |
|                                              | Closure Distance:10084.3US ft                                  |                                   | Closure Azimuth:176.97°    |                   |
|                                              | Vertical Section: Position of Origin (Relative to Slot centre) |                                   |                            |                   |
|                                              | +N/-S: 0.00 US ft                                              |                                   | +E/-W: -0.00 US ft         | Az: 179.58°       |
|                                              | Magnetic Parameters:                                           |                                   |                            |                   |
|                                              | Model: bggm2017                                                | Field Strength: 47887.6nT         | Declination: 6.97°         | Dip: 59.91°       |
|                                              |                                                                |                                   |                            | Date: 23/Oct/2017 |

|                                             |                                          |                           |                       |
|---------------------------------------------|------------------------------------------|---------------------------|-----------------------|
| <b>Drill floor: Plan: P1:V1</b>             |                                          |                           |                       |
| <b>Rig Height (Drill Floor):</b> 27.00us ft | <b>Elevation above MSL:</b> 3343.70us ft | <b>Inclination:</b> 0.00° | <b>Azimuth:</b> 0.00° |

| Target set: Seawolf 1-12 Fed 84H Tgts Comment: |        |                |                     |                     |                    |                   |         |
|------------------------------------------------|--------|----------------|---------------------|---------------------|--------------------|-------------------|---------|
| Target Name:                                   | Shape: | TVD<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | Northing<br>(USft) | Easting<br>(USft) | Comment |
| NP                                             | Point  | 12072.05       | 150.00              | 458.11              | 393670.13          | 791712.64         |         |
| PBHL 84H                                       | Point  | 12694.00       | -10070.17           | 533.15              | 383449.96          | 791787.68         |         |

Wellpath created using minimum curvature.

|                     |                           |                       |                      |                               |                                |  |
|---------------------|---------------------------|-----------------------|----------------------|-------------------------------|--------------------------------|--|
| <b>Tie Point:</b>   |                           |                       |                      |                               |                                |  |
| <b>MD:</b> 0.00USft | <b>Inclination:</b> 0.00° | <b>Azimuth:</b> 0.00° | <b>TVD:</b> 0.00USft | <b>North Offset:</b> 0.00USft | <b>East Offset:</b> - 0.00USft |  |

## 5D Plan Report

| Salient Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |               |                     |                     |                     |                    |                     |                        |
|------------------------------------------------------------------------|------------|-----------|----------------|---------------|---------------------|---------------------|---------------------|--------------------|---------------------|------------------------|
| MD<br>(US ft)                                                          | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | VS<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | Northing<br>(US ft) | Easting<br>(US ft) | DLS<br>(°/100US ft) | Comment                |
| 0.00                                                                   | 0.00       | 0.00      | 0.00           | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                        |
| 2500.00                                                                | 0.00       | 0.00      | 2500.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                | Nudge @ 1°<br>DLS      |
| 2797.53                                                                | 2.98       | 71.87     | 2797.39        | -2.35         | 2.40                | 7.34                | 393522.53           | 791261.87          | 1.00                | Hold                   |
| 11786.91                                                               | 2.98       | 71.87     | 11774.66       | -144.28       | 147.60              | 450.77              | 393667.73           | 791705.30          | 0.00                | Drop @ 1°<br>DLS       |
| 12084.43                                                               | 0.00       | 0.00      | 12072.05       | -146.63       | 150.00              | 458.11              | 393670.13           | 791712.64          | 1.00                | KOP-Build @<br>10° DLS |
| 12981.53                                                               | 89.71      | 179.58    | 12645.00       | 423.42        | -420.03             | 462.30              | 393100.10           | 791716.83          | 10.00               | Landing Pt             |
| 22632.05                                                               | 89.71      | 179.58    | 12694.00       | 10073.82      | -10070.17           | 533.15              | 383449.96           | 791787.68          | 0.00                | PBHL 84H               |

| Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |               |                     |                     |                     |                    |                     |                   |
|-----------------------------------------------------------------------------|------------|-----------|----------------|---------------|---------------------|---------------------|---------------------|--------------------|---------------------|-------------------|
| MD<br>(US ft)                                                               | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | VS<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | Northing<br>(US ft) | Easting<br>(US ft) | DLS<br>(°/100US ft) | Comment           |
| 0.00                                                                        | 0.00       | 0.00      | 0.00           | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 100.00                                                                      | 0.00       | 0.00      | 100.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 200.00                                                                      | 0.00       | 0.00      | 200.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 300.00                                                                      | 0.00       | 0.00      | 300.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 400.00                                                                      | 0.00       | 0.00      | 400.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 500.00                                                                      | 0.00       | 0.00      | 500.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 600.00                                                                      | 0.00       | 0.00      | 600.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 700.00                                                                      | 0.00       | 0.00      | 700.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 800.00                                                                      | 0.00       | 0.00      | 800.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 900.00                                                                      | 0.00       | 0.00      | 900.00         | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1000.00                                                                     | 0.00       | 0.00      | 1000.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1100.00                                                                     | 0.00       | 0.00      | 1100.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1200.00                                                                     | 0.00       | 0.00      | 1200.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1300.00                                                                     | 0.00       | 0.00      | 1300.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1400.00                                                                     | 0.00       | 0.00      | 1400.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1500.00                                                                     | 0.00       | 0.00      | 1500.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1600.00                                                                     | 0.00       | 0.00      | 1600.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1700.00                                                                     | 0.00       | 0.00      | 1700.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1800.00                                                                     | 0.00       | 0.00      | 1800.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 1900.00                                                                     | 0.00       | 0.00      | 1900.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 2000.00                                                                     | 0.00       | 0.00      | 2000.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 2100.00                                                                     | 0.00       | 0.00      | 2100.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 2200.00                                                                     | 0.00       | 0.00      | 2200.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 2300.00                                                                     | 0.00       | 0.00      | 2300.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 2400.00                                                                     | 0.00       | 0.00      | 2400.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                |                   |
| 2500.00                                                                     | 0.00       | 0.00      | 2500.00        | -0.00         | 0.00                | -0.00               | 393520.13           | 791254.53          | 0.00                | Nudge @ 1°<br>DLS |
| 2600.00                                                                     | 1.00       | 71.87     | 2599.99        | -0.27         | 0.27                | 0.83                | 393520.40           | 791255.36          | 1.00                |                   |
| 2700.00                                                                     | 2.00       | 71.87     | 2699.96        | -1.06         | 1.09                | 3.32                | 393521.22           | 791257.85          | 1.00                |                   |
| 2797.53                                                                     | 2.98       | 71.87     | 2797.39        | -2.35         | 2.40                | 7.34                | 393522.53           | 791261.87          | 1.00                | Hold              |
| 2800.00                                                                     | 2.98       | 71.87     | 2799.86        | -2.39         | 2.44                | 7.46                | 393522.57           | 791261.99          | 0.00                |                   |
| 2900.00                                                                     | 2.98       | 71.87     | 2899.73        | -3.97         | 4.06                | 12.39               | 393524.19           | 791266.92          | 0.00                |                   |
| 3000.00                                                                     | 2.98       | 71.87     | 2999.59        | -5.55         | 5.67                | 17.33               | 393525.80           | 791271.86          | 0.00                |                   |
| 3100.00                                                                     | 2.98       | 71.87     | 3099.46        | -7.12         | 7.29                | 22.26               | 393527.42           | 791276.79          | 0.00                |                   |
| 3200.00                                                                     | 2.98       | 71.87     | 3199.32        | -8.70         | 8.90                | 27.19               | 393529.03           | 791281.72          | 0.00                |                   |
| 3300.00                                                                     | 2.98       | 71.87     | 3299.19        | -10.28        | 10.52               | 32.13               | 393530.65           | 791286.66          | 0.00                |                   |
| 3400.00                                                                     | 2.98       | 71.87     | 3399.05        | -11.86        | 12.13               | 37.06               | 393532.26           | 791291.59          | 0.00                |                   |
| 3500.00                                                                     | 2.98       | 71.87     | 3498.92        | -13.44        | 13.75               | 41.99               | 393533.88           | 791296.52          | 0.00                |                   |
| 3600.00                                                                     | 2.98       | 71.87     | 3598.78        | -15.02        | 15.36               | 46.92               | 393535.49           | 791301.45          | 0.00                |                   |
| 3700.00                                                                     | 2.98       | 71.87     | 3698.65        | -16.60        | 16.98               | 51.86               | 393537.11           | 791306.39          | 0.00                |                   |
| 3800.00                                                                     | 2.98       | 71.87     | 3798.51        | -18.18        | 18.59               | 56.79               | 393538.72           | 791311.32          | 0.00                |                   |
| 3900.00                                                                     | 2.98       | 71.87     | 3898.38        | -19.76        | 20.21               | 61.72               | 393540.34           | 791316.25          | 0.00                |                   |
| 4000.00                                                                     | 2.98       | 71.87     | 3998.25        | -21.33        | 21.83               | 66.66               | 393541.96           | 791321.19          | 0.00                |                   |
| 4100.00                                                                     | 2.98       | 71.87     | 4098.11        | -22.91        | 23.44               | 71.59               | 393543.57           | 791326.12          | 0.00                |                   |
| 4200.00                                                                     | 2.98       | 71.87     | 4197.98        | -24.49        | 25.06               | 76.52               | 393545.19           | 791331.05          | 0.00                |                   |
| 4300.00                                                                     | 2.98       | 71.87     | 4297.84        | -26.07        | 26.67               | 81.45               | 393546.80           | 791335.98          | 0.00                |                   |
| 4400.00                                                                     | 2.98       | 71.87     | 4397.71        | -27.65        | 28.29               | 86.39               | 393548.42           | 791340.92          | 0.00                |                   |

