Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2004 DEC 15 PM 4 39
RECEIVED
070 FARMINGTON NM

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
NM SF 078244

6. If Indian, Allotee or Tribe Name

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
HARMS WAY FEDERAL 30 #19

2. Name of Operator
PATINA OIL AND GAS

9. API Well No.
30-045-32772

3a Address **5802 US HIGHWAY 64**
FARMINGTON, NEW MEXICO 87401

3b Phone No. *(include area code)*
505-632-8056

10 Field and Pool, or Exploratory
BASIN FRUITLAND COAL

4. Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface **685' FNL and 1815' FWL** Lot 7
At proposed prod zone **SAME**

11 Sec., T R M or Blk and Survey or Area
C SEC 30-T31N-R12W

14. Distance in miles and direction from nearest town or post office*
5 miles north of Farmington, NM

12 County or Parish
SAN JUAN

13 State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg. unit line, if any)	16 No. of acres in lease	17 Spacing Unit dedicated to this well
685'	**320+ ACRES**	**W/2 298.02 ACRES**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth	20. BLM/BIA Bond No. on file
50'	**2400'**	
21 Elevations (Show whether DF, KDB, RT, GL, etc.)	22 Approximate date work will start*	23 Estimated duration
5902' GR	**04/01/2005**	**5 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
2. A Drilling Plan.
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)
4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5 Operator certification
6 Such other site specific information and/or plans as may be required by the authorized officer

25 Signature	Name *(Printed/Typed)*	Date
Jean Muse	**JEAN M. MUSE**	**12/13/2004**
Title **REGULATORY/ENGINEERING TECH**		
Approved by *(Signature)* /s/ Mark Kelley	Name *(Printed/Typed)*	Date 6/12/07
Title AFM	Office FFO	

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) Submit application for pit permit on NM-OCD Form 103 prior to constructing location

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

RCVD JUN14'07
OIL CONS. DIV.
DIST. 3

6-28-07
BH

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165 4

NMOCD

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

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

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

District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-045-32772	71629	BASIN FRUITLAND COAL

[4] Property Code	[5] Property Name	[6] Well Number
35371	HARMS WAY FEDERAL 30	19

[7] OGRID No.	[8] Operator Name	[9] Elevation
173252	PATINA SAN JUAN, INC.	5902'

[10] Surface Location

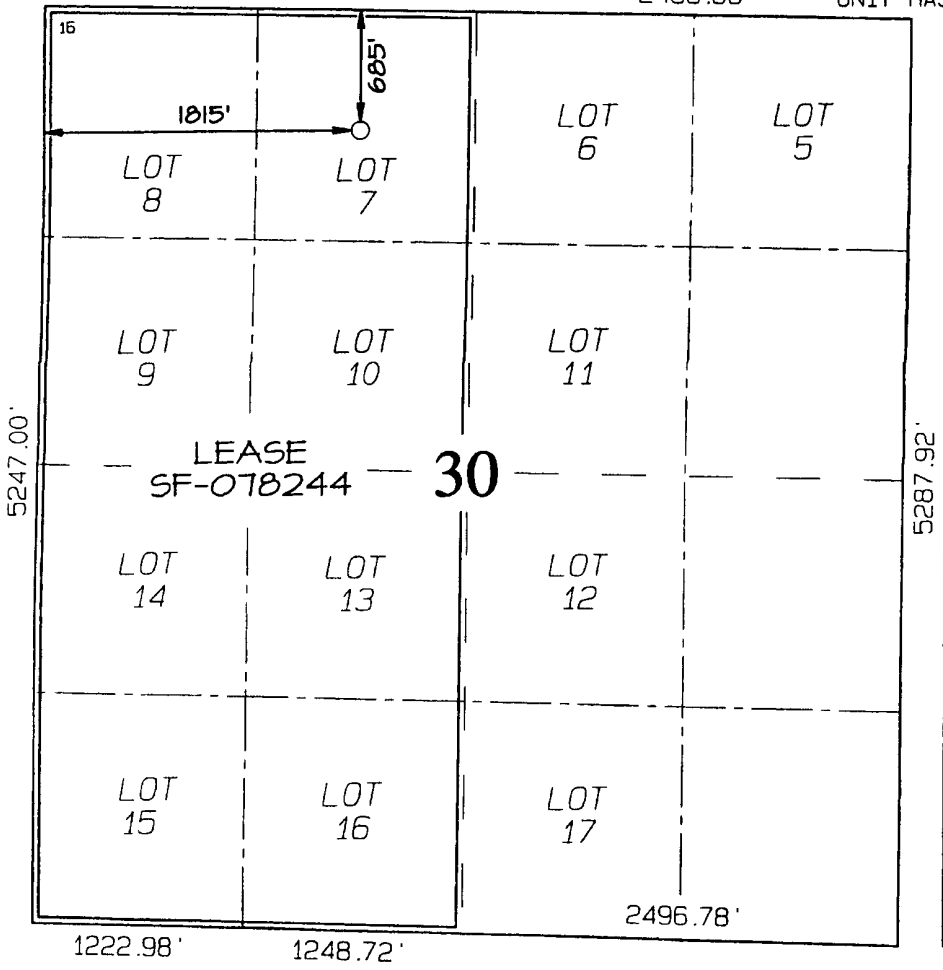
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	30	31N	12W	(7)	685	NORTH	1815	WEST	SAN JUAN

