

JUN 14 2007

791 **OCD-ARTESIA**

R-111-POTASH

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

OCD-ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT


APPLICATION FOR PERMIT TO DRILL OR REENTER


1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-81953
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Devon Energy Production Company, LP		7. If Unit or CA Agreement, Name and No. 30-015-35664
3a. Address 20 North Broadway Oklahoma City, Oklahoma City 73102-8260		8. Lease Name and Well No. North Pure Gold 4 Federal 4H 35566
3b. Phone No. (include area code) 405-228-8699		9. API Well No.
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 150' FNL & 1980' FWL PP: 700' FNL & 1980' FWL At proposed prod. zone 330' FSL & 1980' FWL CARLSBAD CONTROLLED WATER BASIN		10. Field and Pool, or Exploratory Los Medanos; Delaware
11. Sec., T. R. M. or Blk. and Survey or Area SEC 4 T23S R31E		12. County or Parish Eddy County
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximately 18 miles east of Loving, NM.
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease 1716.94	17. Spacing Unit dedicated to this well 160 Acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 12544' MD, 7950' TVD	20. BLM/BIA Bond No. on file CO-1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3367' GL	22. Approximate date work will start* 07/15/2007	23. Estimated duration 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall 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 shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Judy A. Barnett	Date 04/30/2007
Title Regulatory Analyst		

Approved by (Signature)  Linda S.C. Rundell	Name (Printed/Typed) Linda S.C. Rundell	Date JUN 03 2007
Title STATE DIRECTOR		
Office NM STATE OFFICE		

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

APPROVAL FOR TWO YEARS

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

*(Instructions on page 2)

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**UNORTHODOX
LOCATION**

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED**

**If earthen pits are used in
association with the drilling of this
well, an OCD pit permit must be
obtained prior to pit construction.**

UNITED STATES DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Roswell Field Office

2909 West Second Street

Roswell, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name: Devon Energy Production Company, LP
Street or Box: 20 North Broadway
City, State: Oklahoma City, Oklahoma
Zip Code: 73102-8260

The undersigned accepts all applicable terms, conditions, stipulations and restrictions concerning operations conducted on the leased land or portion thereof, as described below.

Lease Name: North Pure Gold 4 Federal 4H

Lease No.: NM-81953

Legal Description of Land: 160 Acres
E/2 W/2 SEC 4 T23S-R31E

Formation(s): Delaware

Bond Coverage: Nationwide

BLM Bond File No.: CO-1104

Authorized Signature:


Judy A. Barnett

Title: Regulatory Analyst

Date: 05/01/07

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 40297	Pool Name LOS MEDANOS, DELAWARE
Property Code	Property Name NORTH PURE GOLD "4" FEDERAL	Well Number 4H
GRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY LP	Elevation 3367'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	4	23 S	31 E		150	NORTH	1980	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	4	23 S	31 E		330	SOUTH	1980	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>SURFACE LOCATION Lat - N32°20'25.2" Long - W103°47'05.9" (NAD-83)</p> <p>PP: 700' FNL & 1980' FWL</p> <p>BOTTOM HOLE LOCATION Lat - N32°19'37.7" Long - W103°47'05.9" (NAD-83)</p> <p>SECTION LN.</p> <p>Producing Area</p> <p>Project Area</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Judy A. Barnett</i> 12/07 Signature Date</p> <p>Judy A. Barnett Printed Name Regulatory Analyst</p> <p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>MARCH 12 2007 Date Surveyed</p> <p>GARY L. JONES Signature & Seal Professional Surveyor</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
--	--

3359.6'

600'

3374.2'

150' NORTH
OFF SET
3664.1'

BIG DUNE

PROD. LSE RD
97.5
46.0

BIG DUNE

DEVON ENERGY PRODUCTION CO., L.P.
NORTH PURE GOLD "4" FEDERAL #4H
Elev. - 3367'

150' WEST
OFF SET
3662.6'

150' EAST
OFF SET
3368.1'

Lat. - N 32°19'37.7"
Long - W 103°47'05.9"
(NAD-83)

150' SOUTH
OFF SET
3365.9'

600'

3361.0'

600'

3368.4'

LEASE ROAD 2.9 MILES

100' CO. RD. 202 (WPP)

STATE HWY 129

FROM THE JUNCTION OF STATE HWY 128 AND CO.
RD. 802 (WIPP), PROCEED NORTH ON CO. RD. 802
APPROX. 100 FEET TO LEASE ROAD, ON LEASE ROAD
GO NORTHEASTERLY 2.9 MILES TO PROPOSED LEASE
ROAD.

Survey Date: 03-12-2007	Sheet 1 of 1 Sheets
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Additional Operator Remarks:

Devon Energy Production Company, LP proposes to drill a Delaware well to 12544' MD, 7950' TVD for commercial quantities of oil and gas. If the well is deemed noncommercial, the wellbore will be plugged and abandoned per Federal regulations. Devon Energy Production Co., LP plans to drill the well per the attached Drilling and Surface Use Plan.

Directions To Location: From the junction of State Hwy 128 and County Rd. 802 (WIPP), go north on County Rd. for approximately 100 feet to lease road; then go northeasterly 2.9 miles to proposed lease road.

Access Road:

Approximately 143.5' of access road will be required. Archeological survey's will be requested for the pad and access road.