## 5D Plan Report

| Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |               |                     |                     |                     |                    |                     | Comment |
|-----------------------------------------------------------------------------|------------|-----------|----------------|---------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------|
| MD<br>(US ft)                                                               | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | VS<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | Northing<br>(US ft) | Easting<br>(US ft) | DLS<br>(°/100US ft) |         |
| 4500.00                                                                     | 2.98       | 71.87     | 4497.57        | -29.23        | 29.90               | 91.32               | 393550.03           | 791345.85          | 0.00                |         |
| 4600.00                                                                     | 2.98       | 71.87     | 4597.44        | -30.81        | 31.52               | 96.25               | 393551.65           | 791350.78          | 0.00                |         |
| 4700.00                                                                     | 2.98       | 71.87     | 4697.30        | -32.39        | 33.13               | 101.19              | 393553.26           | 791355.72          | 0.00                |         |
| 4800.00                                                                     | 2.98       | 71.87     | 4797.17        | -33.97        | 34.75               | 106.12              | 393554.88           | 791360.65          | 0.00                |         |
| 4900.00                                                                     | 2.98       | 71.87     | 4897.03        | -35.54        | 36.36               | 111.05              | 393556.49           | 791365.58          | 0.00                |         |
| 5000.00                                                                     | 2.98       | 71.87     | 4996.90        | -37.12        | 37.98               | 115.98              | 393558.11           | 791370.51          | 0.00                |         |
| 5100.00                                                                     | 2.98       | 71.87     | 5096.76        | -38.70        | 39.59               | 120.92              | 393559.72           | 791375.45          | 0.00                |         |
| 5200.00                                                                     | 2.98       | 71.87     | 5196.63        | -40.28        | 41.21               | 125.85              | 393561.34           | 791380.38          | 0.00                |         |
| 5300.00                                                                     | 2.98       | 71.87     | 5296.49        | -41.86        | 42.82               | 130.78              | 393562.95           | 791385.31          | 0.00                |         |
| 5400.00                                                                     | 2.98       | 71.87     | 5396.36        | -43.44        | 44.44               | 135.72              | 393564.57           | 791390.25          | 0.00                |         |
| 5500.00                                                                     | 2.98       | 71.87     | 5496.22        | -45.02        | 46.05               | 140.65              | 393566.18           | 791395.18          | 0.00                |         |
| 5600.00                                                                     | 2.98       | 71.87     | 5596.09        | -46.60        | 47.67               | 145.58              | 393567.80           | 791400.11          | 0.00                |         |
| 5700.00                                                                     | 2.98       | 71.87     | 5695.95        | -48.18        | 49.28               | 150.51              | 393569.41           | 791405.04          | 0.00                |         |
| 5800.00                                                                     | 2.98       | 71.87     | 5795.82        | -49.75        | 50.90               | 155.45              | 393571.03           | 791409.98          | 0.00                |         |
| 5900.00                                                                     | 2.98       | 71.87     | 5895.68        | -51.33        | 52.51               | 160.38              | 393572.64           | 791414.91          | 0.00                |         |
| 6000.00                                                                     | 2.98       | 71.87     | 5995.55        | -52.91        | 54.13               | 165.31              | 393574.26           | 791419.84          | 0.00                |         |
| 6100.00                                                                     | 2.98       | 71.87     | 6095.41        | -54.49        | 55.74               | 170.25              | 393575.87           | 791424.78          | 0.00                |         |
| 6200.00                                                                     | 2.98       | 71.87     | 6195.28        | -56.07        | 57.36               | 175.18              | 393577.49           | 791429.71          | 0.00                |         |
| 6300.00                                                                     | 2.98       | 71.87     | 6295.15        | -57.65        | 58.97               | 180.11              | 393579.10           | 791434.64          | 0.00                |         |
| 6400.00                                                                     | 2.98       | 71.87     | 6395.01        | -59.23        | 60.59               | 185.04              | 393580.72           | 791439.57          | 0.00                |         |
| 6500.00                                                                     | 2.98       | 71.87     | 6494.88        | -60.81        | 62.20               | 189.98              | 393582.33           | 791444.51          | 0.00                |         |
| 6600.00                                                                     | 2.98       | 71.87     | 6594.74        | -62.39        | 63.82               | 194.91              | 393583.95           | 791449.44          | 0.00                |         |
| 6700.00                                                                     | 2.98       | 71.87     | 6694.61        | -63.96        | 65.43               | 199.84              | 393585.56           | 791454.37          | 0.00                |         |
| 6800.00                                                                     | 2.98       | 71.87     | 6794.47        | -65.54        | 67.05               | 204.77              | 393587.18           | 791459.30          | 0.00                |         |
| 6900.00                                                                     | 2.98       | 71.87     | 6894.34        | -67.12        | 68.67               | 209.71              | 393588.80           | 791464.24          | 0.00                |         |
| 7000.00                                                                     | 2.98       | 71.87     | 6994.20        | -68.70        | 70.28               | 214.64              | 393590.41           | 791469.17          | 0.00                |         |
| 7100.00                                                                     | 2.98       | 71.87     | 7094.07        | -70.28        | 71.90               | 219.57              | 393592.03           | 791474.10          | 0.00                |         |
| 7200.00                                                                     | 2.98       | 71.87     | 7193.93        | -71.86        | 73.51               | 224.51              | 393593.64           | 791479.04          | 0.00                |         |
| 7300.00                                                                     | 2.98       | 71.87     | 7293.80        | -73.44        | 75.13               | 229.44              | 393595.26           | 791483.97          | 0.00                |         |
| 7400.00                                                                     | 2.98       | 71.87     | 7393.66        | -75.02        | 76.74               | 234.37              | 393596.87           | 791488.90          | 0.00                |         |
| 7500.00                                                                     | 2.98       | 71.87     | 7493.53        | -76.60        | 78.36               | 239.30              | 393598.49           | 791493.83          | 0.00                |         |
| 7600.00                                                                     | 2.98       | 71.87     | 7593.39        | -78.17        | 79.97               | 244.24              | 393600.10           | 791498.77          | 0.00                |         |
| 7700.00                                                                     | 2.98       | 71.87     | 7693.26        | -79.75        | 81.59               | 249.17              | 393601.72           | 791503.70          | 0.00                |         |
| 7800.00                                                                     | 2.98       | 71.87     | 7793.12        | -81.33        | 83.20               | 254.10              | 393603.33           | 791508.63          | 0.00                |         |
| 7900.00                                                                     | 2.98       | 71.87     | 7892.99        | -82.91        | 84.82               | 259.04              | 393604.95           | 791513.57          | 0.00                |         |
| 8000.00                                                                     | 2.98       | 71.87     | 7992.85        | -84.49        | 86.43               | 263.97              | 393606.56           | 791518.50          | 0.00                |         |
| 8100.00                                                                     | 2.98       | 71.87     | 8092.72        | -86.07        | 88.05               | 268.90              | 393608.18           | 791523.43          | 0.00                |         |
| 8200.00                                                                     | 2.98       | 71.87     | 8192.58        | -87.65        | 89.66               | 273.83              | 393609.79           | 791528.36          | 0.00                |         |
| 8300.00                                                                     | 2.98       | 71.87     | 8292.45        | -89.23        | 91.28               | 278.77              | 393611.41           | 791533.30          | 0.00                |         |
| 8400.00                                                                     | 2.98       | 71.87     | 8392.31        | -90.81        | 92.89               | 283.70              | 393613.02           | 791538.23          | 0.00                |         |
| 8500.00                                                                     | 2.98       | 71.87     | 8492.18        | -92.38        | 94.51               | 288.63              | 393614.64           | 791543.16          | 0.00                |         |
| 8600.00                                                                     | 2.98       | 71.87     | 8592.04        | -93.96        | 96.12               | 293.57              | 393616.25           | 791548.10          | 0.00                |         |
| 8700.00                                                                     | 2.98       | 71.87     | 8691.91        | -95.54        | 97.74               | 298.50              | 393617.87           | 791553.03          | 0.00                |         |
| 8800.00                                                                     | 2.98       | 71.87     | 8791.78        | -97.12        | 99.35               | 303.43              | 393619.48           | 791557.96          | 0.00                |         |
| 8900.00                                                                     | 2.98       | 71.87     | 8891.64        | -98.70        | 100.97              | 308.36              | 393621.10           | 791562.89          | 0.00                |         |
| 9000.00                                                                     | 2.98       | 71.87     | 8991.51        | -100.28       | 102.58              | 313.30              | 393622.71           | 791567.83          | 0.00                |         |
| 9100.00                                                                     | 2.98       | 71.87     | 9091.37        | -101.86       | 104.20              | 318.23              | 393624.33           | 791572.76          | 0.00                |         |
| 9200.00                                                                     | 2.98       | 71.87     | 9191.24        | -103.44       | 105.81              | 323.16              | 393625.94           | 791577.69          | 0.00                |         |
| 9300.00                                                                     | 2.98       | 71.87     | 9291.10        | -105.02       | 107.43              | 328.10              | 393627.56           | 791582.63          | 0.00                |         |
| 9400.00                                                                     | 2.98       | 71.87     | 9390.97        | -106.59       | 109.04              | 333.03              | 393629.17           | 791587.56          | 0.00                |         |
| 9500.00                                                                     | 2.98       | 71.87     | 9490.83        | -108.17       | 110.66              | 337.96              | 393630.79           | 791592.49          | 0.00                |         |
| 9600.00                                                                     | 2.98       | 71.87     | 9590.70        | -109.75       | 112.27              | 342.89              | 393632.40           | 791597.42          | 0.00                |         |
| 9700.00                                                                     | 2.98       | 71.87     | 9690.56        | -111.33       | 113.89              | 347.83              | 393634.02           | 791602.36          | 0.00                |         |
| 9800.00                                                                     | 2.98       | 71.87     | 9790.43        | -112.91       | 115.50              | 352.76              | 393635.63           | 791607.29          | 0.00                |         |
| 9900.00                                                                     | 2.98       | 71.87     | 9890.29        | -114.49       | 117.12              | 357.69              | 393637.25           | 791612.22          | 0.00                |         |
| 10000.00                                                                    | 2.98       | 71.87     | 9990.16        | -116.07       | 118.74              | 362.63              | 393638.87           | 791617.16          | 0.00                |         |
| 10100.00                                                                    | 2.98       | 71.87     | 10090.02       | -117.65       | 120.35              | 367.56              | 393640.48           | 791622.09          | 0.00                |         |
| 10200.00                                                                    | 2.98       | 71.87     | 10189.89       | -119.23       | 121.97              | 372.49              | 393642.10           | 791627.02          | 0.00                |         |
| 10300.00                                                                    | 2.98       | 71.87     | 10289.75       | -120.80       | 123.58              | 377.42              | 393643.71           | 791631.95          | 0.00                |         |

