

ATS-10-621
FA-11-232

OCD-ARTESIA

Form 3160-3
(August 2007)

R-111-POTASH

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. SANDY FEDERAL #2 <i>304580</i>
2. Name of Operator STRATA PRODUCTION COMPANY <i>21712</i>		9. API Well No. <i>30-015-78662</i>
3a. Address PO DRAWER 1030 ROSWELL, NM 88201-1030	3b. Phone No. (include area code) 575-622-1127	10. Field and Pool, or Exploratory FORTY NINER RIDGE DELAWARE <i>24750</i>
4. Location of Well (Report location clearly and in accordance with any State requirements*) At surface 1979' FNL & 585' FWL <i>(E)</i> At proposed prod. zone 2310' FSL & 2310' FEL		11. Sec., T. R. M. or Blk. and Survey or Area SHL SEC. 24, T23S-R30E BHL SEC. 14, T23S-R30E
14. Distance in miles and direction from nearest town or post office* ~14 MILES EAST OF LOVING, NM		12. County or Parish EDDY
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 585'		13. State NM
16. No. of acres in lease 640		17. Spacing Unit dedicated to this well 240
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 75'		20. BLM/BIA Bond No. on file OGB-0870 NM1538
19. Proposed Depth 12624'		21. Estimated duration 30 DAYS
22. Approximate date work will start* 04/01/2011		23. Estimated duration 30 DAYS
24. Attachments		

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

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

25. Signature <i>Frank S. Morgan</i>	Name (Printed/Typed) <i>Frank S. Morgan</i>	Date <i>11/19/2010</i>
Title <i>Vice-President</i>		
Approved by (Signature) <i>/s/ Jesse J. Juen</i>	Name (Printed/Typed) <i>/s/ Jesse J. Juen</i>	Date <i>MAR 07 2011</i>
Title <i>FOR STATE DIRECTOR</i>	Office <i>NM STATE OFFICE</i>	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

CARLSBAD CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

OCD CONDITION OF APPROVAL for Drilling:
Intent to drill ONLY --- CANNOT produce until the Non-Standard Location has been approved by OCD Santa Fe office.

RECEIVED
MAR 16 2011
NMOCD ARTESIA

*(Instructions on page 2)
Re 04/04/11
**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED**

HOLE PROGNOSIS
FORM 3160-3 APPLICATION FOR PERMIT TO DRILL
STRATA PRODUCTION COMPANY
Sandy Federal #2
1979' FNL & 585' FWL
SECTION 24-23S-30E
EDDY COUNTY, NEW MEXICO

In conjunction with Form 3160-3, Application for Permit to Drill, Deepen, or Plug Back, Strata Production Company submits the following items in accordance with Onshore Oil and Gas Order Numbers 1 and 2, and all other applicable federal and state regulations.

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Geologic Markers:

	<u>TVD</u>	<u>MD</u>
Rustler	Surface	Surface
Top of Salt	700'	700'
Base of Salt	3380'	3380'
Delaware	3600'	3600'
KOP - curve	7200' 7188'	7200'
EOC	7765' 7665'	7950' 7952'
TD	7520'	12624'

3. Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Surface	150'	Fresh Water
Delaware	3600' - TD	Oil or Gas

No other formations are expected to produce oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13 3/8" casing at ~500' and circulating cement back to surface. Potash will be protected by setting 9 5/8" casing at ~3600' and circulating cement back to surface. The Delaware pay intervals will be isolated by setting 7" casing at the EOC at ~7950' and cementing back to surface in two stages. A 6 1/8" lateral hole will be drilled to TD and 4 1/2" production casing with hydraulic set packers will be run for completion. The top of the 4 1/2" liner will be set approximately 100' above the KOP of the curve.

4. Casing Program:

See COA

<u>Hole Size</u>	<u>Depth</u>	<u>OD Csg</u>	<u>Weight, Grade, Collars, New/Used</u>
17 1/2"	500	13 3/8"	48#, H-40, STC, New
12 1/4"	3600	9 5/8"	40#, J-55, STC, New
8 3/4"	7950'	7 "	26#, HCP-110, LTC/BTC, New
6 1/8"	12624'	4 1/2"	11.6#, HCP-110, LTC, New

On the 7" casing BTC will be run through the curve from 7200' - 7950'.
Minimum Casing Design Factors: Collapse 1.125, Burst 1.0, Joint Strength 1.8

Cementing Program:

Surface Casing:

13 3/8" casing will be set at ~500' and cemented with ~250 sx lead of C1 "C", 12.9 density, 1.97 yield, 10.88 gal/sk H2O. ~200 sx tail, 14.8 density, 1.33 yield, 6.36 gal/sk H2O. Cement in sufficient quantities to circulate to surface will be utilized.

Intermediate Casing:

9 5/8" casing will be set at ~3600' and cemented with ~790 sx lead of 35/65 C1 "C" Blend, 12.6 density, 2.06 yield, 11.56 gal/sk H2O. ~200 sx tail of C1 "C", 14.8 density, 1.33 yield, 6.35 gal/sk H2O. Cement in sufficient quantities to circulate to surface will be utilized.

Intermediate Casing:

7" casing will be set through the curve at ~7950' and cemented in two stages with the DV tool set at ~4500'. First stage 330 sx of PVL, 1.4 yield, 13.0 density, 7.23 gal/sk. Second stage 100 sks C1 "C", 4.33 yield, 14.8 density, 16.0 gal/sk and 300 sx 35/65 Poz "C", 2.7 yield, 12.7 density, 11.7 gal/sk. Cement in sufficient quantities to circulate to surface will be utilized.

