District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

HOBBS OCD
FEB 11 2013
RECEIVED

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144 CLEZ
Revised August 1, 2011

**For closed-loop systems *that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure*,** submit to the appropriate NMOCD District Office.

# Closed-Loop System Permit or Closure Plan Application

*(that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)*

Type of action: ☒ Permit ☐ Closure

***Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.***

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Nearburg Producing Company OGRID #: 015742
Address: 3300 N A Street, Bldg. 2, Ste. 120, Midland, TX 79705
Facility or well name: SHUGART WEST 32 STATE #4H
API Number: 30-015-41072 OCD Permit Number: 213953
U/L or Qtr/Qtr P Section 32 Township 18S Range 31E County: Eddy
Center of Proposed Design: Latitude 32.697459 N Longitude 103.885115 W NAD: ☒ 1927 ☐ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Operation: ☒ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) ☐ P&A
☐ Above Ground Steel Tanks or ☒ Haul-off Bins

3.
**Signs:** Subsection C of 19.15.17.11 NMAC
☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
☒ Signed in compliance with 19.15.16.8 NMAC

RECEIVED
FEB 13 2013
NMOCD ARTESIA

4.
**Closed-loop Systems Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC
***Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.***
☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☒ Closure Plan (Please complete Box 5) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Previously Approved Design (attach copy of design) API Number: _____
☐ Previously Approved Operating and Maintenance Plan API Number: _____

5.
**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19.15.17.13.D NMAC)
***Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.***
Disposal Facility Name: CRI Disposal Facility Permit Number: R1966/NM-01-0006
Disposal Facility Name: _____ Disposal Facility Permit Number: _____
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information below) ☒ No

*Required for impacted areas which will not be used for future service and operations:*
☐ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

6.
**Operator Application Certification:**
*I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.*
Name (Print): Vicki Johnston Title: Gray Surface Specialties
Agent for Nearburg Producing Company
Signature: Vicki Johnston Date: 2/5/13
e-mail address: vjohnston1@gmail.com Telephone: (432) 685-9158

7.
**OCD Approval:** ☒ Permit Application (including closure plan) ☐ Closure Plan (only)

**OCD Representative Signature:** _____ **Approval Date:** 2/13/13

**Title:** Dist II Supervisor **OCD Permit Number:** 213953

8.
**Closure Report (required within 60 days of closure completion):** Subsection K of 19.15.17.13 NMAC

***Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.***

☐ **Closure Completion Date:** _____

9.
**Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

***Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.***

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

*Required for impacted areas which will not be used for future service and operations:*

☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

10.
**Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

**DESIGN PLAN**

**OPERATING AND MAINTENANCE PLAN**

**CLOSURE PLAN**

- All drilling fluid circulated over shaker(s) with cuttings discharged into roll-off container.
- Fluid and fines below shaker(s) are circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll-off container.
- Fluid is continuously re-circulated through equipment with polymer added to aid separation of cutting fines.
- Roll-off containers are lined and de-watered with fluids re-circulated into system.
- Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.
- Closed Loop Equipment will be inspected and monitored closely on a daily basis by each tour, and any necessary maintenance will be performed.
- Any leak in the system will be repaired and/or contained immediately. Within 48 hours of a spill/release, the NMOCD district office in Hobbs will be notified. Notifications may be made earlier if a greater release occurs. Notifications will be made in accordance with the reporting requirements specified in NMOCD Rule 116.
- During and after drilling operations, liquids (which apply), all drill cuttings, and drilling fluids will be hauled to one of the following depending upon which rig is available to drill this well:
    - CRI Permit Number NM-01-0006 -- R-9166
    - GMI Permit Number NM-01-0019 – 711-019-001

**Nearburg Producing Company**
**SHUGART WEST 32 STATE #4H**
**SHL: 330' FSL and 800' FEL, Unit P**
**BHL: 330' FNL and 800' FEL, Unit A**
**Sec 32, T18S, R31E**
**Eddy County, New Mexico**

**Nearburg Producing Company**
**SHUGART WEST 32 STATE #4H**
**SHL: 330' FSL and 800' FEL, Unit P**
**BHL: 330' FNL and 800' FEL, Unit A**
**Sec 32, T-18S, R31E, Eddy County, NM**