## 5D Plan Report

| Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |               |                     |                     |                     |                    |                     |                        |
|-----------------------------------------------------------------------------|------------|-----------|----------------|---------------|---------------------|---------------------|---------------------|--------------------|---------------------|------------------------|
| MD<br>(US ft)                                                               | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | VS<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | Northing<br>(US ft) | Easting<br>(US ft) | DLS<br>(°/100US ft) | Comment                |
| 10400.00                                                                    | 2.98       | 71.87     | 10389.62       | -122.38       | 125.20              | 382.36              | 393645.33           | 791636.89          | 0.00                |                        |
| 10500.00                                                                    | 2.98       | 71.87     | 10489.48       | -123.96       | 126.81              | 387.29              | 393646.94           | 791641.82          | 0.00                |                        |
| 10600.00                                                                    | 2.98       | 71.87     | 10589.35       | -125.54       | 128.43              | 392.22              | 393648.56           | 791646.75          | 0.00                |                        |
| 10700.00                                                                    | 2.98       | 71.87     | 10689.21       | -127.12       | 130.04              | 397.15              | 393650.17           | 791651.68          | 0.00                |                        |
| 10800.00                                                                    | 2.98       | 71.87     | 10789.08       | -128.70       | 131.66              | 402.09              | 393651.79           | 791656.62          | 0.00                |                        |
| 10900.00                                                                    | 2.98       | 71.87     | 10888.94       | -130.28       | 133.27              | 407.02              | 393653.40           | 791661.55          | 0.00                |                        |
| 11000.00                                                                    | 2.98       | 71.87     | 10988.81       | -131.86       | 134.89              | 411.95              | 393655.02           | 791666.48          | 0.00                |                        |
| 11100.00                                                                    | 2.98       | 71.87     | 11088.67       | -133.44       | 136.50              | 416.89              | 393656.63           | 791671.42          | 0.00                |                        |
| 11200.00                                                                    | 2.98       | 71.87     | 11188.54       | -135.01       | 138.12              | 421.82              | 393658.25           | 791676.35          | 0.00                |                        |
| 11300.00                                                                    | 2.98       | 71.87     | 11288.41       | -136.59       | 139.73              | 426.75              | 393659.86           | 791681.28          | 0.00                |                        |
| 11400.00                                                                    | 2.98       | 71.87     | 11388.27       | -138.17       | 141.35              | 431.68              | 393661.48           | 791686.21          | 0.00                |                        |
| 11500.00                                                                    | 2.98       | 71.87     | 11488.14       | -139.75       | 142.96              | 436.62              | 393663.09           | 791691.15          | 0.00                |                        |
| 11600.00                                                                    | 2.98       | 71.87     | 11588.00       | -141.33       | 144.58              | 441.55              | 393664.71           | 791696.08          | 0.00                |                        |
| 11700.00                                                                    | 2.98       | 71.87     | 11687.87       | -142.91       | 146.19              | 446.48              | 393666.32           | 791701.01          | 0.00                |                        |
| 11786.91                                                                    | 2.98       | 71.87     | 11774.66       | -144.28       | 147.60              | 450.77              | 393667.73           | 791705.30          | 0.00                | Drop @ 1°<br>DLS       |
| 11800.00                                                                    | 2.84       | 71.87     | 11787.73       | -144.48       | 147.80              | 451.40              | 393667.93           | 791705.93          | 1.00                |                        |
| 11900.00                                                                    | 1.84       | 71.87     | 11887.65       | -145.73       | 149.08              | 455.29              | 393669.21           | 791709.82          | 1.00                |                        |
| 12000.00                                                                    | 0.84       | 71.87     | 11987.62       | -146.44       | 149.81              | 457.52              | 393669.94           | 791712.05          | 1.00                |                        |
| 12084.43                                                                    | 0.00       | 0.00      | 12072.05       | -146.63       | 150.00              | 458.11              | 393670.13           | 791712.64          | 1.00                | KOP-Build @<br>10° DLS |
| 12100.00                                                                    | 1.56       | 179.58    | 12087.61       | -146.42       | 149.79              | 458.11              | 393669.92           | 791712.64          | 10.00               |                        |
| 12200.00                                                                    | 11.56      | 179.58    | 12186.83       | -135.01       | 138.39              | 458.20              | 393658.52           | 791712.73          | 10.00               |                        |
| 12300.00                                                                    | 21.56      | 179.58    | 12282.57       | -106.55       | 109.93              | 458.40              | 393630.06           | 791712.93          | 10.00               |                        |
| 12400.00                                                                    | 31.56      | 179.58    | 12371.90       | -61.90        | 65.28               | 458.73              | 393585.41           | 791713.26          | 10.00               |                        |
| 12500.00                                                                    | 41.56      | 179.58    | 12452.13       | -2.42         | 5.79                | 459.17              | 393525.92           | 791713.70          | 10.00               |                        |
| 12600.00                                                                    | 51.56      | 179.58    | 12520.80       | 70.10         | -66.72              | 459.70              | 393453.41           | 791714.23          | 10.00               |                        |
| 12700.00                                                                    | 61.56      | 179.58    | 12575.84       | 153.43        | -150.05             | 460.31              | 393370.08           | 791714.84          | 10.00               |                        |
| 12800.00                                                                    | 71.56      | 179.58    | 12615.58       | 245.06        | -241.68             | 460.99              | 393278.45           | 791715.52          | 10.00               |                        |
| 12900.00                                                                    | 81.56      | 179.58    | 12638.80       | 342.20        | -338.81             | 461.70              | 393181.32           | 791716.23          | 10.00               |                        |
| 12981.53                                                                    | 89.71      | 179.58    | 12645.00       | 423.42        | -420.03             | 462.30              | 393100.10           | 791716.83          | 10.00               | Landing Pt             |
| 13000.00                                                                    | 89.71      | 179.58    | 12645.09       | 441.89        | -438.51             | 462.43              | 393081.62           | 791716.96          | 0.00                |                        |
| 13100.00                                                                    | 89.71      | 179.58    | 12645.60       | 541.89        | -538.50             | 463.17              | 392981.63           | 791717.70          | 0.00                |                        |
| 13200.00                                                                    | 89.71      | 179.58    | 12646.11       | 641.89        | -638.50             | 463.90              | 392881.63           | 791718.43          | 0.00                |                        |
| 13300.00                                                                    | 89.71      | 179.58    | 12646.62       | 741.89        | -738.49             | 464.63              | 392781.64           | 791719.16          | 0.00                |                        |
| 13400.00                                                                    | 89.71      | 179.58    | 12647.13       | 841.89        | -838.49             | 465.37              | 392681.64           | 791719.90          | 0.00                |                        |
| 13500.00                                                                    | 89.71      | 179.58    | 12647.63       | 941.89        | -938.49             | 466.10              | 392581.64           | 791720.63          | 0.00                |                        |
| 13600.00                                                                    | 89.71      | 179.58    | 12648.14       | 1041.89       | -1038.48            | 466.84              | 392481.65           | 791721.37          | 0.00                |                        |
| 13700.00                                                                    | 89.71      | 179.58    | 12648.65       | 1141.88       | -1138.48            | 467.57              | 392381.65           | 791722.10          | 0.00                |                        |
| 13800.00                                                                    | 89.71      | 179.58    | 12649.16       | 1241.88       | -1238.47            | 468.30              | 392281.66           | 791722.83          | 0.00                |                        |
| 13900.00                                                                    | 89.71      | 179.58    | 12649.66       | 1341.88       | -1338.47            | 469.04              | 392181.66           | 791723.57          | 0.00                |                        |
| 14000.00                                                                    | 89.71      | 179.58    | 12650.17       | 1441.88       | -1438.47            | 469.77              | 392081.66           | 791724.30          | 0.00                |                        |
| 14100.00                                                                    | 89.71      | 179.58    | 12650.68       | 1541.88       | -1538.46            | 470.51              | 391981.67           | 791725.04          | 0.00                |                        |
| 14200.00                                                                    | 89.71      | 179.58    | 12651.19       | 1641.88       | -1638.46            | 471.24              | 391881.67           | 791725.77          | 0.00                |                        |
| 14300.00                                                                    | 89.71      | 179.58    | 12651.69       | 1741.88       | -1738.45            | 471.98              | 391781.68           | 791726.51          | 0.00                |                        |
| 14400.00                                                                    | 89.71      | 179.58    | 12652.20       | 1841.87       | -1838.45            | 472.71              | 391681.68           | 791727.24          | 0.00                |                        |
| 14500.00                                                                    | 89.71      | 179.58    | 12652.71       | 1941.87       | -1938.45            | 473.44              | 391581.68           | 791727.97          | 0.00                |                        |
| 14600.00                                                                    | 89.71      | 179.58    | 12653.22       | 2041.87       | -2038.44            | 474.18              | 391481.69           | 791728.71          | 0.00                |                        |
| 14700.00                                                                    | 89.71      | 179.58    | 12653.73       | 2141.87       | -2138.44            | 474.91              | 391381.69           | 791729.44          | 0.00                |                        |
| 14800.00                                                                    | 89.71      | 179.58    | 12654.23       | 2241.87       | -2238.44            | 475.65              | 391281.69           | 791730.18          | 0.00                |                        |
| 14900.00                                                                    | 89.71      | 179.58    | 12654.74       | 2341.87       | -2338.43            | 476.38              | 391181.70           | 791730.91          | 0.00                |                        |
| 15000.00                                                                    | 89.71      | 179.58    | 12655.25       | 2441.87       | -2438.43            | 477.12              | 391081.70           | 791731.65          | 0.00                |                        |
| 15100.00                                                                    | 89.71      | 179.58    | 12655.76       | 2541.87       | -2538.42            | 477.85              | 390981.71           | 791732.38          | 0.00                |                        |
| 15200.00                                                                    | 89.71      | 179.58    | 12656.26       | 2641.86       | -2638.42            | 478.58              | 390881.71           | 791733.11          | 0.00                |                        |
| 15300.00                                                                    | 89.71      | 179.58    | 12656.77       | 2741.86       | -2738.42            | 479.32              | 390781.71           | 791733.85          | 0.00                |                        |
| 15400.00                                                                    | 89.71      | 179.58    | 12657.28       | 2841.86       | -2838.41            | 480.05              | 390681.72           | 791734.58          | 0.00                |                        |
| 15500.00                                                                    | 89.71      | 179.58    | 12657.79       | 2941.86       | -2938.41            | 480.79              | 390581.72           | 791735.32          | 0.00                |                        |
| 15600.00                                                                    | 89.71      | 179.58    | 12658.30       | 3041.86       | -3038.40            | 481.52              | 390481.73           | 791736.05          | 0.00                |                        |
| 15700.00                                                                    | 89.71      | 179.58    | 12658.80       | 3141.86       | -3138.40            | 482.25              | 390381.73           | 791736.78          | 0.00                |                        |