Production Casing:

No cement. 4 1/2" casing will be run open hole to TD with hydraulic set packers. Top of the 4 1/2" will be at approximately 7100'.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit "A" will consist of a double ram-type (3000 psi WP) preventer and a bag-type (hydril) preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with

5. Minimum Specifications for Pressure Control:

See
COA

The blowout preventer equipment (BOP) shown in Exhibit "A" will consist of a double ram-type (3000 psi WP) preventer and a bag-type (hydril) preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4 1/2" drill pipe rams on bottom. Both BOP's will be nipped up on the 13 3/8" surface casing and used continuously until TD is reached. All BOP's and accessory equipment ~~will be tested to 1000 psi before drilling out of surface casing.~~ Before drilling out of intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydril to 70% of rated working pressure (2100 psi).

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. A 2" kill line and 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

6. Proposed Mud System:

See
COA

Depth	Type	MW	FV	PV	YP	FL	Ph
0'-510'	FW/Native	8.4-8.7	28-32	4-8	4-6	NC	9-9.5
510'-3600'	Brine Wtr	9.7-10	28-30	NA	NA	NC	9.5-10
3600'-7950'	Cut Brine/ Gel Sweeps	8.8-9	28-30	NA	NA	NC	9.5-10
7950'-TD	Cut Brine/ Poly-Starch	9-9.5	34-38	12-16	4-8	8	9.5-10

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

7. Auxiliary Well Control and Monitoring Equipment:

- A. A kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

8. Testing, Logging and Coring Program:

*See *
COA*

Two (2) man Mudlogging unit from top of Delaware to TD DLL-MSFL, CNL-Density, Gamma Ray, Caliper.

Mudlogging unit will be employed from approximately 3600' (Top of Delaware) to TD. The Dual Laterolog will be run from TD back to the intermediate casing and the Compensated Neutron/Density and Gamma Ray logs will be run from TD back to surface. In some cases, Strata elects to run rotary sidewall cores from selected intervals dependent upon logging results.

9. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. BHT should not exceed 150 F and BHP should not exceed 3500 psi.

Loss of circulation is possible in the Delaware section of the hole, however, no major loss circulation zones have been reported in offsetting wells.

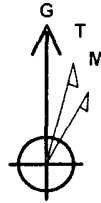
Strata has drilled and completed eighteen (18) wells in the immediate area. To date, Hydrogen Sulfide has not been encountered. However, if Hydrogen Sulfide is encountered, a Hydrogen Sulfide alarm on the drilling rig would be activated. All personnel have had Hydrogen Sulfide training and appropriate breathing apparatus is located on site. If necessary, the well can be shut in utilizing the blow out preventer and other equipment to prevent the migration of Hydrogen Sulfide to the surface.

10. Anticipated Starting Date and Duration of Operations:

Work will not begin until approval has been received from the BLM. The anticipated spud date is January 1, 2011. Once commenced, the drilling operation should be finished in approximately 30 days. If the well is productive, an additional 15 days will be required for completion and testing before a decision is made to install permanent facilities.

Strata Production Corp

Project: Eddy County
Site: Sandy
Well: #2H
Wellbore: OH
Plan: Plan #1 (#2H/OH)



Azimuths to Grid North
True North: 0.82°
Magnetic North: 9.43°

Magnetic Field
Strength: 47685.1nT
Dip Angle: 58.61°
Date: 05/25/2010
Model: IGRF2010