## CEMENT SCHEDULE

**13-3/8" CASING:**

**LEAD:**
360 sxs Class C Cement+2% bwoc Calcium Chloride+0.125 bwoc Cello Flake+4% Gel + 81.4% Fresh Water. Weight 13.58 ppg Yield 1.75 cfs
**TAIL:**
250 sxs Class C Cement+2% bwoc Calcium Chloride+0.125 bwoc Cello Flakes+56.3% Fresh Water. Weight 14.8 ppg Yield 1.32 cfs

**9-5/8" CASING:**

**LEAD:**
1000 sxs 50:50 Poz (Fly Ash): Class C Cement+10% bwoc Bentonite+0.125% bwoc CelloFlake +5% bwow Sodium Chloride+0.3% bwoc FL-52+5% bwoc LCM-1+135.5% Fresh Water. Weight 11.8 ppg Yield 2.45 cfs Mix Water 13.65 gps
**TAIL:**
370 sxs "C" Neat. Weight 14.8 ppg Yield 1.33 cfs Mix Water 6.33 gps
These volumes based on circulating cement to surface. 100% excess.

**5-1/2" CASING:**

**1st STAGE**
**LEAD:**
500 sxs (65/35) Poz (Fly Ash): Class H Cement: +5% bwoc FL-25+2% bwoc Benonite+5% bow Sodium Chloride+3% bwoc CD-32+0.2% bwoc R-3+0.5% bwoc FL-32A+102.5% Fresh Water. Weight 12.5 ppg Yield 2.01 cfs
**TAIL:**
1500 sxs (50/50) Poz (Fly Ash): Class H Cement: +0.2% bwoc R-3+0.125 2% bwoc Cello-flakes +1% bow Sodium Chloride+0.5% bwoc BA-10A+4% bwoc MPA-5 58.3% Fresh water. Weight 14.2 ppg Yield 1.28 cfs
These volumes based on 50% excess.

**2nd STAGE**
**LEAD:**
600 sxs : Class C Cement+1% bwoc CACL+0.125% Cello-flakes 157.8% fresh water. Weight 11.4 ppg Yield 2.89 cfs
**2nd STAGE TAIL:**
200 sxs (60/40) Poz(flyash) ClassC Cement 1% Sodium Chloride+0.2%R-3+0.125% Cello-flakes 0.5% BA-10A+4%bwoc MPA-5+63.2% fresh water. Weight 13.80 ppg Yield 1.37 cfs
These volumes based on 50% excess.

# Nearburg Producing Co.

**Shugart West 32 State, Well No. 4H**
**Eddy County, New Mexico**
**Quote No.: 011413012**

Aim Directional Services, LLC

| SITE DETAILS: Shugart West 32 State #4H | |
|---|---|
| Site Centre Northing: | 617737.80 |
| Easting: | 637883.80 |
| Positional Uncertainity: | 0.0 |
| Convergence: | 0.24 |
| Local North: | Grid |

| PROJECT DETAILS: Eddy County, New Mexico | |
|---|---|
| Geodetic System: | US State Plane 1927 (Exact solution) |
| Datum: | NAD 1927 (NADCON CONUS) |
| Ellipsoid: | Clarke 1866 |
| Zone: | New Mexico East 3001 |
| System Datum: | Mean Sea Level |

