

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2007 FEB 13

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

Lease Serial No. 1
14-20-603-1326

APPLICATION FOR PERMIT TO DRILL OR REENTER

6- If Indian, Allottee or Tribe Name
Navajo Allottee #011161

1a Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7 If Unit or CA Agreement, Name and No SW-1-4209
1b Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		8 Lease Name and Well No Navajo 02 23
2 Name of Operator Patina Oil and Gas Corporation		9 API Well No. 30-045-34164
3a Address 5802 US Highway 64, Farmington, NM 87401	3b Phone No. (include area code) 505-632-8056	10 Field and Pool, or Exploratory Basin Dakota
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1680 FNL and 1980 FEL At proposed prod zone SAME		11 Sec., T R M or Blk and Survey or Area G Sec. 2 T25N R10W
14 Distance in miles and direction from nearest town or post office* 25 miles south of Bloomfield, NM		12 County or Parish San Juan
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drg unit line, if any) 649 feet		13 State NM
16 No. of acres in lease 320		17 Spacing Unit dedicated to this well 319.79 E/2 320 acres
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 660 feet		20 BLM/BIA Bond No. on file LMP8720503-CO1291
19 Proposed Depth 6795'		21 Elevations (Show whether DF, KDB, RT, GL, etc.) 6779 feet GL
22 Approximate date work will start* 06/01/2007		23 Estimated duration 12 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>Billie Maez</i>	Name (Printed/Typed) Billie Maez	Date 1-12-07
Title District Manager		

Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) AFM	Date 8/15/07
Title FFS		

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

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)

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

RCVD AUG 17 '07
OIL CONS. DIV.
DIST. 3

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS"

Obtain a pit permit from NMOCD
prior to constructing location

8-20-07
aw

NMOCD

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr. 2007 FEB 12 AM 9 14
Santa Fe, NM 87505

Form C-102
Revised June 10, 2003
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

RECEIVED ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 APL Number 30-045-34164		2 Pool Code 71599		3 Pool Name BASIN DAKOTA	
4 Property Code 36621		5 Property Name NAVAJO 02		6 Well Number 23	
7 OGRID No. 173252		8 Operator Name PATINA OIL & GAS CORPORATION		9 Elevation 6779'	

10 Surface Location

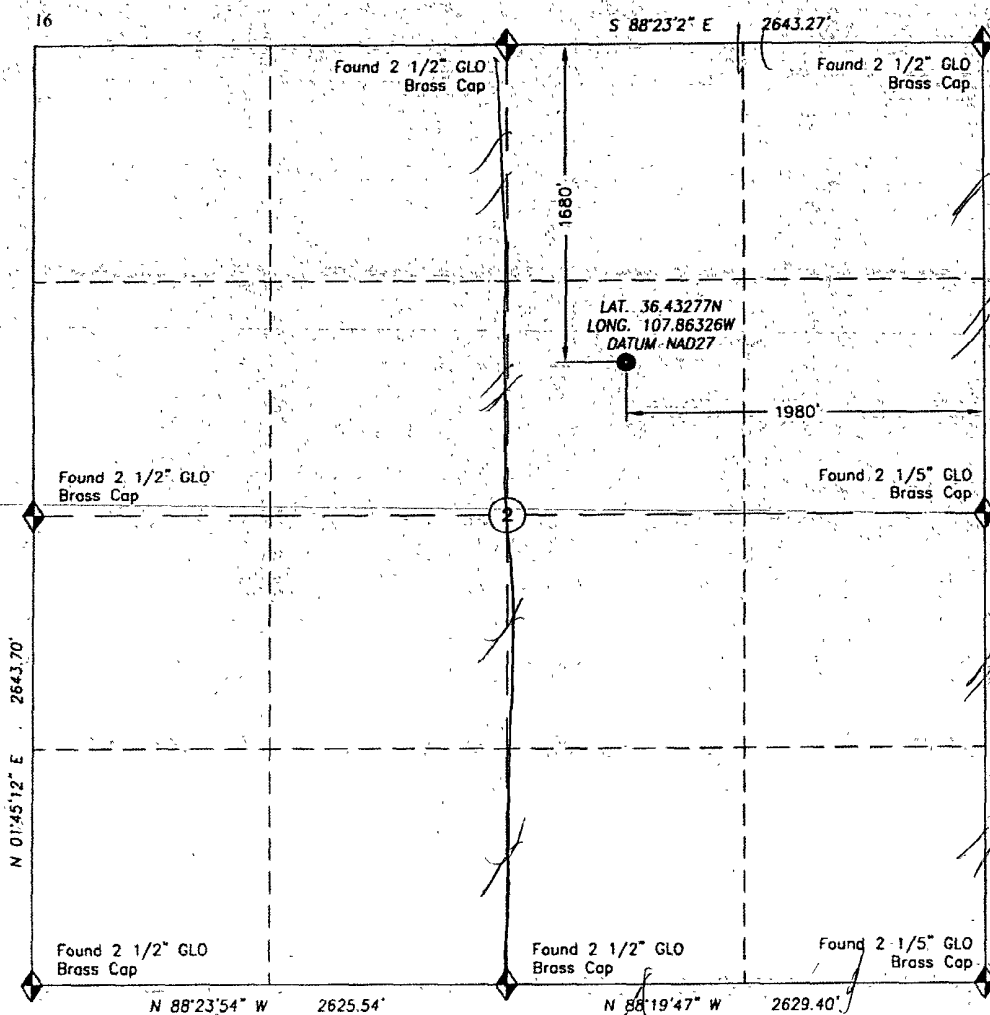
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	2	25N	10W		1680	NORTH	1980	EAST	SAN JUAN