H2S:

No H2S is anticipated to be encountered.

LPC Timing Stipulation Areas:

The location of this well does not fall in the LPC Timing Stipulation Area per BLM-CFO 2007 LPC Timing Stipulation Areas map.

DRILLING PROGRAM

Devon Energy Production Company, LP

North Pure Gold 4 Federal 4H

Surface Location: 150' FNL & 1980' FWL, Unit C, SEC 4 T23S R31E, Eddy, NM

Bottom Hole Location: 330' FSL & 1980' FWL, Unit N, SEC 4 T23S R31E, Eddy, NM

1. Geologic Name of Surface Formation:

- a. Delaware

2. Estimated tops of geological markers:

- | | |
|------------------|--------|
| a. Rustler | 500' |
| b. Salado | 815' |
| c. Salt | 950' |
| d. Base of Salt | 3940' |
| e. Delaware | 4185' |
| f. Cherry Canyon | 5100' |
| g. Brushy Canyon | 6725' |
| h. Bone Springs | 8085' |
| i. Total Depth | 12544' |

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

- | | | |
|-------------|----------|-------------|
| a. Rustler | 500' | Fresh Water |
| b. Delaware | 4185'-TD | Oil |

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at 850' and circulating cement back to surface. Potash and salt will be protected by setting 9 5/8" casing at 4170' and circulating cement to surface. The Delaware intervals will be isolated by setting 7" casing to 8225' and circulating cement above the base of the 9 5/8" casing. There will be a 4 1/2" production liner set from 7750' to total depth with cement above top of liner.

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>OD Csg</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0'-850'	13-3/8"	48#	ST&C	H-40
12-1/4"	0'-4170'	9-5/8"	40#	LT&C	J-55
8-3/4"	0'-8225'	7"	26#	LT&C	J-55
6-1/8"	7750'-12,544'	4-1/2"	13.5#	BT&C	HCP-110

5. Cement Program:

13 3/8"	Surface	Lead Slurry: 610 sx 35:65 Poz (Fly Ash): Cl C Cmt + 2% Calcium Chloride + 0.25 lbs/sx Cello Flake + 6% Bentonite
		Tail Slurry: 250 sx Cl C Cmt + 2% Calcium Chloride + 0.25 lbs/sx Cello Flake

9 5/8"	Intermediate	<p>Lead Slurry: 1135 sx 35:65 Poz (Fly Ash): Cl C Cmt + 5% Sodium Chloride + 0.25 lbs/sx Cello Flake + 6% Bentonite</p> <p>Tail Slurry: 300 sx 60:40 Poz (Fly Ash): Cl C Cmt 5% Sodium Chloride + 0.25 lbs/sx Cello Flake + 0.4% Sodium Metasilicate + 4% MPA-1</p>
7"	2 nd Intermediate	<p>2 Stage with DV tool @ 4,300'</p> <p>STAGE 1 Spacer: 10.0 bbls Fresh Water @ 8.34 ppg; 1,500 gals Mud Clean II @ 8.45 ppg; 10 bbls Fresh Water @ 8.34 ppg</p> <p>Lead Slurry: 180 sx 35:65 Poz (Fly Ash): Cl C Cmt + 3% Sodium Chloride + 0.25% R-3 + 0.25 lbs/sx Cello Flake + 3 lbs/sx LCM-1 + 6% Bentonite + 0.3% FL-52A</p> <p>Tail Slurry: 615 sx 60:40 Poz (Fly Ash): Cl C Cmt + 1% Sodium Chloride + 1.0% BA-10 + 0.75% EC-1 + 0.25 lbs/sx Cello Flake + 3 lbs/sx Kol Seal + 4% bwoc MPA-1</p> <p>STAGE 2 Spacer: 20 bbls Fresh Water @ 8.34 ppg</p> <p>Slurry: 90 sx 60:40 Poz (Fly Ash): Cl C Cmt + 5% Sodium Chloride + 0.25 lbs/sx Cello Flake + 0.4% Sodium Metasilicate + 4% MPA-1</p>
4 1/2"	Liner	<p>Spacer: 10.0 bbls Fresh Water @ 8.34 ppg; 1500 gals Mud Clean II @ 8.45 ppg; 10 bbls Fresh water @ 8.34 ppg</p> <p>Slurry: 485 sx Cl H Cmt + 0.35% R-3 + 0.4% CD-32 + 1.4% FL-62 + 0.1% ASA-301 + 0.2% Sodium Metasilicate + 20 lbs/sx ASCA-1</p>

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 500' above the 9 5/8" casing shoe.

6. **Pressure Control Equipment:**

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (3M system) double ram type (5000 psi WP) preventor and a bag-type (Hydril) preventor (5000 psi WP). Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4 1/2" drill pipe rams on bottom. The drilling head will be installed on the 13 3/8" surface casing and utilized continuously until total depth is reached. All BOP's and associated equipment will be tested to **1200 psi with the rig pump before drilling out the 13 3/8" casing shoe (70% of 48#, H-40 casing)**. Prior to drilling out the 9 5/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drillers log. A 2" kill line and 3" choke

line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 5000 psi WP rating.