## SD Plan Report

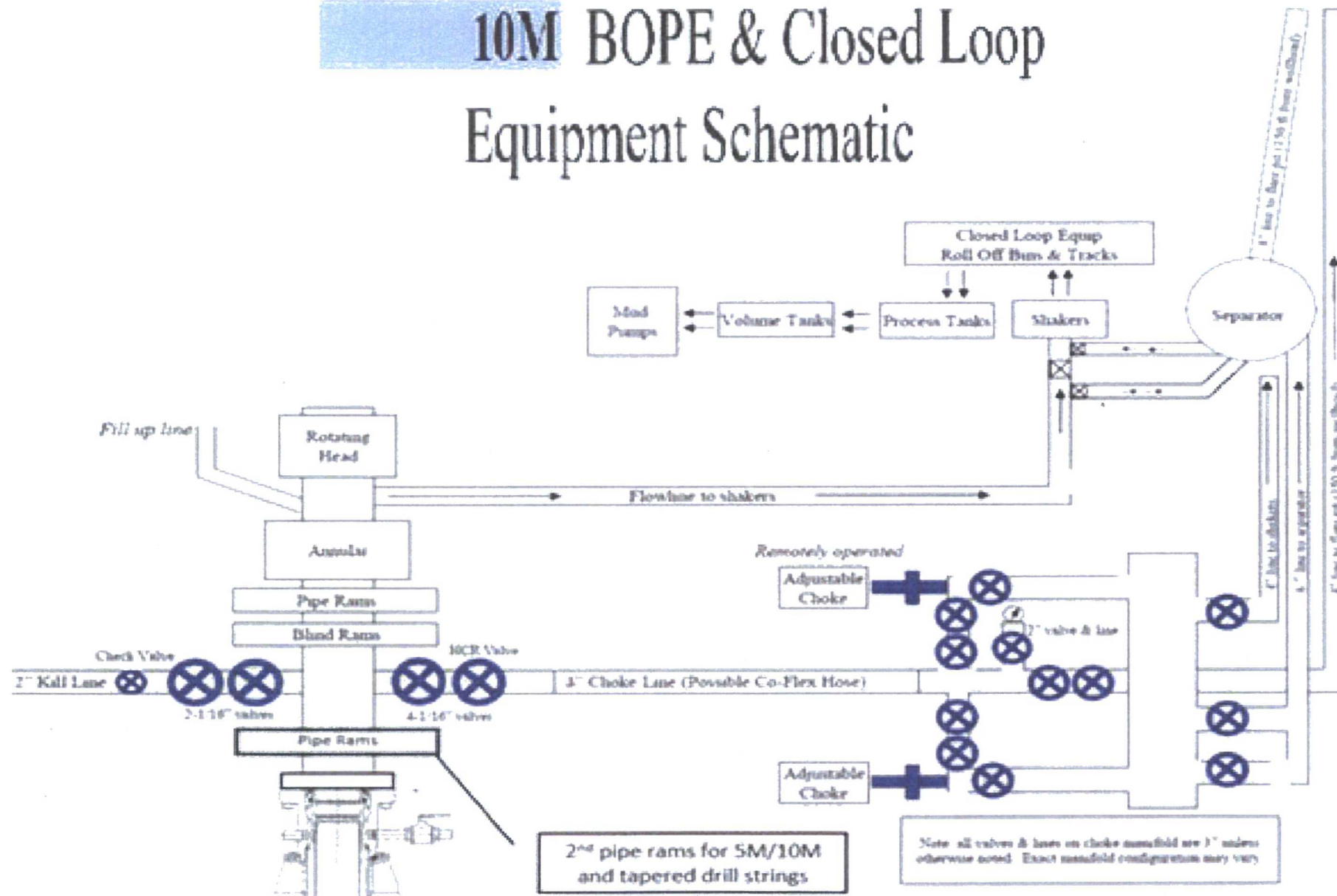
| Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |               |                     |                     |                     |                    |                     | Comment |
|-----------------------------------------------------------------------------|------------|-----------|----------------|---------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------|
| MD<br>(US ft)                                                               | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | VS<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | Northing<br>(US ft) | Easting<br>(US ft) | DLS<br>(°/100US ft) |         |
| 15800.00                                                                    | 89.71      | 179.58    | 12659.31       | 3241.86       | -3238.40            | 482.99              | 390281.73           | 791737.52          | 0.00                |         |
| 15900.00                                                                    | 89.71      | 179.58    | 12659.82       | 3341.86       | -3338.39            | 483.72              | 390181.74           | 791738.25          | 0.00                |         |
| 16000.00                                                                    | 89.71      | 179.58    | 12660.33       | 3441.85       | -3438.39            | 484.46              | 390081.74           | 791738.99          | 0.00                |         |
| 16100.00                                                                    | 89.71      | 179.58    | 12660.83       | 3541.85       | -3538.38            | 485.19              | 389981.75           | 791739.72          | 0.00                |         |
| 16200.00                                                                    | 89.71      | 179.58    | 12661.34       | 3641.85       | -3638.38            | 485.93              | 389881.75           | 791740.46          | 0.00                |         |
| 16300.00                                                                    | 89.71      | 179.58    | 12661.85       | 3741.85       | -3738.38            | 486.66              | 389781.75           | 791741.19          | 0.00                |         |
| 16400.00                                                                    | 89.71      | 179.58    | 12662.36       | 3841.85       | -3838.37            | 487.39              | 389681.76           | 791741.92          | 0.00                |         |
| 16500.00                                                                    | 89.71      | 179.58    | 12662.87       | 3941.85       | -3938.37            | 488.13              | 389581.76           | 791742.66          | 0.00                |         |
| 16600.00                                                                    | 89.71      | 179.58    | 12663.37       | 4041.85       | -4038.36            | 488.86              | 389481.77           | 791743.39          | 0.00                |         |
| 16700.00                                                                    | 89.71      | 179.58    | 12663.88       | 4141.85       | -4138.36            | 489.60              | 389381.77           | 791744.13          | 0.00                |         |
| 16800.00                                                                    | 89.71      | 179.58    | 12664.39       | 4241.84       | -4238.36            | 490.33              | 389281.77           | 791744.86          | 0.00                |         |
| 16900.00                                                                    | 89.71      | 179.58    | 12664.90       | 4341.84       | -4338.35            | 491.07              | 389181.78           | 791745.60          | 0.00                |         |
| 17000.00                                                                    | 89.71      | 179.58    | 12665.40       | 4441.84       | -4438.35            | 491.80              | 389081.78           | 791746.33          | 0.00                |         |
| 17100.00                                                                    | 89.71      | 179.58    | 12665.91       | 4541.84       | -4538.34            | 492.53              | 388981.79           | 791747.06          | 0.00                |         |
| 17200.00                                                                    | 89.71      | 179.58    | 12666.42       | 4641.84       | -4638.34            | 493.27              | 388881.79           | 791747.80          | 0.00                |         |
| 17300.00                                                                    | 89.71      | 179.58    | 12666.93       | 4741.84       | -4738.34            | 494.00              | 388781.79           | 791748.53          | 0.00                |         |
| 17400.00                                                                    | 89.71      | 179.58    | 12667.43       | 4841.84       | -4838.33            | 494.74              | 388681.80           | 791749.27          | 0.00                |         |
| 17500.00                                                                    | 89.71      | 179.58    | 12667.94       | 4941.83       | -4938.33            | 495.47              | 388581.80           | 791750.00          | 0.00                |         |
| 17600.00                                                                    | 89.71      | 179.58    | 12668.45       | 5041.83       | -5038.32            | 496.20              | 388481.81           | 791750.73          | 0.00                |         |
| 17700.00                                                                    | 89.71      | 179.58    | 12668.96       | 5141.83       | -5138.32            | 496.94              | 388381.81           | 791751.47          | 0.00                |         |
| 17800.00                                                                    | 89.71      | 179.58    | 12669.47       | 5241.83       | -5238.32            | 497.67              | 388281.81           | 791752.20          | 0.00                |         |
| 17900.00                                                                    | 89.71      | 179.58    | 12669.97       | 5341.83       | -5338.31            | 498.41              | 388181.82           | 791752.94          | 0.00                |         |
| 18000.00                                                                    | 89.71      | 179.58    | 12670.48       | 5441.83       | -5438.31            | 499.14              | 388081.82           | 791753.67          | 0.00                |         |
| 18100.00                                                                    | 89.71      | 179.58    | 12670.99       | 5541.83       | -5538.30            | 499.88              | 387981.83           | 791754.41          | 0.00                |         |
| 18200.00                                                                    | 89.71      | 179.58    | 12671.50       | 5641.83       | -5638.30            | 500.61              | 387881.83           | 791755.14          | 0.00                |         |
| 18300.00                                                                    | 89.71      | 179.58    | 12672.00       | 5741.82       | -5738.30            | 501.34              | 387781.83           | 791755.87          | 0.00                |         |
| 18400.00                                                                    | 89.71      | 179.58    | 12672.51       | 5841.82       | -5838.29            | 502.08              | 387681.84           | 791756.61          | 0.00                |         |
| 18500.00                                                                    | 89.71      | 179.58    | 12673.02       | 5941.82       | -5938.29            | 502.81              | 387581.84           | 791757.34          | 0.00                |         |