HOBBS OCD

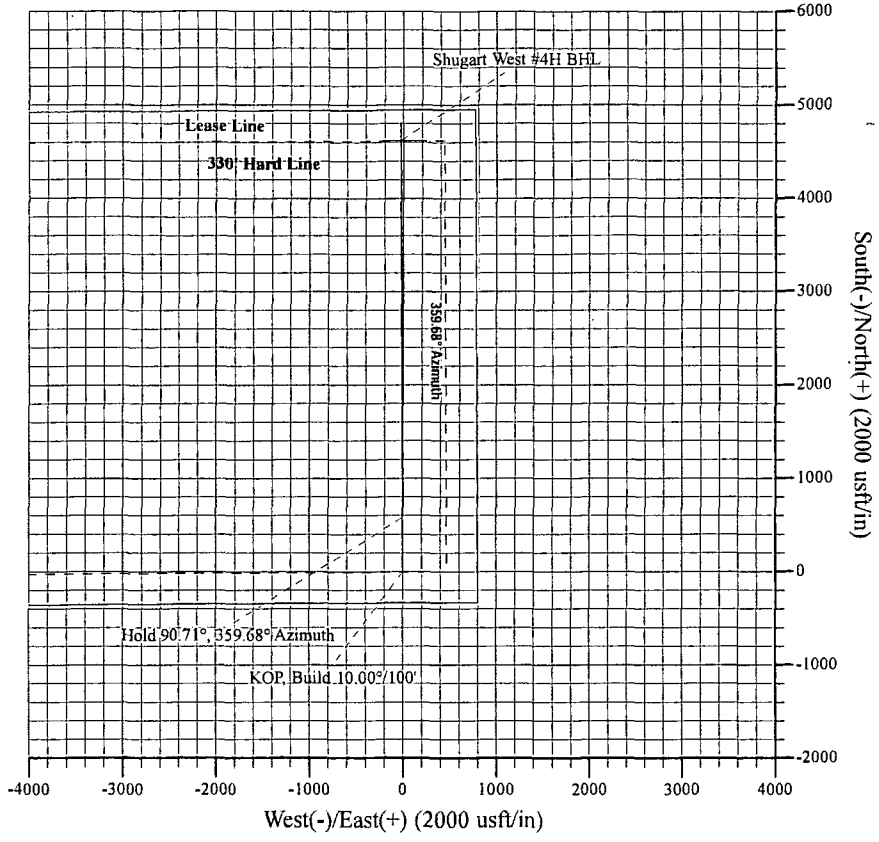
FEB 11 2013

RECEIVED

T G M

Azimuths to Grid North
True North: -0.24°
Magnetic North: 7.35°

Magnetic Field
Strength: 48704.3snT
Dip Angle: 60.53°
Date: 1/14/2013
Model: WMM_2010

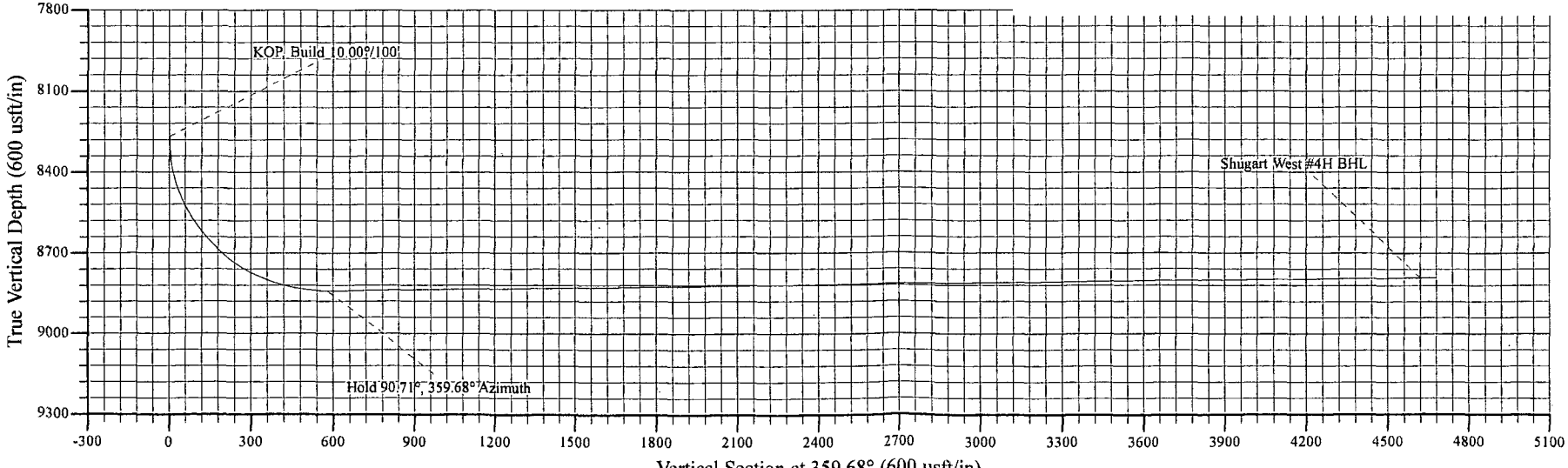



DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| Shugart West #4H BHL | 8791.0 | 4620.6 | -26.1 | 622358.40 | 637857.70 | 32° 42' 36.574 N | 103° 53' 6.492 W | Point |