11 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

12 Dedicated Acres 319.79 320 ACRES	13 Joint or In fill E 1/2	14 Consolidation Code	15 Order No.
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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

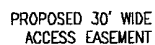


17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature: <i>[Signature]</i> Printed Name: JEAN M. MUSE Title and E-mail Address: Regulatory/Engineering Tech muse@nobleenergy.com Date: 3/14/06	
18 SURVEYOR CERTIFICATION 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. Date of Survey: October 2, 2004	
 Dale E. Bell New Mexico Reg. PS No. 14400 For and on behalf of Trigon Epc 126 Rock Point Dr., Suite B Durango CO 81301 (970) 385-9100	

San Juan County, New Mexico

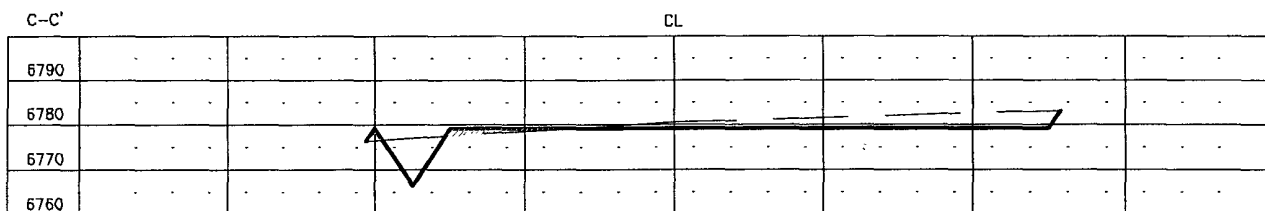
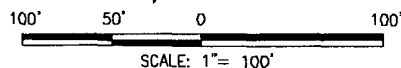
LATITUDE: 36.43277° N
LONGITUDE: 107.86326° W

DATE RECEIVED NAD 1927



PLAT NOTE

SURFACE OWNER

NAVAJO NATION
ALLOTMENT

VERTICAL SCALE: 1" = 40'

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALL ONE-CALL FOR LOCATION OF ALL BURIED FACILITIES ON WELL PAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
2. CUTS AND FILLS SHOWN ARE APPROXIMATE - FINAL FINISHED ELEVATION IS TO BE ADJUSTED SO EARTHWORK WILL BALANCE. CORNER STAKES ARE APPROXIMATE AND DO NOT INCLUDE ADDITIONAL AREAS NEEDED FOR SIDESLOPES AND DRAINAGES. FINAL PAD DIMENSIONS ARE TO BE VERIFIED BY THE CONTRACTOR.