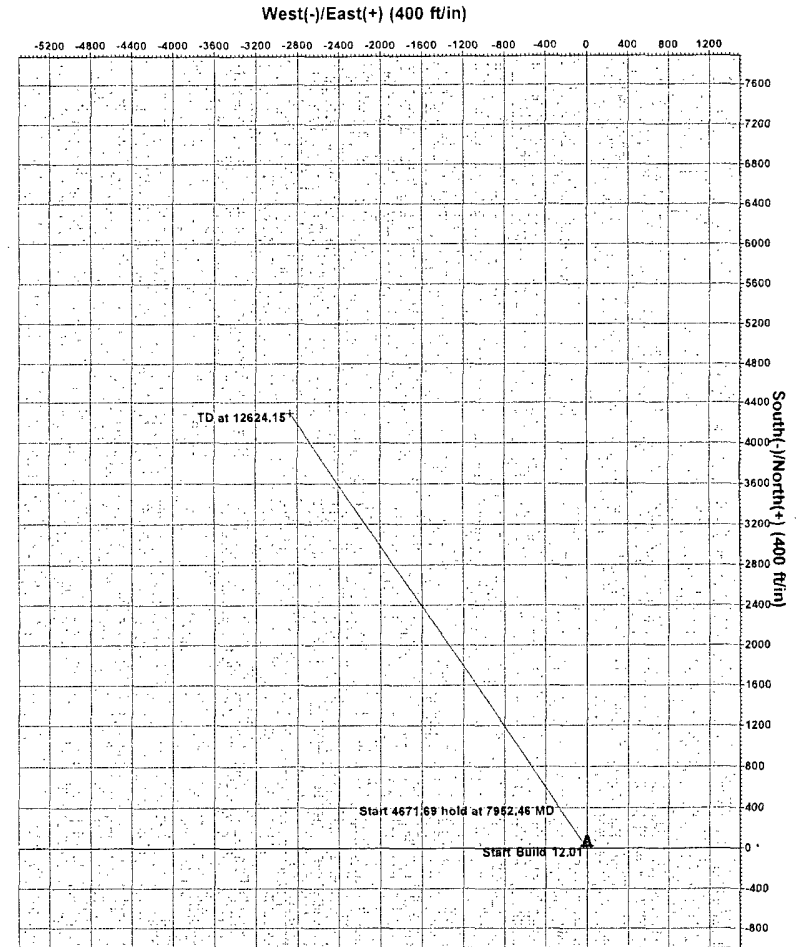
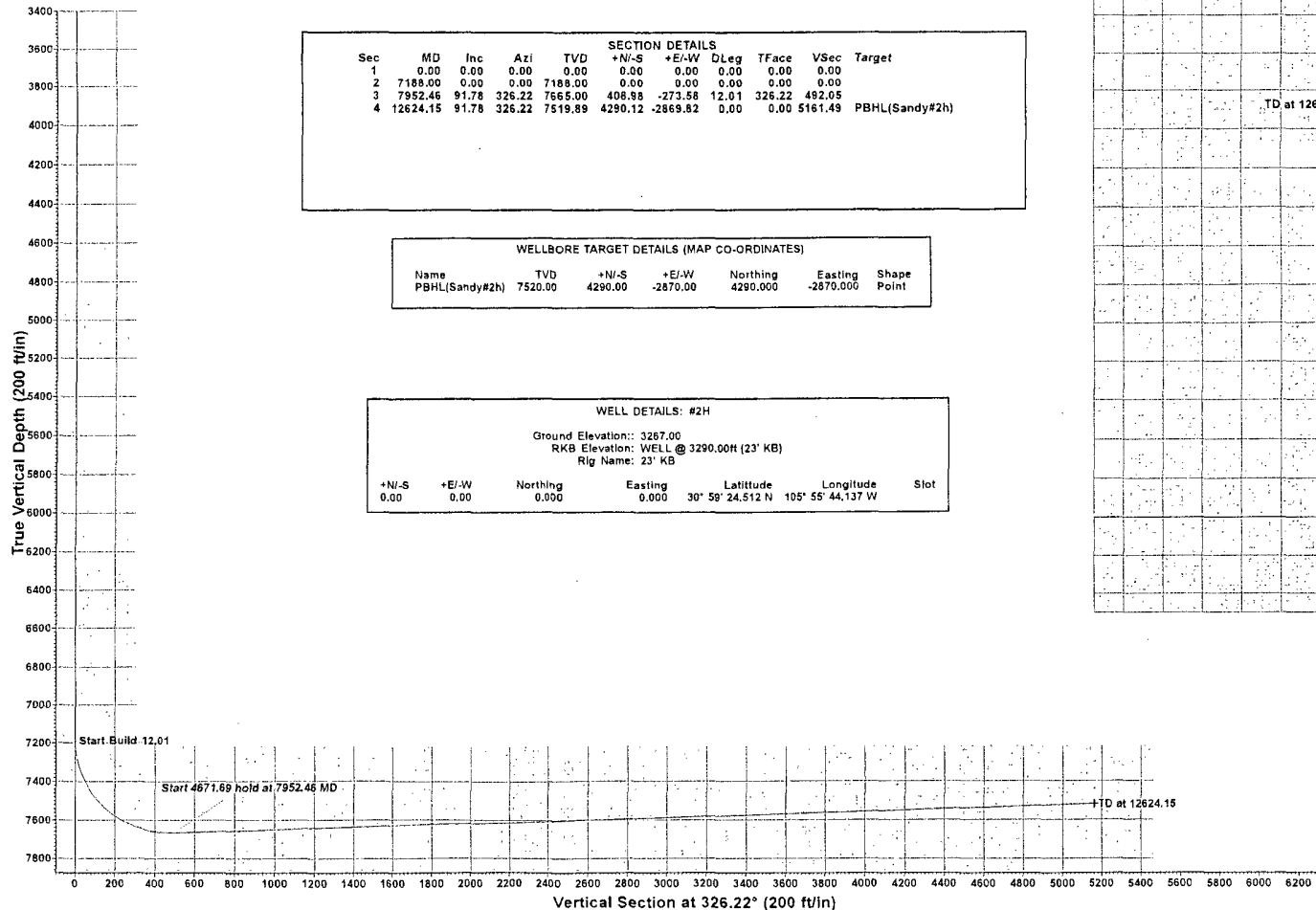
PATHFINDER

PROJECT DETAILS: Eddy County
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
Local North: Grid

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	7188.00	0.00	0.00	7188.00	0.00	0.00	0.00	0.00	0.00
3	7952.46	91.78	326.22	7665.00	408.98	-273.58	12.01	326.22	492.05
4	12624.15	91.78	326.22	7519.89	4290.12	-2869.82	0.00	0.00	5161.49 PBHL(Sandy#2h)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)					
Name	TVD	+N-S	+E-W	Northing	Easting
PBHL(Sandy#2h)	7520.00	4290.00	-2870.00	4290.000	-2870.000
				Shape	Point

WELL DETAILS: #2H						
Ground Elevation: 3267.00						
RKB Elevation: WELL @ 3290.00H (23' KB)						
Rig Name: 23' KB						
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	0.000	0.000	30° 59' 24.512 N	105° 55' 44.137 W	



Strata Production Company

Eddy County

Sandy

#2H

OH

Plan: Plan #1

Pathfinder X & Y Planning Report

25 May, 2010

The logo for 'PATHFINDER' is rendered in a bold, blocky, sans-serif font. The letters are thick and have a slightly distressed or textured appearance. A prominent, thick, dark underline runs beneath the word, starting from the left and extending past the end of the word, curving slightly upwards at the right end.