7. Proposed Mud Circulation System

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 850'	8.4 - 9.4	32 - 34	NC	Gel/Lime
850' - 4170'	10	28	NC	Brine
4170' - 8225'	8.3 - 8.4	28	NC	Fresh Water
8225' - 12,544'	8.6 - 9.0	34 - 40	8 - 12 cc	FW/Polymer

The necessary mud products for weight addition and fluid loss control will be on location at all times.

8. Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 7" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

9. Logging, Coring, and Testing Program:

- a. Drill stem tests will be based on geological sample shows.
- b. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron - Z Density log with Gamma Ray and Caliper.
 - ii. Total Depth to Surface Compensated Neutron with Gamma Ray
 - iii. No coring program is planned
 - iv. Additional testing will be initiated subsequent to setting the 7" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

10. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 2900 psi and Estimated BHT 120°.

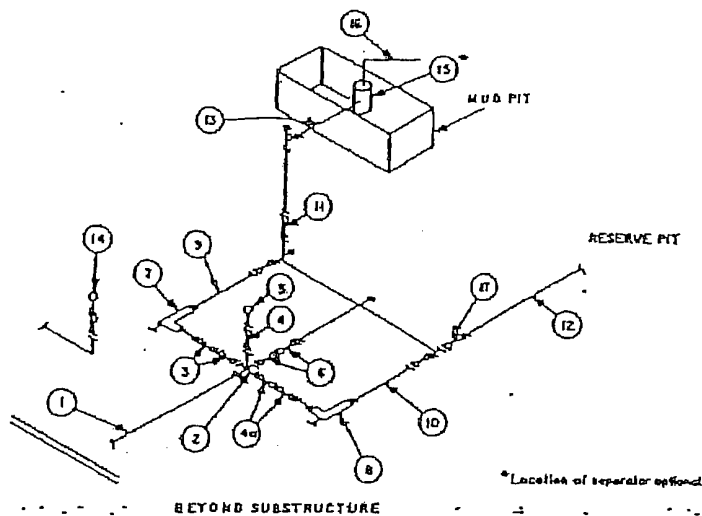
11. Anticipated Starting Date and Duration of Operations:

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 32 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

MINIMUM CHOKE MANIFOLD
3,000, 5,000 and 10,000 PSI Working Pressure

3 MWP - 5 MWP - 10 MWP

Exhibit E



MINIMUM REQUIREMENTS										
No.		3,000 MWP			5,000 MWP			10,000 MWP		
		LD.	NOMINAL	RATING	LD.	NOMINAL	RATING	LD.	NOMINAL	RATING
1	Line from drilling spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3"x3"x3"x2"			3,000			5,000			
	Cross 3"x3"x3"x3"									10,000
3	Valves (1) Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	1-13/16"		3,000	1-13/16"		5,000	1-13/16"		10,000
4a	Valves (1)	2-1/16"		3,000	2-1/16"		5,000	3-1/8"		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
7	Adjustable Choke (3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		3"	10,000
11	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
12	Lines		3"	1,000		3"	1,000		3"	2,000
13	Lines		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound standpipe pressure gauge			3,000			5,000			10,000
15	Gas Separator		2"x5"			2"x5"			2"x5"	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000

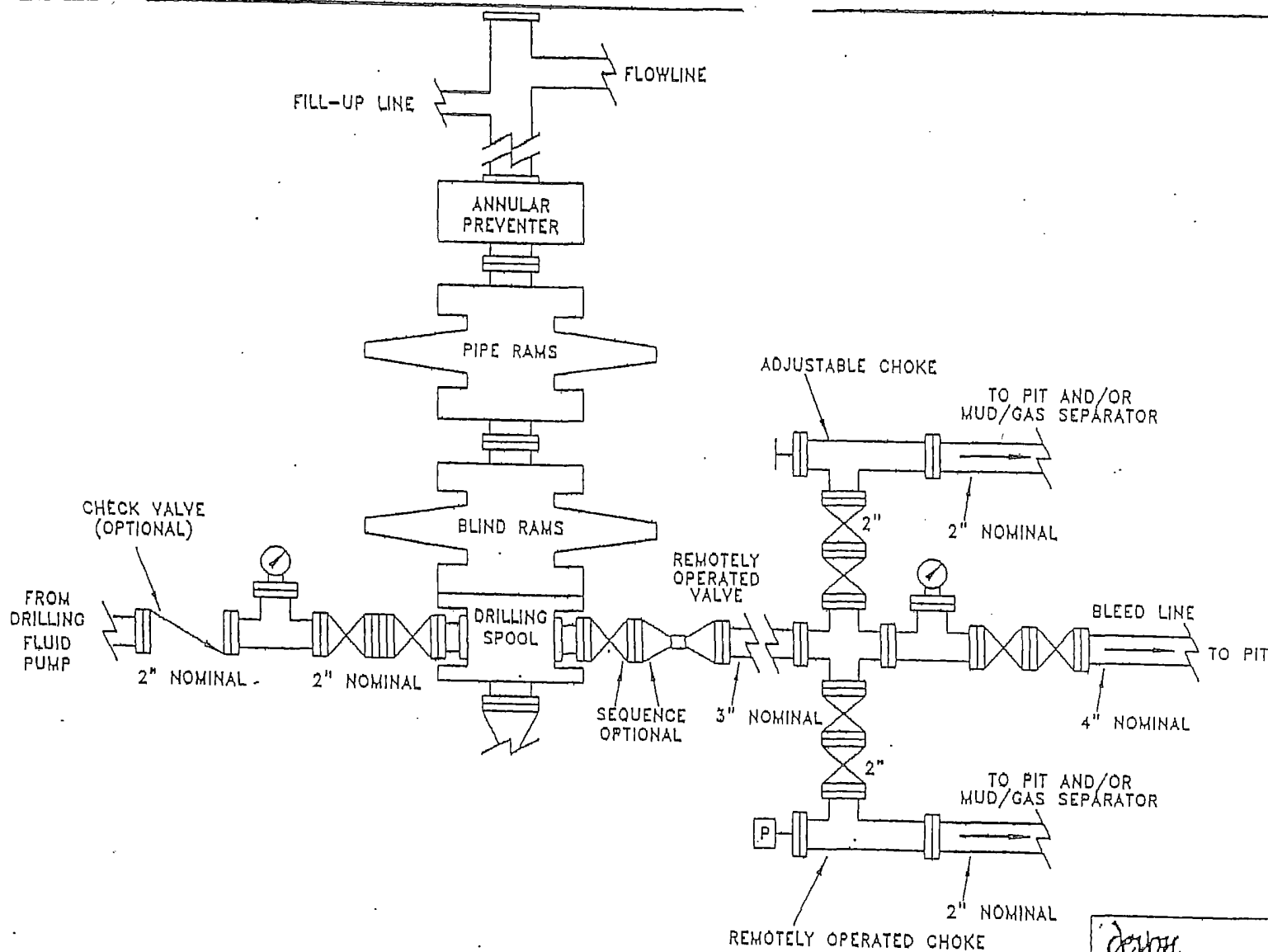
(1) Only one required in Class 3M.