| 18600.00                                                                    | 89.71      | 179.58    | 12673.53       | 6041.82       | -6038.28            | 503.55              | 387481.85           | 791758.08          | 0.00                |         |
| 18700.00                                                                    | 89.71      | 179.58    | 12674.04       | 6141.82       | -6138.28            | 504.28              | 387381.85           | 791758.81          | 0.00                |         |
| 18800.00                                                                    | 89.71      | 179.58    | 12674.54       | 6241.82       | -6238.28            | 505.01              | 387281.85           | 791759.54          | 0.00                |         |
| 18900.00                                                                    | 89.71      | 179.58    | 12675.05       | 6341.82       | -6338.27            | 505.75              | 387181.86           | 791760.28          | 0.00                |         |
| 19000.00                                                                    | 89.71      | 179.58    | 12675.56       | 6441.82       | -6438.27            | 506.48              | 387081.86           | 791761.01          | 0.00                |         |
| 19100.00                                                                    | 89.71      | 179.58    | 12676.07       | 6541.81       | -6538.26            | 507.22              | 386981.87           | 791761.75          | 0.00                |         |
| 19200.00                                                                    | 89.71      | 179.58    | 12676.57       | 6641.81       | -6638.26            | 507.95              | 386881.87           | 791762.48          | 0.00                |         |
| 19300.00                                                                    | 89.71      | 179.58    | 12677.08       | 6741.81       | -6738.26            | 508.69              | 386781.87           | 791763.22          | 0.00                |         |
| 19400.00                                                                    | 89.71      | 179.58    | 12677.59       | 6841.81       | -6838.25            | 509.42              | 386681.88           | 791763.95          | 0.00                |         |
| 19500.00                                                                    | 89.71      | 179.58    | 12678.10       | 6941.81       | -6938.25            | 510.15              | 386581.88           | 791764.68          | 0.00                |         |
| 19600.00                                                                    | 89.71      | 179.58    | 12678.61       | 7041.81       | -7038.24            | 510.89              | 386481.89           | 791765.42          | 0.00                |         |
| 19700.00                                                                    | 89.71      | 179.58    | 12679.11       | 7141.81       | -7138.24            | 511.62              | 386381.89           | 791766.15          | 0.00                |         |
| 19800.00                                                                    | 89.71      | 179.58    | 12679.62       | 7241.81       | -7238.24            | 512.36              | 386281.89           | 791766.89          | 0.00                |         |
| 19900.00                                                                    | 89.71      | 179.58    | 12680.13       | 7341.80       | -7338.23            | 513.09              | 386181.90           | 791767.62          | 0.00                |         |
| 20000.00                                                                    | 89.71      | 179.58    | 12680.64       | 7441.80       | -7438.23            | 513.83              | 386081.90           | 791768.36          | 0.00                |         |
| 20100.00                                                                    | 89.71      | 179.58    | 12681.14       | 7541.80       | -7538.22            | 514.56              | 385981.91           | 791769.09          | 0.00                |         |
| 20200.00                                                                    | 89.71      | 179.58    | 12681.65       | 7641.80       | -7638.22            | 515.29              | 385881.91           | 791769.82          | 0.00                |         |
| 20300.00                                                                    | 89.71      | 179.58    | 12682.16       | 7741.80       | -7738.22            | 516.03              | 385781.91           | 791770.56          | 0.00                |         |
| 20400.00                                                                    | 89.71      | 179.58    | 12682.67       | 7841.80       | -7838.21            | 516.76              | 385681.92           | 791771.29          | 0.00                |         |
| 20500.00                                                                    | 89.71      | 179.58    | 12683.17       | 7941.80       | -7938.21            | 517.50              | 385581.92           | 791772.03          | 0.00                |         |
| 20600.00                                                                    | 89.71      | 179.58    | 12683.68       | 8041.79       | -8038.20            | 518.23              | 385481.93           | 791772.76          | 0.00                |         |
| 20700.00                                                                    | 89.71      | 179.58    | 12684.19       | 8141.79       | -8138.20            | 518.96              | 385381.93           | 791773.49          | 0.00                |         |
| 20800.00                                                                    | 89.71      | 179.58    | 12684.70       | 8241.79       | -8238.20            | 519.70              | 385281.93           | 791774.23          | 0.00                |         |
| 20900.00                                                                    | 89.71      | 179.58    | 12685.21       | 8341.79       | -8338.19            | 520.43              | 385181.94           | 791774.96          | 0.00                |         |
| 21000.00                                                                    | 89.71      | 179.58    | 12685.71       | 8441.79       | -8438.19            | 521.17              | 385081.94           | 791775.70          | 0.00                |         |
| 21100.00                                                                    | 89.71      | 179.58    | 12686.22       | 8541.79       | -8538.18            | 521.90              | 384981.95           | 791776.43          | 0.00                |         |
| 21200.00                                                                    | 89.71      | 179.58    | 12686.73       | 8641.79       | -8638.18            | 522.64              | 384881.95           | 791777.17          | 0.00                |         |
| 21300.00                                                                    | 89.71      | 179.58    | 12687.24       | 8741.79       | -8738.18            | 523.37              | 384781.95           | 791777.90          | 0.00                |         |
| 21400.00                                                                    | 89.71      | 179.58    | 12687.74       | 8841.78       | -8838.17            | 524.10              | 384681.96           | 791778.63          | 0.00                |         |
| 21500.00                                                                    | 89.71      | 179.58    | 12688.25       | 8941.78       | -8938.17            | 524.84              | 384581.96           | 791779.37          | 0.00                |         |
| 21600.00                                                                    | 89.71      | 179.58    | 12688.76       | 9041.78       | -9038.16            | 525.57              | 384481.97           | 791780.10          | 0.00                |         |