Pathfinder

Pathfinder X & Y Planning Report



Company: Strata Production Company
Project: Eddy County
Site: Sandy
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3290.00ft (23' KB)
MD Reference: WELL @ 3290.00ft (23' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Project: Eddy County

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Sandy

Site Position:		Northing:	ft	Latitude:	
From: None		Easting:	ft	Longitude:	
Position Uncertainty: 0.00 ft		Slot Radius:	"	Grid Convergence:	0.00 °

Well: #2H

Well Position	+N/-S	0.00 ft	Northing:	0.000 ft	Latitude:	30° 59' 24.512 N
	+E/-W	0.00 ft	Easting:	0.000 ft	Longitude:	105° 55' 44.137 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,267.00 ft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	05/25/2010	8.61	58.61	47,685

Design: Plan #1

Audit Notes:

Version: **Phase:** PLAN **Tie On Depth:** 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	326.22

Survey Tool Program Date 05/25/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	12,623.93	Plan #1 (OH)		

Pathfinder

Pathfinder X & Y Planning Report



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Project: Eddy County
Site: Sandy
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MD Reference: WELL @ 3290.00ft (23' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,290.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	-3,190.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	-3,090.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	-2,990.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	-2,890.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	-2,790.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	-2,690.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	-2,590.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	-2,490.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	-2,390.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	-2,290.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	-2,190.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	-2,090.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	-1,990.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	-1,890.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	-1,790.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	-1,690.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	-1,590.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	-1,490.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	-1,390.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	-1,290.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	-1,190.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	-1,090.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	-990.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	-890.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	-790.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	-690.00	0.00	0.00	0.00	0.00	0.00	0.00

Pathfinder

Pathfinder X & Y Planning Report



Company: Strata Production Company
Project: Eddy County
Site: Sandy
Well: #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3290.00ft (23' KB)
MD Reference: WELL @ 3290.00ft (23' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,700.00	0.00	0.00	2,700.00	-590.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	-490.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	-390.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	-290.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	-190.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	-90.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	110.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	210.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	310.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	410.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	510.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	610.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	710.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	810.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	910.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	1,010.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	1,110.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	1,210.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	1,310.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	1,410.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	1,510.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	1,610.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	1,710.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	1,810.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	1,910.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	2,010.00	0.00	0.00	0.00	0.00	0.00	0.00

Pathfinder

Pathfinder X & Y Planning Report



Company: Strata Production Company
 Project: Eddy County
 Site: Sandy
 Well: #2H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #2H
 TVD Reference: WELL @ 3290.00ft (23' KB)
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 Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,400.00	0.00	0.00	5,400.00	2,110.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	2,210.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	2,310.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	2,410.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	2,510.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	2,610.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	2,710.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	2,810.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	2,910.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	3,010.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	3,110.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	3,210.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	3,310.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	3,410.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	3,510.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	3,610.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	3,710.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	3,810.00	0.00	0.00	0.00	0.00	0.00	0.00
7,188.00	0.00	0.00	7,188.00	3,898.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	1.44	326.22	7,200.00	3,910.00	0.13	-0.08	0.15	12.01	0.13	-0.08
7,225.00	4.44	326.22	7,224.96	3,934.96	1.19	-0.80	1.43	12.01	1.19	-0.80
7,250.00	7.44	326.22	7,249.83	3,959.83	3.34	-2.24	4.02	12.01	3.34	-2.24
7,275.00	10.45	326.22	7,274.52	3,984.52	6.57	-4.40	7.91	12.01	6.57	-4.40
7,300.00	13.45	326.22	7,298.97	4,008.97	10.87	-7.27	13.08	12.01	10.87	-7.27
7,325.00	16.45	326.22	7,323.13	4,033.13	16.23	-10.86	19.53	12.01	16.23	-10.86
7,350.00	19.45	326.22	7,346.91	4,056.91	22.64	-15.14	27.23	12.01	22.64	-15.14
7,375.00	22.45	326.22	7,370.25	4,080.25	30.06	-20.11	36.17	12.01	30.06	-20.11

Pathfinder

Pathfinder X & Y Planning Report



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Project: Eddy County
Site: Sandy
Well: #2H
Wellbore: OH
Design: Plan #1

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
7,400.00	25.45	326.22	7,393.10	4,103.10	38.50	-25.75	46.32	12.01	38.50	-25.75
7,425.00	28.45	326.22	7,415.38	4,125.38	47.92	-32.05	57.65	12.01	47.92	-32.05
7,450.00	31.46	326.22	7,437.04	4,147.04	58.29	-38.99	70.13	12.01	58.29	-38.99
7,475.00	34.46	326.22	7,458.01	4,168.01	69.59	-46.55	83.73	12.01	69.59	-46.55
7,500.00	37.46	326.22	7,478.24	4,188.24	81.79	-54.71	98.41	12.01	81.79	-54.71
7,525.00	40.46	326.22	7,497.68	4,207.68	94.86	-63.45	114.12	12.01	94.86	-63.45
7,550.00	43.46	326.22	7,516.27	4,226.27	108.75	-72.75	130.84	12.01	108.75	-72.75
7,575.00	46.46	326.22	7,533.96	4,243.96	123.43	-82.57	148.50	12.01	123.43	-82.57
7,600.00	49.46	326.22	7,550.70	4,260.70	138.86	-92.89	167.07	12.01	138.86	-92.89
7,625.00	52.47	326.22	7,566.44	4,276.44	155.00	-103.69	186.48	12.01	155.00	-103.69
7,650.00	55.47	326.22	7,581.14	4,291.14	171.80	-114.93	206.70	12.01	171.80	-114.93
7,675.00	58.47	326.22	7,594.77	4,304.77	189.22	-126.58	227.66	12.01	189.22	-126.58
7,700.00	61.47	326.22	7,607.28	4,317.28	207.21	-138.61	249.30	12.01	207.21	-138.61
7,725.00	64.47	326.22	7,618.64	4,328.64	225.72	-150.99	271.56	12.01	225.72	-150.99
7,750.00	67.47	326.22	7,628.82	4,338.82	244.70	-163.69	294.40	12.01	244.70	-163.69
7,775.00	70.47	326.22	7,637.79	4,347.79	264.09	-176.66	317.73	12.01	264.09	-176.66
7,800.00	73.48	326.22	7,645.52	4,355.52	283.85	-189.88	341.50	12.01	283.85	-189.88
7,825.00	76.48	326.22	7,652.00	4,362.00	303.91	-203.30	365.64	12.01	303.91	-203.30
7,850.00	79.48	326.22	7,657.21	4,367.21	324.23	-216.89	390.09	12.01	324.23	-216.89
7,875.00	82.48	326.22	7,661.13	4,371.13	344.75	-230.62	414.78	12.01	344.75	-230.62
7,900.00	85.48	326.22	7,663.75	4,373.75	365.42	-244.44	439.64	12.01	365.42	-244.44
7,925.00	88.48	326.22	7,665.06	4,375.06	386.17	-258.32	464.60	12.01	386.17	-258.32
7,952.46	91.78	326.22	7,665.00	4,375.00	408.98	-273.58	492.05	12.01	408.98	-273.58
8,000.00	91.78	326.22	7,663.52	4,373.52	448.48	-300.01	539.57	0.00	448.48	-300.01
8,100.00	91.78	326.22	7,660.42	4,370.42	531.56	-355.58	639.53	0.00	531.56	-355.58
8,200.00	91.78	326.22	7,657.31	4,367.31	614.64	-411.15	739.48	0.00	614.64	-411.15
8,300.00	91.78	326.22	7,654.20	4,364.20	697.72	-466.73	839.43	0.00	697.72	-466.73