FILE NAME: NAVAJD022302

PATINA SAN JUAN, INC.

PREPARED BY

TRIGON EPC
ENGINEERING • PROCUREMENT • CONSTRUCTION

May 30, 2008 - 2:58pm by ameyhew - Path = K:\Jobs\Poline San Juan Inc\Z185-09 Novojo 02-2J\H-Dwgs\NAVAJOOZ2302.dwg

Navajo 2 #23
General Drilling Plan
Patina San Juan, Inc.
San Juan County, New Mexico

1. LOCATION:

Est. elevation: 6832'
SWNE Section 2-T25N-R10W
1680' FNL 1980' FEL
San Juan, New Mexico

Field:

Surface: United States of America

Minerals: United States of America

2. SURFACE FORMATION, ESTIMATED TOPS AND WATER, OIL, GAS OR MINERAL BEARING FORMATIONS (TVD):

Surface formation – Nacimiento

Formation	drilling depth
Ojo Alamo	1239
Kirtland	1437
Fruitland	1708
Pictured Cliffs**	2177
Lewis	2414
Cliff House**	3703
Menefee	3722
Point Lookout**	4592
Mancos Shale	4838
Gallup**	5921
Greenhorn	6562
Graneros	6620
Dakota***	6655
TD	6795

Legend: * Freshwater bearing formation
 ** Possible hydrocarbon bearing formation
 *** Probable hydrocarbon bearing formation
 # Possible H2S bearing formation

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth and adequately protected.

3. PRESSURE CONTROL EQUIPMENT:

BOP equipment will be tested to its rated working pressure or 70-percent of the internal yield of the surface casing, but not to exceed 1,000 psi. See attachments for BOP and choke manifold diagrams.

Production Hole BOP Requirements and Test Plan

11" – 2,000 psi single ram (blind)

11" – 2,000 psi single ram (pipe)

Test as follows:

a) Pipe rams:	1,000 psi (High)	250 psi (low)
b) Choke manifold:	1,000 psi (High)	250 psi (low)
c) Choke lines:	1,000 psi (High)	250 psi (low)

All ram type preventers and related equipment will be hydraulically tested at nipple-up. They will also be retested in either of the following events:

- A pressure seal is broken.
- 30 days have elapsed since the last successful test of the equipment.

Furthermore, BOP's will be checked daily as to mechanical operating condition. All ram type preventers will have hand wheels, which will be operative and accessible at the time the preventers are installed. See attached Exhibit for details on the BOP equipment.

AUXILIARY EQUIPMENT:

- a) Manually operated kelly cock (upper and lower)
- b) Full opening manually operated safety valves in the full open position, capable of fitting all drill stem connections.

4. CASING DESIGN:

Hole Data				
Interval	Bit Size (Inches)	Casing Size (Inches)	Top (Ft)	Bottom (Ft)
Surface	12.25	9.625	0	300 320
Production	7 7/8	4.5	0	6795

Casing Data							
OD (Inches)	ID (Inches)	Weight (Lbs/Ft)	Grade	Thread	Collapse (psi)	Burst (psi)	Min. Tensile (Lbs)
9.625	8.921	36.0	J55	STC	2,020	3,520	394,000
4.5	4.276	11.6	N80	LTC	6,350	7,780	223,000

MINIMUM CASING DESIGN FACTORS:

COLLAPSE: 1.125

BURST: 1.00

TENSION: 1.80

Area Fracture Gradient Range: 0.7 – 0.8 psi/foot

Maximum anticipated reservoir pressure: 2,500 psi

Maximum anticipated mud weight: 9.0 ppg

Maximum surface treating pressure: 3,750 psi

Float Equipment:

Surface Casing: Guide shoe on bottom and 3 centralizers on the bottom 3 joints.

Production Casing: Float shoe on bottom joint and a float collar one joint up from float shoe. One centralizer 10 ft above float shoe and centralizers over potential hydrocarbon bearing zones. Stage tool above the Cliffhouse formation. One centralizer below stage tool and one centralizer above stage tool.