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | Target | Annotation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8268.0 | 0.00 | 0.00 | 8268.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | | KOP, Build 10.00°/100' |
| 2 | 9175.1 | 90.71 | 359.68 | 8840.9 | 580.0 | -3.3 | 10.00 | 359.68 | 580.0 | | Hold 90.71°, 359.68° Azimuth |
| 3 | 13216.0 | 90.71 | 359.68 | 8791.0 | 4620.6 | -26.1 | 0.00 | 0.00 | 4620.7 | Shugart West #4H BHL | PBHL - Lateral |




Drawn By: ALR
Date Created: 01/14/13
Date Revised: 01/14/13
File: Nearburg Producing - Shugart West 32 State #4H Lateral 1r0.wpc

# Aim Directional Services, LLC

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1 Single User Db | **Local Co-ordinate Reference:** | Well #4H |
| **Company:** | Nearburg Producing Company | **TVD Reference:** | WELL @ 3591.0usft (Original Well Elev) |
| **Project:** | Eddy County, New Mexico | **MD Reference:** | WELL @ 3591.0usft (Original Well Elev) |
| **Site:** | Shugart West 32 State #4H | **North Reference:** | Grid |
| **Well:** | #4H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Lateral 1r0 | | |
| **Design:** | Lateral 1r0 | | |

**Project** Eddy County, New Mexico

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | New Mexico East 3001 | | |

**Site** Shugart West 32 State #4H

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 617,737.80 usft | **Latitude:** | 32° 41' 50.851 N |
| **From:** | Map | **Easting:** | 637,883.80 usft | **Longitude:** | 103° 53' 6.415 W |
| **Position Uncertainty:** | 0.0 usft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 0.24 ° |

**Well** #4H

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 usft | **Northing:** | 617,737.80 usft | **Latitude:** | 32° 41' 50.851 N |
| | **+E/-W** | 0.0 usft | **Easting:** | 637,883.80 usft | **Longitude:** | 103° 53' 6.415 W |
| **Position Uncertainty** | | 0.0 usft | **Wellhead Elevation:** | | **Ground Level:** | 3,576.0 usft |

**Wellbore** Lateral 1r0

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | WMM_2010 | 1/14/2013 | 7.59 | 60.53 | 48,704 |

**Design** Lateral 1r0

**Audit Notes:**

| | | | | |
|---|---|---|---|---|
| **Version:** | **Phase:** | PROTOTYPE | **Tie On Depth:** | 8,268.0 |

| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 359.68 |

**Plan Sections**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 8,268.0 | 0.00 | 0.00 | 8,268.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 9,175.1 | 90.71 | 359.68 | 8,840.9 | 580.0 | -3.3 | 10.00 | 10.00 | -0.04 | 359.68 | |
| 13,216.0 | 90.71 | 359.68 | 8,791.0 | 4,620.6 | -26.1 | 0.00 | 0.00 | 0.00 | 0.00 | Shugart West #4H I |