Pathfinder

Pathfinder X & Y Planning Report



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Wellbore: OH
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MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
8,400.00	91.78	326.22	7,651.10	4,361.10	780.79	-522.30	939.38	0.00	780.79	-522.30
8,500.00	91.78	326.22	7,647.99	4,357.99	863.87	-577.87	1,039.33	0.00	863.87	-577.87
8,600.00	91.78	326.22	7,644.89	4,354.89	946.95	-633.45	1,139.28	0.00	946.95	-633.45
8,700.00	91.78	326.22	7,641.78	4,351.78	1,030.03	-689.02	1,239.24	0.00	1,030.03	-689.02
8,800.00	91.78	326.22	7,638.67	4,348.67	1,113.10	-744.60	1,339.19	0.00	1,113.10	-744.60
8,900.00	91.78	326.22	7,635.57	4,345.57	1,196.18	-800.17	1,439.14	0.00	1,196.18	-800.17
9,000.00	91.78	326.22	7,632.46	4,342.46	1,279.26	-855.74	1,539.09	0.00	1,279.26	-855.74
9,100.00	91.78	326.22	7,629.36	4,339.36	1,362.34	-911.32	1,639.04	0.00	1,362.34	-911.32
9,200.00	91.78	326.22	7,626.25	4,336.25	1,445.41	-966.89	1,738.99	0.00	1,445.41	-966.89
9,300.00	91.78	326.22	7,623.14	4,333.14	1,528.49	-1,022.46	1,838.95	0.00	1,528.49	-1,022.46
9,400.00	91.78	326.22	7,620.04	4,330.04	1,611.57	-1,078.04	1,938.90	0.00	1,611.57	-1,078.04
9,500.00	91.78	326.22	7,616.93	4,326.93	1,694.65	-1,133.61	2,038.85	0.00	1,694.65	-1,133.61
9,600.00	91.78	326.22	7,613.82	4,323.82	1,777.73	-1,189.19	2,138.80	0.00	1,777.73	-1,189.19
9,700.00	91.78	326.22	7,610.72	4,320.72	1,860.80	-1,244.76	2,238.75	0.00	1,860.80	-1,244.76
9,800.00	91.78	326.22	7,607.61	4,317.61	1,943.88	-1,300.33	2,338.70	0.00	1,943.88	-1,300.33
9,900.00	91.78	326.22	7,604.51	4,314.51	2,026.96	-1,355.91	2,438.66	0.00	2,026.96	-1,355.91
10,000.00	91.78	326.22	7,601.40	4,311.40	2,110.04	-1,411.48	2,538.61	0.00	2,110.04	-1,411.48
10,100.00	91.78	326.22	7,598.29	4,308.29	2,193.11	-1,467.05	2,638.56	0.00	2,193.11	-1,467.05
10,200.00	91.78	326.22	7,595.19	4,305.19	2,276.19	-1,522.63	2,738.51	0.00	2,276.19	-1,522.63
10,300.00	91.78	326.22	7,592.08	4,302.08	2,359.27	-1,578.20	2,838.46	0.00	2,359.27	-1,578.20
10,400.00	91.78	326.22	7,588.97	4,298.97	2,442.35	-1,633.78	2,938.42	0.00	2,442.35	-1,633.78
10,500.00	91.78	326.22	7,585.87	4,295.87	2,525.43	-1,689.35	3,038.37	0.00	2,525.43	-1,689.35
10,600.00	91.78	326.22	7,582.76	4,292.76	2,608.50	-1,744.92	3,138.32	0.00	2,608.50	-1,744.92
10,700.00	91.78	326.22	7,579.66	4,289.66	2,691.58	-1,800.50	3,238.27	0.00	2,691.58	-1,800.50
10,800.00	91.78	326.22	7,576.55	4,286.55	2,774.66	-1,856.07	3,338.22	0.00	2,774.66	-1,856.07
10,900.00	91.78	326.22	7,573.44	4,283.44	2,857.74	-1,911.64	3,438.17	0.00	2,857.74	-1,911.64
11,000.00	91.78	326.22	7,570.34	4,280.34	2,940.81	-1,967.22	3,538.13	0.00	2,940.81	-1,967.22