(2) Gate valves only shall be used for Class 10M.

(3) Remote operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling.

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

- All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
- All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
- All lines shall be securely anchored.
- Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
- Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
- Line from drilling spool to choke manifold should be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90° bends using bull plugged tees.
- Discharge lines from chokes, choke bypass and from top of gas separator should vent as far as practical from the well.



Active for

DEVON

EXHIBIT 1

PROPOSED 5-M BOPE
AND CHOKE ARRANGEMENT

si\..nm\plots	
5mbops.dwg	

SC

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
North Pure Gold 4 Federal 4H

Surface Location: 150' FNL & 1980' FWL, Unit C, Sec 4 T23S R31E, Eddy, NM
Bottom Hole Location: 330' FSL & 1980' FWL, Unit N, Sec 4 T23S R31E, Eddy, NM

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 5000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 5000 psi WP with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a kelly cock attached to the kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operation.
10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
 - a. Characteristics of H2S
 - b. Physical effects and hazards
 - c. Proper use of safety equipment and life support systems.
 - d. Principle and operation of H2S detectors, warning system and briefing areas
 - e. Evacuation procedures, routes and first aid.
 - f. Proper use of 30-minute pressure demand air pack.
2. H2S Detection and Alarm System
 - a. H2S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
 - a. Windsock at mud pit area should be high enough to be visible
 - b. Windsock at briefing area should be high enough to be visible
 - c. There should be a windsock at entrance to location
4. Condition Flags and Signs
 - a. Warning Sign on access road to location
 - b. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H2S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well Control Equipment
 - a. See Exhibit "E" & "E-1"
6. Communication
 - a. While working under masks chalkboards will be used for communication.
 - b. Hand signals will be used where chalk board is inappropriate
 - c. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
7. Drill stem Testing
 - a. Exhausts will be watered
 - b. Flare line will be equipped with an electric igniter or a propane pilot light in case gas reaches the surface.
 - c. If the location is near to a dwelling a closed DST will be performed.
8. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.

If H2S is encountered, mud system will be altered if necessary to maintain control or formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.



Planned Wellpath Report

Plan #1
Page 1 of 4



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	#4H_SHL
Area	Eddy County, NM	Well	#4H
Field	Sand Dunes West Field	Wellbore	#4H_PWB
Facility	North Pure Gold 4 Federal #4H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001)	Software System	WellArchitect™ 1.2
North Reference	Grid	User	GomeOscR
Scale	0.999942	Report Generated	04/18/07 at 09:35:19
Wellbore last revised	04/18/07	Database/Source file	WA_Midland/#4H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	East [feet]	Easting [meters]	Northing [meters]	Latitude [°]	Longitude [°]
Slot Location	0.00	0.00	216619.70	148736.24	32 20 25.200N	103 47 05.900W
Facility Reference Pt			216619.70	148736.24	32 20 25.200N	103 47 05.900W
Field Reference Pt			0.00	0.00	30 59 18.404N	106 03 38.987W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on #4H_SHL (RT) to Facility Vertical Datum	0.00 feet
Horizontal Reference Pt	Slot	Rig on #4H_SHL (RT) to GRN. ELEV.	3367.00 feet
Vertical Reference Pt	Rig on #4H_SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00 feet
MD Reference Pt	Rig on #4H_SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	GRN. ELEV.	Section Azimuth	179.71°



Planned Wellpath Report

Plan #1
Page 2 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	#4H_SHL
Area	Eddy County, NM	Well	#4H
Field	Sand Dunes West Field	Wellbore	#4H_PWB
Facility	North Pure Gold 4 Federal #4H		