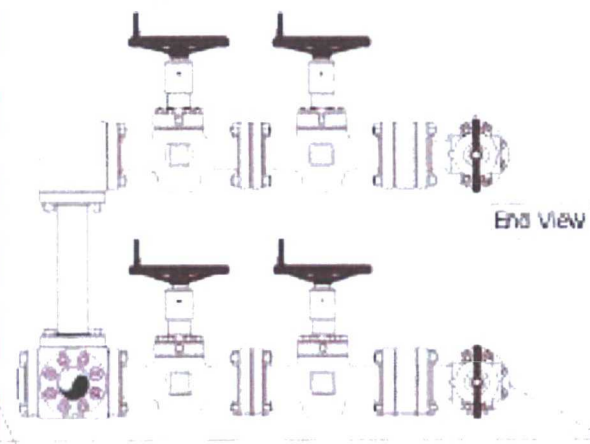
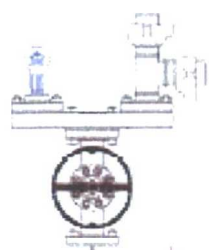
## SD Plan Report

| Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |               |                     |                     |                     |                    |                     | Comment  |
|-----------------------------------------------------------------------------|------------|-----------|----------------|---------------|---------------------|---------------------|---------------------|--------------------|---------------------|----------|
| MD<br>(US ft)                                                               | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | VS<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | Northing<br>(US ft) | Easting<br>(US ft) | DLS<br>(°/100US ft) |          |
| 21700.00                                                                    | 89.71      | 179.58    | 12689.27       | 9141.78       | -9138.16            | 526.31              | 384381.97           | 791780.84          | 0.00                |          |
| 21800.00                                                                    | 89.71      | 179.58    | 12689.78       | 9241.78       | -9238.16            | 527.04              | 384281.97           | 791781.57          | 0.00                |          |
| 21900.00                                                                    | 89.71      | 179.58    | 12690.28       | 9341.78       | -9338.15            | 527.78              | 384181.98           | 791782.31          | 0.00                |          |
| 22000.00                                                                    | 89.71      | 179.58    | 12690.79       | 9441.78       | -9438.15            | 528.51              | 384081.98           | 791783.04          | 0.00                |          |
| 22100.00                                                                    | 89.71      | 179.58    | 12691.30       | 9541.78       | -9538.14            | 529.24              | 383981.99           | 791783.77          | 0.00                |          |
| 22200.00                                                                    | 89.71      | 179.58    | 12691.81       | 9641.77       | -9638.14            | 529.98              | 383881.99           | 791784.51          | 0.00                |          |
| 22300.00                                                                    | 89.71      | 179.58    | 12692.31       | 9741.77       | -9738.14            | 530.71              | 383781.99           | 791785.24          | 0.00                |          |
| 22400.00                                                                    | 89.71      | 179.58    | 12692.82       | 9841.77       | -9838.13            | 531.45              | 383682.00           | 791785.98          | 0.00                |          |
| 22500.00                                                                    | 89.71      | 179.58    | 12693.33       | 9941.77       | -9938.13            | 532.18              | 383582.00           | 791786.71          | 0.00                |          |
| 22600.00                                                                    | 89.71      | 179.58    | 12693.84       | 10041.77      | -10038.12           | 532.91              | 383482.01           | 791787.44          | 0.00                |          |
| 22632.05                                                                    | 89.71      | 179.58    | 12694.00       | 10073.82      | -10070.17           | 533.15              | 383449.96           | 791787.68          | 0.00                | PBHL 84H |

| Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor) |               |            |           |                |                     |                     |                     |                    |                     | Comment |
|--------------------------------------------------------------------------|---------------|------------|-----------|----------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------|
| Name                                                                     | MD<br>(US ft) | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | Northing<br>(US ft) | Easting<br>(US ft) | DLS<br>(°/100US ft) |         |
| Wolfcamp 120                                                             | N/A           | 2.98       | 71.87     | 12733.00       | 11.24               | 34.32               | 393531.37           | 791288.85          |                     |         |
| Wolfcamp 130                                                             | N/A           | 2.98       | 71.87     | 12800.00       | 11.24               | 34.32               | 393531.37           | 791288.85          |                     |         |
| Rustler                                                                  | 804.00        | 0.00       | 0.00      | 804.00         | 0.00                | -0.00               | 393520.13           | 791254.53          |                     |         |
| Top of Salt                                                              | 1152.00       | 0.00       | 0.00      | 1152.00        | 0.00                | -0.00               | 393520.13           | 791254.53          |                     |         |
| Base of Salt                                                             | 4877.94       | 2.98       | 71.87     | 4875.00        | 36.01               | 109.96              | 393556.14           | 791364.49          |                     |         |
| Delaware                                                                 | 5120.26       | 2.98       | 71.87     | 5117.00        | 39.92               | 121.92              | 393560.05           | 791376.45          |                     |         |
| Lower Brushy Canyon                                                      | 9178.74       | 2.98       | 71.87     | 9170.00        | 105.47              | 322.11              | 393625.60           | 791576.64          |                     |         |
| 1st BSPG Lime                                                            | 9358.98       | 2.98       | 71.87     | 9350.00        | 108.38              | 331.00              | 393628.51           | 791585.53          |                     |         |
| 1st BSPG Sand                                                            | 10298.24      | 2.98       | 71.87     | 10288.00       | 123.55              | 377.34              | 393643.68           | 791631.87          |                     |         |
| 2nd BSPG Lime                                                            | 10573.62      | 2.98       | 71.87     | 10563.00       | 128.00              | 390.92              | 393648.13           | 791645.45          |                     |         |
| 2nd BSPG Sand                                                            | 10846.98      | 2.98       | 71.87     | 10836.00       | 132.42              | 404.41              | 393652.55           | 791658.94          |                     |         |
| 3rd BSPG Lime                                                            | 11341.65      | 2.98       | 71.87     | 11330.00       | 140.41              | 428.81              | 393660.54           | 791683.34          |                     |         |
| 3rd BSPG Sand                                                            | 11926.36      | 1.58       | 71.87     | 11914.00       | 149.32              | 456.04              | 393669.45           | 791710.57          |                     |         |
| Wolfcamp                                                                 | 12433.60      | 34.92      | 179.58    | 12400.00       | 46.87               | 458.87              | 393567.00           | 791713.40          |                     |         |
| Wolfcamp X                                                               | 12467.23      | 38.28      | 179.58    | 12427.00       | 26.81               | 459.01              | 393546.94           | 791713.54          |                     |         |
| Wolfcamp Y                                                               | 12603.54      | 51.91      | 179.58    | 12523.00       | -69.50              | 459.72              | 393450.63           | 791714.25          |                     |         |
| Wolfcamp 100                                                             | 12717.62      | 63.32      | 179.58    | 12584.00       | -165.67             | 460.43              | 393354.46           | 791714.96          |                     |         |
| Wolfcamp 110                                                             | 15147.26      | 89.71      | 179.58    | 12656.00       | -2585.68            | 478.20              | 390934.45           | 791732.73          |                     |         |

# 10M BOPE & Closed Loop Equipment Schematic





End View

Top choke will be hydraulic

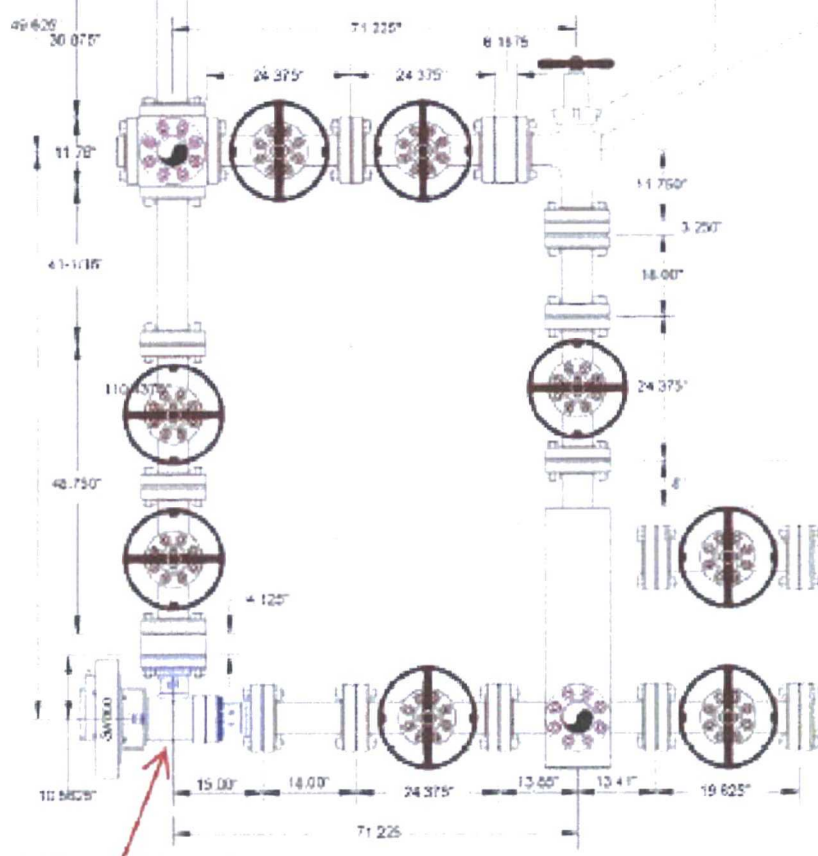
Bottom choke will be manu

Flexible choke line input from BOP.

To Panic Line.

End View

Side View



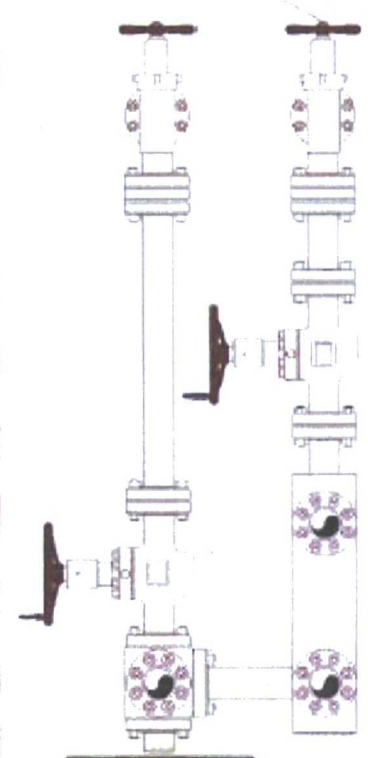
Hydraulic choke.

To Trip Tank.

To Shakers.

To Gas Buster

Side View



# 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   |

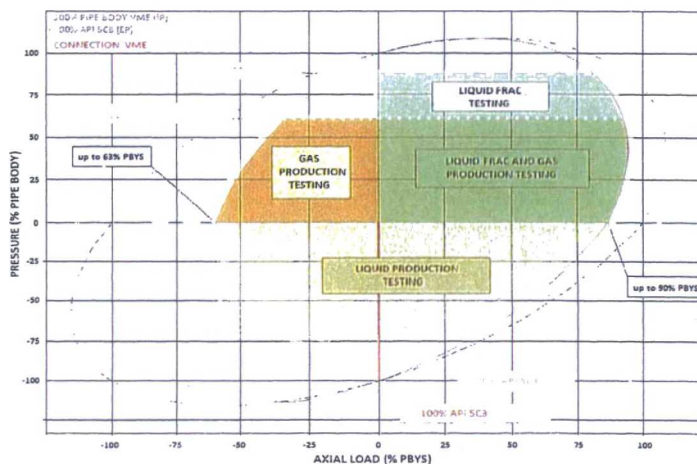
| CONNECTION PROPERTIES       |              |
|-----------------------------|--------------|
| Connection OD               | 5.697 in     |
| Connection ID               | 4.711 in     |
| Make up Loss                | 6.335 in     |
| Connection Critical Area    | 5.071 sq. in |
| %PB Section Area            | 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         | <a href="mailto:tech.support@vam-usa.com">tech.support@vam-usa.com</a> |

| 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.