Pathfinder

Pathfinder X & Y Planning Report



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Site: Sandy
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Wellbore: OH
Design: Plan #1

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
11,100.00	91.78	326.22	7,567.23	4,277.23	3,023.89	-2,022.79	3,638.08	0.00	3,023.89	-2,022.79
11,200.00	91.78	326.22	7,564.13	4,274.13	3,106.97	-2,078.36	3,738.03	0.00	3,106.97	-2,078.36
11,300.00	91.78	326.22	7,561.02	4,271.02	3,190.05	-2,133.94	3,837.98	0.00	3,190.05	-2,133.94
11,400.00	91.78	326.22	7,557.91	4,267.91	3,273.13	-2,189.51	3,937.93	0.00	3,273.13	-2,189.51
11,500.00	91.78	326.22	7,554.81	4,264.81	3,356.20	-2,245.09	4,037.88	0.00	3,356.20	-2,245.09
11,600.00	91.78	326.22	7,551.70	4,261.70	3,439.28	-2,300.66	4,137.84	0.00	3,439.28	-2,300.66
11,700.00	91.78	326.22	7,548.59	4,258.59	3,522.36	-2,356.23	4,237.79	0.00	3,522.36	-2,356.23
11,800.00	91.78	326.22	7,545.49	4,255.49	3,605.44	-2,411.81	4,337.74	0.00	3,605.44	-2,411.81
11,900.00	91.78	326.22	7,542.38	4,252.38	3,688.51	-2,467.38	4,437.69	0.00	3,688.51	-2,467.38
12,000.00	91.78	326.22	7,539.28	4,249.28	3,771.59	-2,522.95	4,537.64	0.00	3,771.59	-2,522.95
12,100.00	91.78	326.22	7,536.17	4,246.17	3,854.67	-2,578.53	4,637.59	0.00	3,854.67	-2,578.53
12,200.00	91.78	326.22	7,533.06	4,243.06	3,937.75	-2,634.10	4,737.55	0.00	3,937.75	-2,634.10
12,300.00	91.78	326.22	7,529.96	4,239.96	4,020.83	-2,689.68	4,837.50	0.00	4,020.83	-2,689.68
12,400.00	91.78	326.22	7,526.85	4,236.85	4,103.90	-2,745.25	4,937.45	0.00	4,103.90	-2,745.25
12,500.00	91.78	326.22	7,523.74	4,233.74	4,186.98	-2,800.82	5,037.40	0.00	4,186.98	-2,800.82
12,600.00	91.78	326.22	7,520.64	4,230.64	4,270.06	-2,856.40	5,137.35	0.00	4,270.06	-2,856.40
12,624.15	91.78	326.22	7,519.89	4,229.89	4,290.12	-2,869.82	5,161.49	0.00	4,290.12	-2,869.82

PBHL(Sandy#2h)

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL(Sandy#2h)	0.00	360.00	7,520.00	4,290.00	-2,870.00	4,290.000	-2,870.000	31° 0' 6.550 N	105° 56' 17.809 W
- plan hits target center									
- Point									

Pathfinder
Pathfinder X & Y Planning Report



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Site: Sandy
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Survey Calculation Method: Minimum Curvature
Database: Midland Database

Checked By: _____ Approved By: _____ Date: _____

EXHIBIT "A"

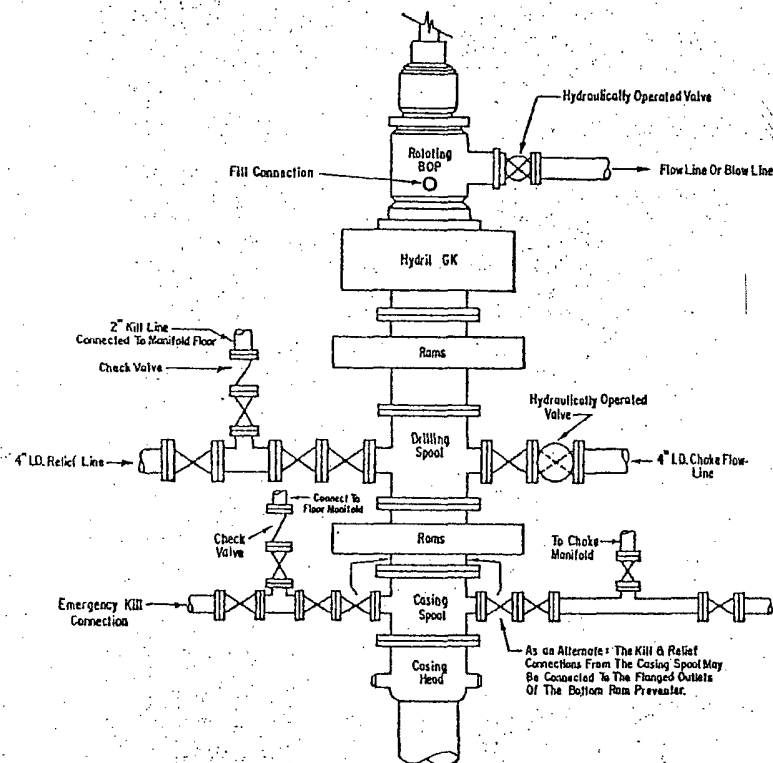
BLOWOUT PREVENTER EQUIPMENT DESCRIPTION

All equipment should be at least 3,000 psi WP or higher unless otherwise specified.