WELLPATH DATA (61 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]	Design Comments	Path Comment
0.00	0.000	179.707	0.00	0.00	0.00	0.00	0.00	Tie On	
510.00†	0.000	179.707	510.00	0.00	0.00	0.00	0.00		Rustler
930.00†	0.000	179.707	930.00	0.00	0.00	0.00	0.00		Top of Salt
3930.00†	0.000	179.707	3930.00	0.00	0.00	0.00	0.00		Base of Salt
4200.00†	0.000	0.000	4200.00	0.00	0.00	0.00	0.00		Bell Canyon
5100.00†	0.000	0.000	5100.00	0.00	0.00	0.00	0.00		Cherry Canyon
6700.00†	0.000	0.000	6700.00	0.00	0.00	0.00	0.00		Brushy Canyon
7470.00	0.000	179.707	7470.00	0.00	0.00	0.00	0.00	KOP	
7670.00†	23.860	179.707	7664.27	41.05	-41.04	0.21	11.93		
7770.00†	35.790	179.707	7750.87	90.69	-90.69	0.46	11.93		
7870.00†	47.720	179.707	7825.33	157.17	-157.16	0.80	11.93		
7970.00†	59.650	179.707	7884.45	237.60	-237.59	1.22	11.93		
8170.00†	83.510	179.707	7947.19	425.98	-425.98	2.18	11.93		
8224.43	90.004	179.707	7950.27	480.30	-480.29	2.46	11.93	EOC	
8270.00†	90.004	179.707	7950.26	525.87	-525.86	2.69	0.00		
8370.00†	90.004	179.707	7950.26	625.87	-625.86	3.20	0.00		
8570.00†	90.004	179.707	7950.25	825.87	-825.85	4.23	0.00		
8670.00†	90.004	179.707	7950.24	925.87	-925.85	4.74	0.00		
8770.00†	90.004	179.707	7950.23	1025.87	-1025.85	5.25	0.00		
8870.00†	90.004	179.707	7950.23	1125.87	-1125.85	5.76	0.00		
9070.00†	90.004	179.707	7950.21	1325.87	-1325.85	6.79	0.00		
9170.00†	90.004	179.707	7950.21	1425.87	-1425.85	7.30	0.00		
9270.00†	90.004	179.707	7950.20	1525.87	-1525.85	7.81	0.00		
9370.00†	90.004	179.707	7950.20	1625.87	-1625.84	8.32	0.00		
9570.00†	90.004	179.707	7950.18	1825.87	-1825.84	9.35	0.00		
9670.00†	90.004	179.707	7950.18	1925.87	-1925.84	9.86	0.00		
9770.00†	90.004	179.707	7950.17	2025.87	-2025.84	10.37	0.00		
9870.00†	90.004	179.707	7950.16	2125.87	-2125.84	10.88	0.00		
10070.00†	90.004	179.707	7950.15	2325.87	-2325.84	11.91	0.00		
10170.00†	90.004	179.707	7950.15	2425.87	-2425.83	12.42	0.00		
10270.00†	90.004	179.707	7950.14	2525.87	-2525.83	12.93	0.00		
10370.00†	90.004	179.707	7950.13	2625.87	-2625.83	13.44	0.00		
10470.00†	90.004	179.707	7950.13	2725.87	-2725.83	13.94	0.00		



Planned Wellpath Report

Plan #1
Page 3 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	#4H_SHL
Area	Eddy County, NM	Well	#4H
Field	Sand Dunes West Field	Wellbore	#4H PWB
Facility	North Pure Gold 4 Federal #4H		

WELLPATH DATA (61 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]	Design Comments	Path Comment
10570.00†	90.004	179.707	7950.12	2825.87	-2825.83	14.47	0.00		
10670.00†	90.004	179.707	7950.12	2925.87	-2925.83	14.98	0.00		
10770.00†	90.004	179.707	7950.11	3025.87	-3025.83	15.49	0.00		
10870.00†	90.004	179.707	7950.10	3125.87	-3125.82	16.00	0.00		
10970.00†	90.004	179.707	7950.09	3225.87	-3225.82	16.51	0.00		
11070.00†	90.004	179.707	7950.09	3325.87	-3325.82	17.03	0.00		
11170.00†	90.004	179.707	7950.08	3425.87	-3425.82	17.54	0.00		
11270.00†	90.004	179.707	7950.08	3525.87	-3525.82	18.05	0.00		
11370.00†	90.004	179.707	7950.07	3625.87	-3625.82	18.56	0.00		
11470.00†	90.004	179.707	7950.06	3725.87	-3725.82	19.07	0.00		
11570.00†	90.004	179.707	7950.06	3825.87	-3825.82	19.58	0.00		
11670.00†	90.004	179.707	7950.05	3925.87	-3925.81	20.10	0.00		
11770.00†	90.004	179.707	7950.05	4025.87	-4025.81	20.61	0.00		
11870.00†	90.004	179.707	7950.04	4125.87	-4125.81	21.12	0.00		
11970.00†	90.004	179.707	7950.03	4225.87	-4225.81	21.63	0.00		
12070.00†	90.004	179.707	7950.03	4325.87	-4325.81	22.14	0.00		
12170.00†	90.004	179.707	7950.02	4425.87	-4425.81	22.66	0.00		
12270.00†	90.004	179.707	7950.02	4525.87	-4525.81	23.17	0.00		
12370.00†	90.004	179.707	7950.01	4625.87	-4625.81	23.68	0.00		
12470.00†	90.004	179.707	7950.01	4725.87	-4725.81	24.19	0.00		
12544.15	90.004	179.707	7950.00 ¹	4800.02	-4799.95	24.57	0.00	#4H BHL	