# Aim Directional Services, LLC

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1 Single User Db | **Local Co-ordinate Reference:** | Well #4H |
| **Company:** | Nearburg Producing Company | **TVD Reference:** | WELL @ 3591.0usft (Original Well Elev) |
| **Project:** | Eddy County, New Mexico | **MD Reference:** | WELL @ 3591.0usft (Original Well Elev) |
| **Site:** | Shugart West 32 State #4H | **North Reference:** | Grid |
| **Well:** | #4H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Lateral 1r0 | | |
| **Design:** | Lateral 1r0 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 8,268.0 | 0.00 | 0.00 | 8,268.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| **KOP, Build 10.00°/100'** | | | | | | | | | |
| 8,300.0 | 3.20 | 359.68 | 8,300.0 | 0.9 | 0.0 | 0.9 | 10.00 | 10.00 | 0.00 |
| 8,350.0 | 8.20 | 359.68 | 8,349.7 | 5.9 | 0.0 | 5.9 | 10.00 | 10.00 | 0.00 |
| 8,400.0 | 13.20 | 359.68 | 8,398.8 | 15.1 | -0.1 | 15.1 | 10.00 | 10.00 | 0.00 |
| 8,450.0 | 18.20 | 359.68 | 8,447.0 | 28.7 | -0.2 | 28.7 | 10.00 | 10.00 | 0.00 |
| 8,500.0 | 23.20 | 359.68 | 8,493.7 | 46.3 | -0.3 | 46.3 | 10.00 | 10.00 | 0.00 |
| 8,550.0 | 28.20 | 359.68 | 8,538.8 | 68.0 | -0.4 | 68.0 | 10.00 | 10.00 | 0.00 |
| 8,600.0 | 33.20 | 359.68 | 8,581.7 | 93.5 | -0.5 | 93.5 | 10.00 | 10.00 | 0.00 |
| 8,650.0 | 38.20 | 359.68 | 8,622.3 | 122.7 | -0.7 | 122.7 | 10.00 | 10.00 | 0.00 |
| 8,700.0 | 43.20 | 359.68 | 8,660.2 | 155.3 | -0.9 | 155.3 | 10.00 | 10.00 | 0.00 |
| 8,750.0 | 48.20 | 359.68 | 8,695.1 | 191.1 | -1.1 | 191.1 | 10.00 | 10.00 | 0.00 |
| 8,800.0 | 53.20 | 359.68 | 8,726.8 | 229.7 | -1.3 | 229.7 | 10.00 | 10.00 | 0.00 |
| 8,850.0 | 58.20 | 359.68 | 8,755.0 | 271.0 | -1.5 | 271.0 | 10.00 | 10.00 | 0.00 |
| 8,900.0 | 63.20 | 359.68 | 8,779.4 | 314.6 | -1.8 | 314.6 | 10.00 | 10.00 | 0.00 |
| 8,950.0 | 68.20 | 359.68 | 8,800.0 | 360.2 | -2.0 | 360.2 | 10.00 | 10.00 | 0.00 |
| 9,000.0 | 73.20 | 359.68 | 8,816.5 | 407.3 | -2.3 | 407.4 | 10.00 | 10.00 | 0.00 |
| 9,050.0 | 78.20 | 359.68 | 8,828.8 | 455.8 | -2.6 | 455.8 | 10.00 | 10.00 | 0.00 |
| 9,100.0 | 83.20 | 359.68 | 8,836.9 | 505.1 | -2.9 | 505.1 | 10.00 | 10.00 | 0.00 |
| 9,150.0 | 88.20 | 359.68 | 8,840.7 | 555.0 | -3.1 | 555.0 | 10.00 | 10.00 | 0.00 |
| 9,175.1 | 90.71 | 359.68 | 8,840.9 | 580.0 | -3.3 | 580.1 | 9.99 | 9.99 | 0.00 |
| **Hold 90.71°, 359.68° Azimuth** | | | | | | | | | |
| 9,200.0 | 90.71 | 359.68 | 8,840.6 | 604.9 | -3.4 | 605.0 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 90.71 | 359.68 | 8,839.4 | 704.9 | -4.0 | 704.9 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 90.71 | 359.68 | 8,838.1 | 804.9 | -4.5 | 804.9 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 90.71 | 359.68 | 8,836.9 | 904.9 | -5.1 | 904.9 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 90.71 | 359.68 | 8,835.7 | 1,004.9 | -5.7 | 1,004.9 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.71 | 359.68 | 8,834.4 | 1,104.9 | -6.2 | 1,104.9 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.71 | 359.68 | 8,833.2 | 1,204.9 | -6.8 | 1,204.9 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 90.71 | 359.68 | 8,832.0 | 1,304.9 | -7.4 | 1,304.9 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.71 | 359.68 | 8,830.7 | 1,404.9 | -7.9 | 1,404.9 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.71 | 359.68 | 8,829.5 | 1,504.9 | -8.5 | 1,504.9 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.71 | 359.68 | 8,828.3 | 1,604.9 | -9.1 | 1,604.9 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.71 | 359.68 | 8,827.0 | 1,704.8 | -9.6 | 1,704.9 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.71 | 359.68 | 8,825.8 | 1,804.8 | -10.2 | 1,804.9 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.71 | 359.68 | 8,824.5 | 1,904.8 | -10.8 | 1,904.9 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.71 | 359.68 | 8,823.3 | 2,004.8 | -11.3 | 2,004.8 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.71 | 359.68 | 8,822.1 | 2,104.8 | -11.9 | 2,104.8 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.71 | 359.68 | 8,820.8 | 2,204.8 | -12.5 | 2,204.8 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.71 | 359.68 | 8,819.6 | 2,304.8 | -13.0 | 2,304.8 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.71 | 359.68 | 8,818.4 | 2,404.8 | -13.6 | 2,404.8 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.71 | 359.68 | 8,817.1 | 2,504.8 | -14.1 | 2,504.8 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.71 | 359.68 | 8,815.9 | 2,604.8 | -14.7 | 2,604.8 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.71 | 359.68 | 8,814.7 | 2,704.8 | -15.3 | 2,704.8 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.71 | 359.68 | 8,813.4 | 2,804.7 | -15.8 | 2,804.8 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 90.71 | 359.68 | 8,812.2 | 2,904.7 | -16.4 | 2,904.8 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.71 | 359.68 | 8,811.0 | 3,004.7 | -17.0 | 3,004.8 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.71 | 359.68 | 8,809.7 | 3,104.7 | -17.5 | 3,104.8 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.71 | 359.68 | 8,808.5 | 3,204.7 | -18.1 | 3,204.8 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.71 | 359.68 | 8,807.3 | 3,304.7 | -18.7 | 3,304.7 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 90.71 | 359.68 | 8,806.0 | 3,404.7 | -19.2 | 3,404.7 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 90.71 | 359.68 | 8,804.8 | 3,504.7 | -19.8 | 3,504.7 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 90.71 | 359.68 | 8,803.5 | 3,604.7 | -20.4 | 3,604.7 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 90.71 | 359.68 | 8,802.3 | 3,704.7 | -20.9 | 3,704.7 | 0.00 | 0.00 | 0.00 |