1. Bell nipple
2. Hydril bag type preventer
3. Ram type pressure operated blowout preventer with blind rams.
4. Flanged spool with one 3" and one 2" (minimum) outlet.
5. 2" (minimum) flanged plug or gate valve.
6. 2"x 2"x 2" (minimum) flanged.
7. 3" gate valve.
8. Ram type pressure operated blowout preventer with pipe rams.
9. Flanged type casing head with one side outlet.
10. 2" threaded (or flanged) plug or gate valve. Flanged on 5000# WP, threaded on 3000# WP or less.
11. 3" flanged spacer spool.
12. 3"x 2"x 2"x 2" flanged cross.
13. 2" flanged plug or gate valve.
14. 2" flanged adjustable choke.
15. 2" threaded flange.
16. 2" XXH nipple.
17. 2" forged steel 90° Ell.
18. Cameron (or equal) threaded pressure gauge.
19. Threaded flange.
20. 2" flanged tee.
21. 2" flanged plug or gate valve.
22. 2 1/2" pipe, 300' to pit, anchored.
23. 2 1/2" SE valve.
24. 2 1/2" line to steel pit or separator.

NOTES:

- 1). Items 3, 4 and 8 may be replaced with double ram type preventer with side outlets between the rams.
- 2). The two valves next to the stack on the fill and kill line to be closed unless drill string is being pulled.
- 3). Kill line is for emergency use only. This connection shall not be used for filling.
- 4). Replacement pipe rams and blind rams shall be on location at all times.
- 5). Only type U, LSW and QRC ram type preventers with secondary seals are acceptable for 5000 psi WP and higher BOP stacks.
- 6). Type E ram-type BOP's with factory modified side outlets may be used on 3000 psi or lower WP BOP stacks.



3000# PSI WORKING PRESSURE BLOWOUT PREVENTER HOOK-UP

hydraulic operating system which is to be a closed system. (2) Accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive the aforementioned fluid charge. With the charging pumps shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within _____ seconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume at least _____ percent of the original. (3) When requested, an additional source of power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps operated by separate power and equal in performance capabilities.

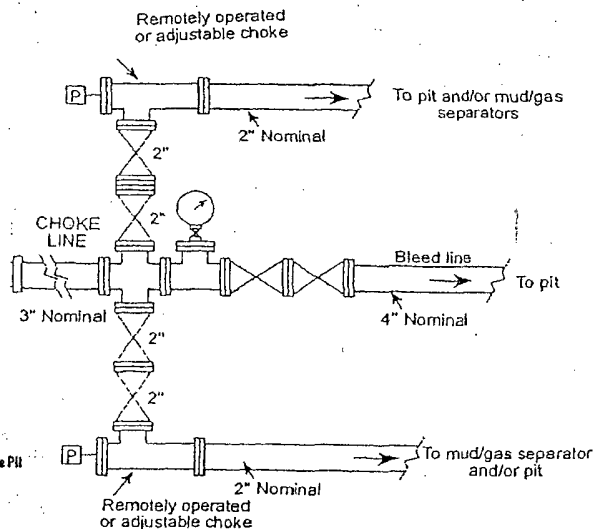
The closing manifold and remote closing manifold shall have a separate control for each pressure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided for operating the Hydril preventer. When requested, a second pressure reducer shall be available to limit operating fluid pressures to ram preventers. Gulf Legion No. 38 hydraulic oil, an equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

The choke manifold, choke flow line, relief line, and choke lines are to be supported by metal stands and adequately anchored. The choke flow line, relief line, and choke lines shall be constructed as straight as possible and without sharp bends. Easy and safe access is to be maintained to the choke manifold. If deemed necessary, walkways and stairways shall be erected in and around the choke manifold. All valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves and relief line valves connected to the drilling spool and all ram type preventers must be equipped with stem extensions, universal joints if needed, and hand wheels which are to extend beyond the edge of the derrick substructure. All other valves are to be equipped with handles.

* To include derrick floor mounted controls.