CEMENTING PROGRAMS:

9-5/8" Surface casing:

200 sx Type III cement with 3% CaCl₂, 1/4#/sx cellofakes. 100% excess to circulate cement to surface. WOC 4 hrs. Pressure test surface casing to 1000-psi for 30 minutes.

Slurry weight: 15.2 ppg
Slurry yield: 1.28 ft³/sack

Volume basis:	40' of 9-5/8" shoe joint	17 cu ft
	300' of 12-14" x 9-5/8" annulus	100 cu ft
	<u>100% excess (annulus)</u>	<u>100 cu ft</u>
	Total	217 cu ft

Note:

1. Design top of cement is the surface.
2. Have available 100 sx Type III cement with 2% CaCl₂ for top out purposes.

4 1/2" Production casing:

1st Stage:

Lead: 175 sx of Type III cement plus additives

Slurry weight: 10.6 ppg

Slurry yield: 4.28 ft³/sx

Tail: 180 sx Type III cement plus additives

Slurry weight: 12.5 ppg

Slurry yield: 2.20 ft³/sx

2nd Stage:

Lead: 110 sx of Type III cement plus additives

Slurry weight: 10.6 ppg

Slurry yield: 4.28 ft³/sx

Tail: 200 sx Type III cement plus additives

Slurry weight: 12.5 ppg

Slurry yield: 2.20 ft³/sx

Volume basis:	1 st Stage:	
	40' of 4 1/2" shoe joint	5 cu ft
	3400' of 4 1/2" x 7 7/8" hole	775 cu ft
	2 nd Stage:	
	2715' of 4 1/2" x 7 7/8" hole	620 cu ft
	<u>30% excess (annulus)</u>	<u>420 cu ft</u>
	Total	1820 cu ft

Note:

1. Design 1st stage top of cement is $\pm 3400'$ (300' above the top of the Cliff House formation).
2. DV tool is 300' below the top of the Lewis Shale formation.
3. Actual cement volumes to be based on caliper log plus 30%.

like cmt To surface

5. MUD PROGRAM:

The surface hole will be drilled with spud mud. Gel and polymer sweeps will be used from surface to 300 feet as necessary to keep hole clean.

The production hole will be drilled with water until mud up at about 3600 ft. From mud up point to total depth, it will be drilled with a LSND mud. Anticipated mud weight ranges from 8.5 – 9.2 ppg. Mud weight will be increased as required to maintain hole stability and control gas influx.

Sufficient mud materials to maintain stable wellbore conditions (for either well control or lost circulation scenarios) will be maintained at the well site.

No chrome-based additives will be used in the mud system.

Electric logs: Intermediate Hole:

- 1) DIL-GR-SP: TD to base of surface casing.
- 2) LDT-CNL-GR-CAL-PE: TD to base of surface casing

Production Hole:

- 1) No open hole logs
- 2) Cased hole resistivity & porosity logs

7. ABNORMAL PRESSURE AND TEMPERATURE:

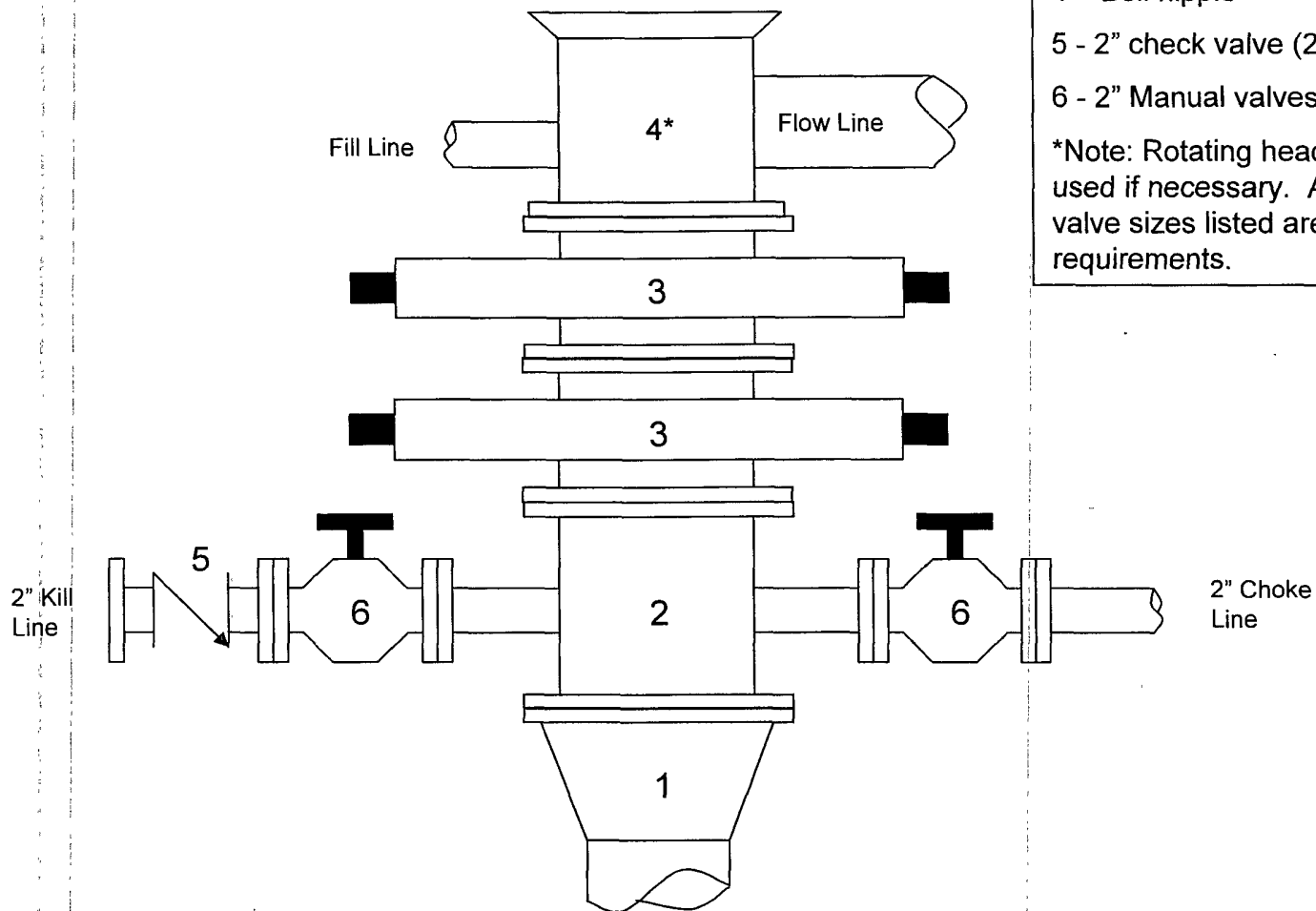
H ₂ S	None
Coal	Fruitland
Minerals	None
Water	None
Static BHT	175° F
Lost Circulation	Possible
Hole Deviation	None
Abnormal Pressures	None
Unusual Drilling Problems	None

8. ANTICIPATED STARTING DATE: June 1, 2007

Anticipated duration: 12 days

Navajo 02 #23

2000 psi BOP stack
Minimum requirements



Components

- 1 - Wellhead 9-5/8" (2M)
- 2 - Drilling spool 11" (2M)
- 3 - A double or two single rams with blinds on bottom 11" (2M)
- 4 - Bell nipple*
- 5 - 2" check valve (2M)
- 6 - 2" Manual valves (2M)

*Note: Rotating head may also be used if necessary. Also, all line and valve sizes listed are minimum requirements.

Navajo 02 #23

2000 psi Choke Manifold
Minimum requirements

Components

1 – 2" Valve (2M)

2 – 2" Valve (2M)

3 – Mud cross with gauge (2M) flanged below the gage.

4 – Adjustable choke (2M)

5 – Adjustable choke (2M)

Note: All line and valve sizes listed are minimum requirements.