# Aim Directional Services, LLC

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1 Single User Db | **Local Co-ordinate Reference:** | Well #4H |
| **Company:** | Nearburg Producing Company | **TVD Reference:** | WELL @ 3591.0usft (Original Well Elev) |
| **Project:** | Eddy County, New Mexico | **MD Reference:** | WELL @ 3591.0usft (Original Well Elev) |
| **Site:** | Shugart West 32 State #4H | **North Reference:** | Grid |
| **Well:** | #4H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Lateral 1r0 | | |
| **Design:** | Lateral 1r0 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 12,400.0 | 90.71 | 359.68 | 8,801.1 | 3,804.7 | -21.5 | 3,804.7 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 90.71 | 359.68 | 8,799.8 | 3,904.6 | -22.1 | 3,904.7 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 90.71 | 359.68 | 8,798.6 | 4,004.6 | -22.6 | 4,004.7 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 90.71 | 359.68 | 8,797.4 | 4,104.6 | -23.2 | 4,104.7 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 90.71 | 359.68 | 8,796.1 | 4,204.6 | -23.8 | 4,204.7 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 90.71 | 359.68 | 8,794.9 | 4,304.6 | -24.3 | 4,304.7 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 90.71 | 359.68 | 8,793.7 | 4,404.6 | -24.9 | 4,404.7 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 90.71 | 359.68 | 8,792.4 | 4,504.6 | -25.4 | 4,504.7 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 90.71 | 359.68 | 8,791.2 | 4,604.6 | -26.0 | 4,604.7 | 0.00 | 0.00 | 0.00 |
| 13,216.0 | 90.71 | 359.68 | 8,791.0 | 4,620.6 | -26.1 | 4,620.6 | 0.00 | 0.00 | 0.00 |
| **PBHL - Lateral** | | | | | | | | | |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| Shugart West #4H BH<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 8,791.0 | 4,620.6 | -26.1 | 622,358.40 | 637,857.70 | 32° 42' 36.574 N | 103° 53' 6.492 W |

**Plan Annotations**

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 8,268.0 | 8,268.0 | 0.0 | 0.0 | KOP, Build 10.00°/100' |
| 9,175.1 | 8,840.9 | 580.0 | -3.3 | Hold 90.71°, 359.68° Azimuth |
| 13,216.0 | 8,791.0 | 4,620.6 | -26.1 | PBHL - Lateral |