HOLE & CASING SECTIONS Ref Wellbore: #4H PWB Ref Wellpath: Plan #1

String/Diameter	Start MD [feet]	End MD [feet]	Interval [feet]	Start TVD [feet]	End TVD [feet]	Start N/S [feet]	Start E/W [feet]	End N/S [feet]	End E/W [feet]
13.375in Casing	0.00	850.00	850.00	0.00	850.00	0.00	0.00	0.00	0.00
9.625in Casing	0.00	4170.00	4170.00	0.00	4170.00	0.00	0.00	0.00	0.00
8.75in Open Hole	4170.00	8224.43	4054.43	4170.00	7950.27	0.00	0.00	-480.29	2.46
7in Casing	0.00	8224.43	8224.43	0.00	7950.27	0.00	0.00	-480.29	2.46
6.125in Open Hole	8224.26	12544.12	4319.86	7950.27	7950.00	-480.12	2.46	-4799.92	24.57

[illegible]



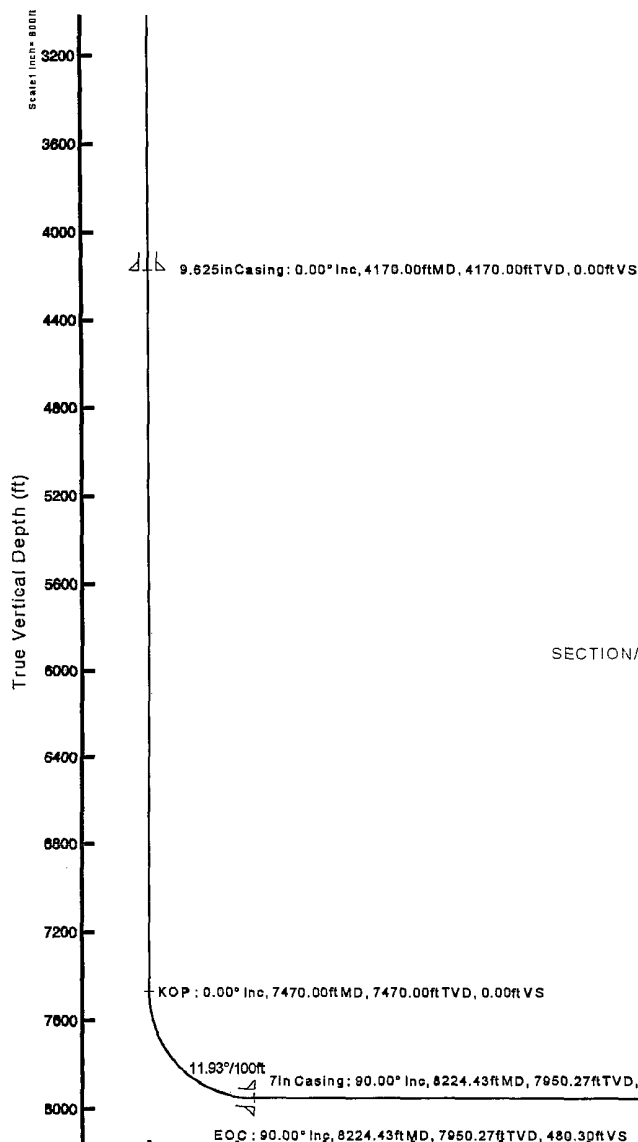
Devon Energy

Location: Eddy County, NM Slot: #4H_SHL
Field: Sand Dunes West Field Well: #4H
Facility: North Pure Gold 4 Federal #4H Wellbore: #4H_PWB

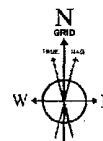
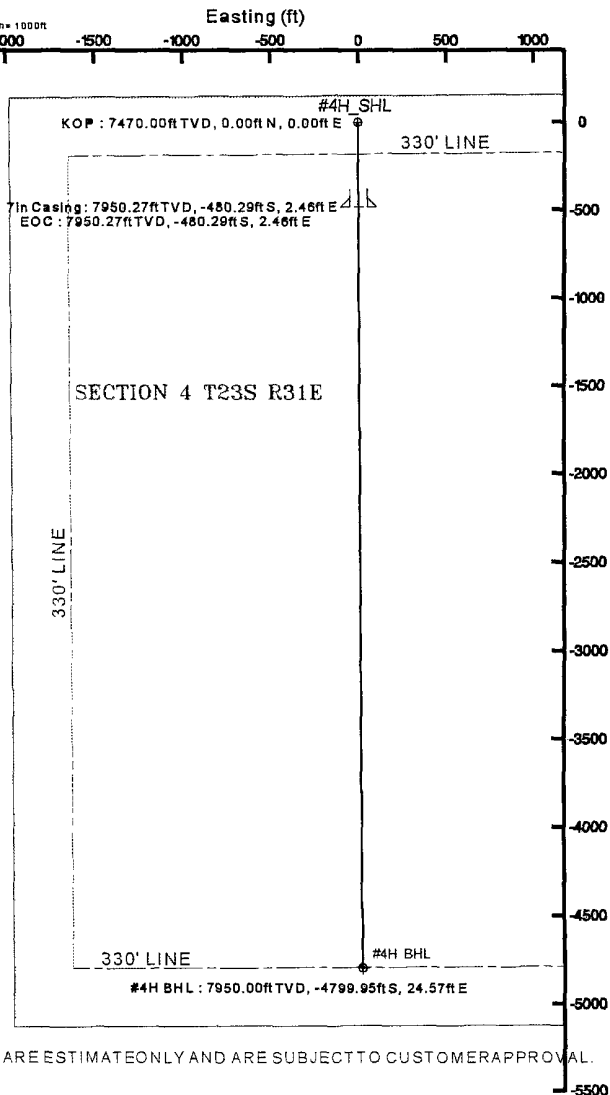


Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	CLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	179.707	0.00	0.00	0.00	0.00	0.00
KOP	7470.00	0.000	179.707	7470.00	0.00	0.00	0.00	0.00
EOC	8224.43	90.004	179.707	7950.27	-480.29	2.46	11.93	480.30
#4H SHL	12544.15	90.004	179.707	7950.00	-4799.95	24.57	0.00	4800.02

For reference within this Plan #1	
True vertical depths are referenced to Rig as #4H_SHL (RT)	Grid System: NAD83 / TM North American State Plane, Eastern Zone (2011)
Horizontal depths are referenced to Rig as #4H_SHL (RT)	North Reference: Grid north
Rig as per SHL (RT) to GRN: CLSV: 3387 feet	Scale: One distance
GRN (CLSV) to Wellhead (Depth: North Pure Gold 4 Federal #4H) 3387 feet	Depth and in feet
Coordinates are in feet referenced to Sub	Created by: GMS/CRK on 4/18/07



SECTION/HARDLINES ARE ESTIMATE ONLY AND ARE SUBJECT TO CUSTOMER APPROVAL.



BOOM (1945.0 to 2008.0) Dip: 60.30° Field: 49126.7 nT
Magnetic North is 8.22 degrees East of True North (at 04/18/07)
Grid North is 0.29 degrees East of True North
To correct azimuth from True to Grid subtract 0.29 degrees
To correct azimuth from Magnetic to Grid add 7.82 degrees

Azimuth 179.71° with reference 0.00 N, 0.00 E from wellhead

SURFACE USE PLAN

Devon Energy Production Company, LP

North Pure Gold 4 Federal 4H

Surface Location: 150' FNL & 1980' FWL, Unit C, Sec 4 T23S R31E, Eddy, NM

Bottom Hole Location: 330' FSL & 1980' FWL, Unit N, Sec 4 T23S R31E, Eddy, NM

1. Existing Roads:

- a. The well site and elevation plat for the proposed well are reflected on Exhibit 2. The well was staked by Basin Surveys.
- b. All roads into the location are depicted on Exhibit 3.
- c. Directions to Location: From the junction of State Hwy 128 and County Rd. 802 (WIPP), go north on County Rd. 802 for approximately 100 feet to lease road; then northeasterly 2.9 miles to the proposed lease road.

2. Access Road

- a. Exhibit #3 shows the existing lease road. Approximately 143.5' of new access road will be constructed as follows:
- b. The maximum width of the road will be 15'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
- c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 1%.
- d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

3. Proposed Facilities:

- a. In the event the well is found productive, the North Pure Gold 4 Federal 3 tank battery would be utilized and the necessary production equipment will be installed at the well site.
- b. If necessary, the well will be operated by means of an electric prime mover. Electric power poles will be set along side of the access road.
- c. All flow lines will adhere to API standards.
- d. If the well is productive, rehabilitation plans are as follows:
 - i. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after completion, weather permitting).
 - ii. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

4. Methods of Handling Waste Material:

- a. Drill cuttings will be disposed of in the reserve pits.
- b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier, including broken sacks, will pick up salts remaining after completion of well.
- d. Wastewater from living quarters will be drained into hole with a minimum of 10'. These holes will be covered during drilling and will be back filled when the well is completed. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for further drying. If the drilling fluids do not evaporate in a reasonable

time they will be hauled off by transports to a state approved disposal site. Later pits will be broken out to speed dry. Water produced during completion will be put in reserve pits. Oil and condensate produced will be put in a storage tank and sold.

5. Well Site Layout

- a. Exhibit D Shows the proposed well site layout.
- b. This exhibit indicated proposed location of reserve and sump pits and living facilities.
- c. Mud pits in the active circulating system will be steel pits & the reserve pit is proposed to be unlined unless subsurface conditions encountered during pit construction indicate that lining is needed for lateral containment of fluids.
- d. If needed, the reserve pit is to be lined with polyethylene. The pit liner will be 6 mils thick. Pit liner will extend a minimum 2'00" over the reserve pits dikes where the liner will be anchored down.
- e. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

6. Other Information:

- a. The area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, some mesquite bushes and shinnery oak. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
- b. The surface is owned by the US Government and is administered by the Bureau of Land Management. The surface is of limited use except for the grazing of livestock and the production of oil and gas.
- c. A Cultural Resources Examination will be completed by Southern New Mexico Archaeological Services, Inc. and forwarded to the BLM office in Carlsbad, New Mexico.
- d. There are no dwellings within 2 miles of location.