ATTACHMENT TO EX. A

CHOKE MANIFOLD DETAIL

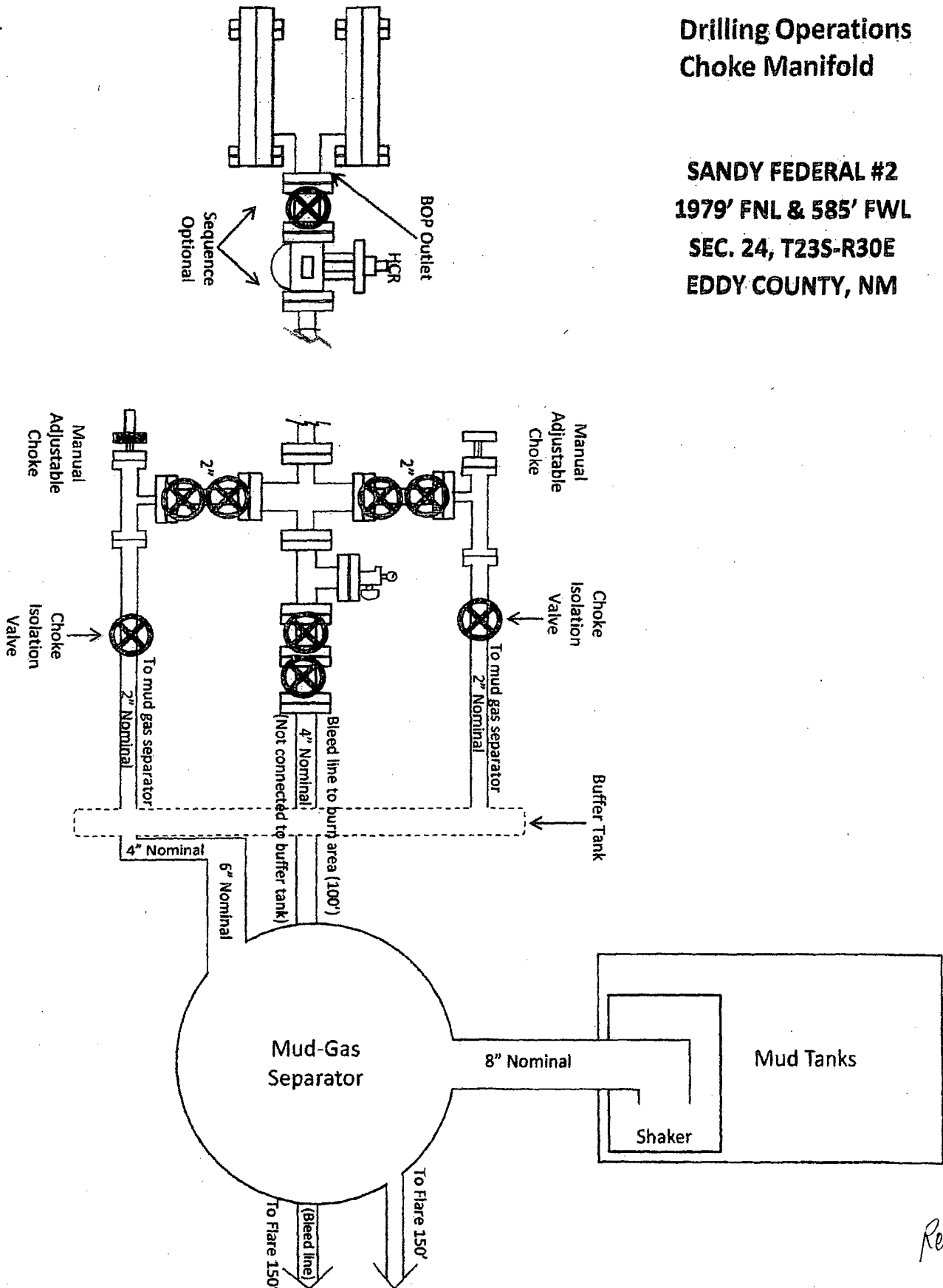


The blowout preventer assembly shall consist of one single type blind ram preventer and one single type pipe ram preventer, both hydraulically operated; a Hydril "GK" preventer; a rotating blowout preventer; valves; chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. If correct in size, the flanged outlets of the ram preventer may be used for connecting to the 4-inch I.D. choke flow line and 4-inch I.D. relief line, except when air or gas drilling. All preventer connections are to be open-face flanged.

Minimum operating equipment for the preventers and hydraulically operated valves shall be as follows: (1) Multiple pumps, driven by a continuous source of power, capable of fluid charging the total accumulator volume from the nitrogen precharge pressure to its rated pressure within _____ minutes. Also, the pumps are to be connected to the charging pumps shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within _____ seconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume at least _____ percent of the original. (3) When requested, an additional source of power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps operated by separate power and equal in performance capabilities.

Drilling Operations Choke Manifold

SANDY FEDERAL #2
1979' FNL & 585' FWL
SEC. 24, T23S-R30E
EDDY COUNTY, NM



Received
12-12-20
OPF

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

Operator STRATA PRODUCTION CO OGRID # 24712
 Well Name & # GANDY #24 Surface Type (F) (S) (P)
 Location: UL F Sect 24 Township 23 s, RNG 302, Sub-surface Type (F) (S) (P)
J 14 23 - 30

A. Date C101 rec'd / / C101 reviewed / /

B. 1. Check mark, Information is OK on Forms:

OGRID X, BONDING FED, PROP CODE X, WELL # 2, SIGNATURE X

2. Inactive Well list as of: 4 4 11 # wells 56, # Inactive wells 1

a. District Grant APD but see number of inactive wells:

No Letter required X; Sent Letter to Operator , to Santa Fe

3. Additional Bonding as of: 4 4 11

a. District Denial because operator needs addition bonding:

No Letter required X; Sent Letter to Operator , To Santa Fe

b. District Denial because of Inactive well list and Financial Assurance:

No Letter required X; Sent Letter to Operator , To Santa Fe

C. C102 YES X, NO , Signature X

1. Pool FORTY NINE RIDGE, DEL, Code 24750

a. Dedicated acreage 240, What Units 14: FDP 23: A 24: DE

b. SUR. Location Standard ; Non-Standard Location X

c. Well shares acres: Yes , No X, # of wells plus this well #

2. 2nd. Operator in same acreage, Yes , No X

Agreement Letter , Disagreement letter

3. Intent to Directional Drill Yes , No

a. Dedicated acreage 240, What Units

b. Bottomhole Location Standard , Non-Standard Bottomhole

4. Downhole Commingle: Yes , No X

a. Pool #2 , Code , Acres

Pool #3 , Code , Acres

Pool #4 , Code , Acres

5. POTASH Area Yes , No FED

D. Blowout Preventer Yes X, No

E. H2S Yes , No , PART FED APD

F. C144 Pit Registration Yes , No X, NEED

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes X, No , NSL #

2. Non-Standard Proration: Yes , No X, NSP #

3. Simultaneous Dedication: Yes , No X, SD #

Number of wells Plus #

4. Injection order Yes , No X; PMX # or WFX #

5. SWD order Yes , NO X; SWD #

6. DHC from SF ; DHC-HOB ; Holding

7. OCD Approval Date / /

API #30-0 05- 38662

8. Reviewers