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## 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                     | 5.778 in.  |
| Nominal Cross Section Area     | 5.828 sqin |
| Grade Type                     | High Yield |
| Min. Yield Strength            | 125 ksi    |
| Max. Yield Strength            | 140 ksi    |
| Min. Ultimate Tensile Strength | 135 ksi    |

### CONNECTION PROPERTIES

|                              |               |
|------------------------------|---------------|
| Connection Type              | Premium T&C   |
| Connection OD (nom)          | 5.571 in.     |
| Connection ID (nom)          | 4.715 in.     |
| Make-up Length               | 4.862 in.     |
| Coupling Length              | 10.748 in.    |
| Critical Cross Section       | 5.728 sqin    |
| Tension Efficiency           | 100 % of pipe |
| Compression Efficiency       | 98 % of pipe  |
| Internal Pressure Efficiency | 100 % of pipe |
| External Pressure Efficiency | 100 % of pipe |

### CONNECTION PERFORMANCES

|                                        |             |
|----------------------------------------|-------------|
| Tensile Yield Strength                 | 729 klb     |
| Compression Resistance                 | 713 klb     |
| Internal Yield Pressure                | 14,360 psi  |
| External Pressure Resistance           | 2,058 psi   |
| Max. Bending with Sealability (CAL 15) | 20 °/100 ft |
| Max. Load on Coupling Face             | 998 klb     |

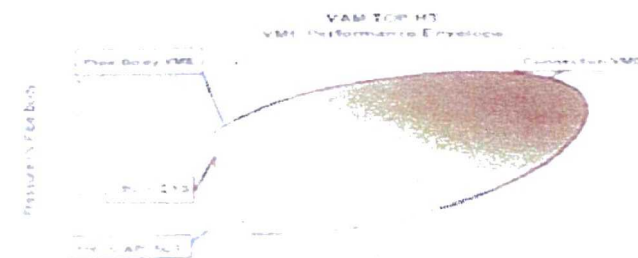
### FIELD TORQUE VALUES

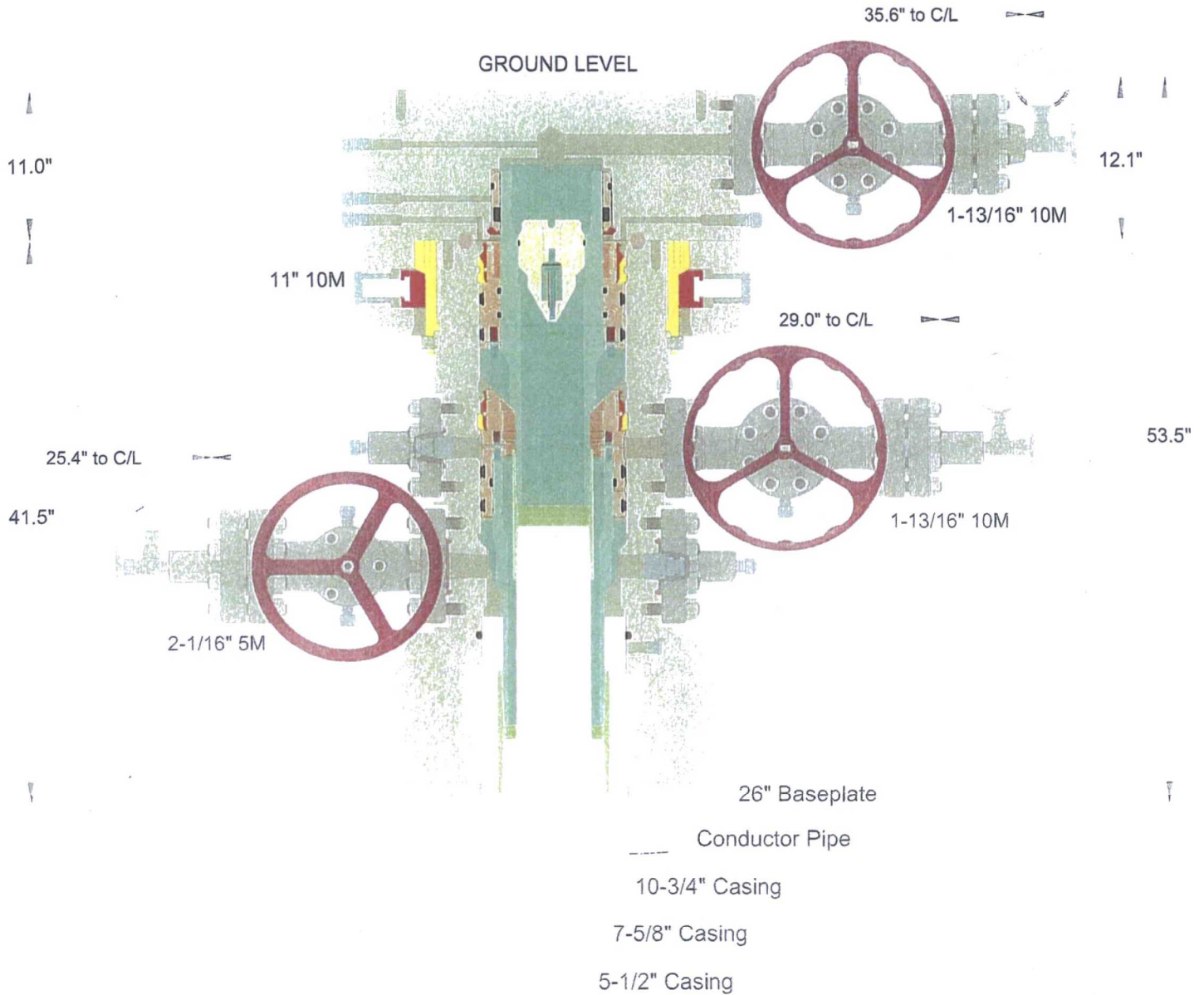
|                     |             |
|---------------------|-------------|
| Min. Make-up torque | 10850 ft lb |
| Opt. Make-up torque | 11960 ft lb |
| Max. Make-up torque | 13050 ft lb |
| Field Line Max      | 25400 ft lb |

**VAM® TOP HT (High Torque)** is a T&C connection that has the main features of the VAM® T&C connection.

This connection provides reinforced torque capability for liners and where High Torque is anticipated due to string rotation during running operations (torque rotating liner while running, rotating casing while cementing). It can be used for torque up to 15,000 ft lb (20,000 ft lb) requirements.

VAM® TOP HT is interchangeable with VAM® T&C product line with the same or higher OD.





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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 |

FEB 06 2018

RECEIVED

**PECOS DISTRICT  
DRILLING OPERATIONS  
CONDITIONS OF APPROVAL**

|                       |                                   |
|-----------------------|-----------------------------------|
| OPERATOR'S NAME:      | Devon Energy Production Co, LP    |
| LEASE NO.:            | NMNM114988                        |
| WELL NAME & NO.:      | 84H-Seawolf 1 12 Fed              |
| SURFACE HOLE FOOTAGE: | 160'/N & 2527'/W                  |
| BOTTOM HOLE FOOTAGE:  | 330'/S & 2188'/E                  |
| LOCATION:             | Section 1, T.26 S., R.33 E., NMPM |
| COUNTY:               | Lea County, New Mexico            |

|                      |                                               |                                            |                                          |
|----------------------|-----------------------------------------------|--------------------------------------------|------------------------------------------|
| Potash               | <input checked="" type="radio"/> None         | <input checked="" type="radio"/> Secretary | <input checked="" type="radio"/> R-111-P |
| Cave/Karst Potential | <input checked="" type="radio"/> Low          | <input checked="" type="radio"/> Medium    | <input checked="" type="radio"/> High    |
| Variance             | <input checked="" type="radio"/> None         | <input checked="" type="radio"/> Flex Hose | <input checked="" type="radio"/> Other   |
| Wellhead             | <input checked="" type="radio"/> Conventional | <input checked="" type="radio"/> Multibowl |                                          |
| Other                | <input type="checkbox"/> 4 String Area        | <input type="checkbox"/> Capitan Reef      | <input type="checkbox"/> 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.

- 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.
- 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 01172018**

## 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.

## 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. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - 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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. 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.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin

after cut-off or once cement reaches 500 psi compressive strength (including 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.