Operators Representative:

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Jim Cromer
Operations Engineer Advisor

Don Mayberry
Superintendent

Devon Energy Production Company, L.P.
20 North Broadway
Oklahoma City, OK 73102-8260

Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250

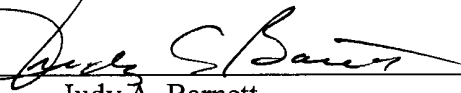
(405) 228-4464 (office)
(405) 694-7718 (Cellular)

(505) 748-3371 (office)
(505) 746-4945 (home)

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road; that I am familiar with the conditions that presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Devon Energy Production Company, L.P. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Signed:



Judy A. Barnett
Regulatory Analyst

Date: May 1, 2007



"Johnson, Harold - DOE"
<Harold.Johnson@wipp.ws>
05/08/2007 12:22 PM

To Cheryle_Ryan@nm.blm.gov
cc
bcc
Subject FW: APD for NPG 4 Federal #4H

See the note below from Gene Valett, who is in charge of verifying the location of this well.

Harold Johnson, NEPA Compliance Manager
DOE, Carlsbad Field Office
P.O. Box 3090
4021 National Parks Highway
Carlsbad, NM 88221
Phone (505) 234-7349, Fax (505) 234-7061, harold.johnson@wipp.ws

From: Valett, Gene
Sent: Tuesday, May 08, 2007 10:41 AM
To: Johnson, Harold - DOE
Cc: Siegel, Joel; Wade, Robert; Rivas, Aurelio
Subject: APD for NPG 4 Federal #4H

Harold: WRES has received a copy of the Application for Permit to Drill (APD) prepared by the Bureau of Land Management (BLM) on 07MAY07 for a well proposed by Devon Energy Production Company, L.P. (Devon). The proposed well is: North Pure Gold 4 Federal #4H

North Pure Gold 4 Federal #4H is located 150' FNL, 1980' FWL in Section 4 of T.23S., R.31E. The well location was verified on 16APR07 and was found to be located as stated on the APD.

Discussion with Mr. Jim Amos of the BLM Carlsbad Field Office indicates that the well will be completed horizontally at a point estimated at 330' FSL, 1980' FWL in Section 4 of T.23S., R.31E. which is beyond the WIPP Land Withdrawal Area boundary.

The proposed well is located within 330' of the WIPP Land Withdrawal Area boundary. As a result, Devon is required to submit daily logs and deviation survey information to the Department of Energy per requirements of the Joint Powers Agreement. Information from this well will be included in the Quarterly Drilling Report. Information will also be provided to Mr. Bryan Arrant of the Oil Conservation Division after drilling activities have been completed. Any future entry into the well for purposes of completing additional drilling will require supplemental information.

Devon can email the required information to me at gene.valett@wipp.ws or fax to my attention at 505-234-6003.

Please contact me at one of the numbers listed below if this matter requires further discussion. Thanks.
GLV

Gene L. Valett
Land Management Coordinator
Washington Regulatory Environmental Services
P.O. Box 2078 486-05
Carlsbad, New Mexico 88221
Office: 505-234-8261
Fax: 505-234-6003
Cell: 505-302-9568

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: DEVON ENERGY PRODUCTION COMPANY, LP
Well Name & No. 4H – NORTH PURE GOLD 4 FEDERAL
Location: 150' FNL & 1980' FWL – SEC 4 – T23S – R31E – EDDY (SHL)
330' FSL & 1980' FWL – SEC 4 – T23S – R31E – EDDY (BHL)
Lease: NM-81953

.....

I. DRILLING OPERATIONS REQUIREMENTS:

- A. The Bureau of Land Management (BLM) is to be notified a minimum of 4 hours in advance for a representative to witness:
1. Spudding well
 2. Setting and/or Cementing of all casing strings
 3. BOPE tests
- Eddy County call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822
- B. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
- C. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufactures of the logging tools recommended speed.

II. CASING:

- A. The 13-3/8 inch surface casing shall be set at 850 feet into the top of the Rustler Anhydrite and above the top of the Salado and cemented to the surface.
1. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 2. Wait on cement (WOC) time for a primary cement job will be a minimum of 12 hours for a non-water basin, 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement)
 3. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
 4. If cement falls back, remedial action will be done prior to drilling out that string.
- B. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is circulate cement to the surface. If cement does not circulate see A.1 thru 4.
- C. The minimum required fill of cement behind the 7 inch intermediate casing is circulate cement to the surface.

- D. The minimum required fill of cement behind the 4-1/2 inch production liner is **cement shall extend upward to the top of the liner.**
- E. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.
- F. 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 I joints of the drill pipe will be installed prior to continuing drilling operations.

III. PRESSURE CONTROL:

- A. 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.
- B. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** PSI.
- C. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - 1. The tests shall be done by an independent service company.
 - 2. The results of the test shall be reported to the appropriate BLM office.
 - 3. 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.
 - 4. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi in accordance with API RP 53. 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.

LBabyak 05/14/07