[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	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
298.02 Acres - (W/2)			

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

Runell A. Seale
Signature

Runell A. Seale
Printed Name

Agent
Title

10-22-04
Date

[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

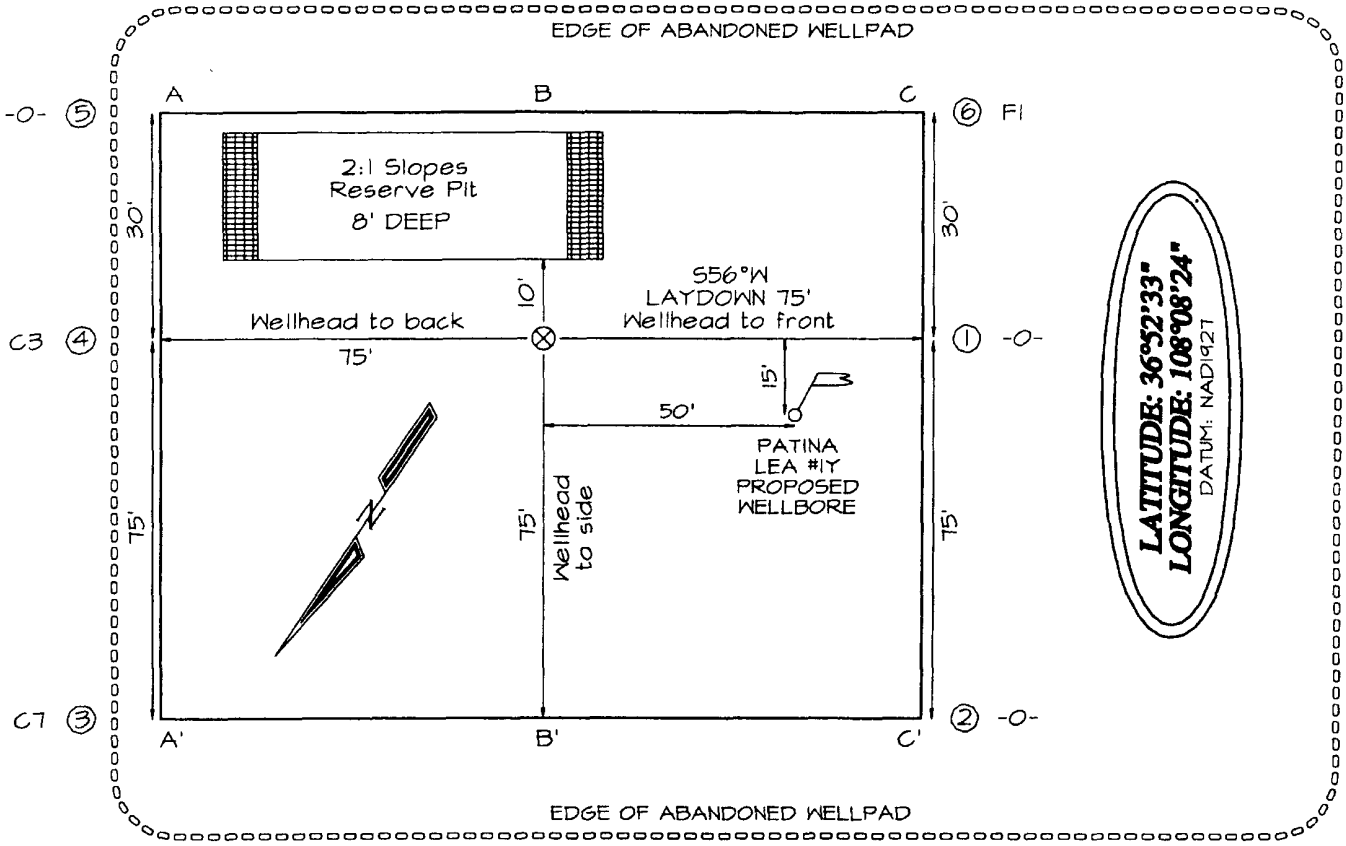
Survey Date: OCTOBER 8, 2004

Signature and Seal of Professional Surveyor

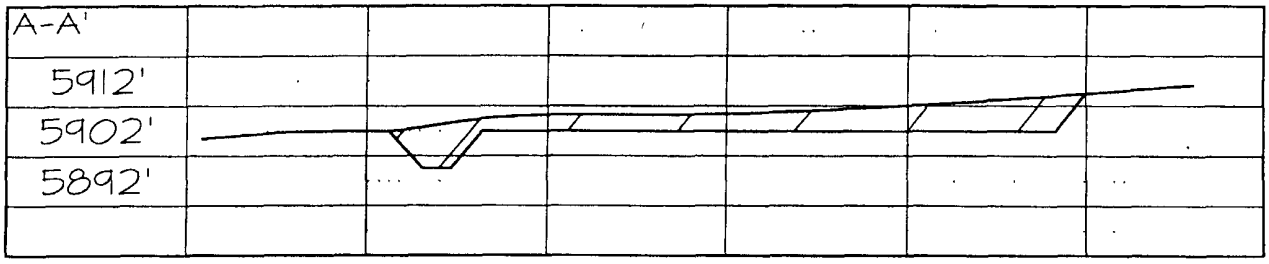
JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

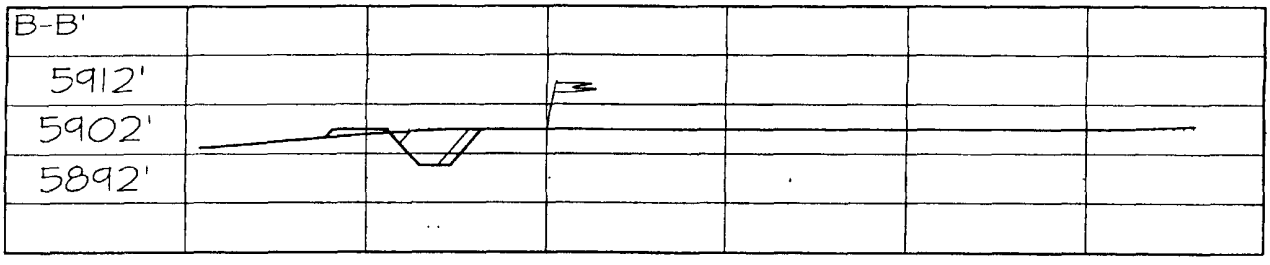
JASON C. EDWARDS
Certificate Number 15269

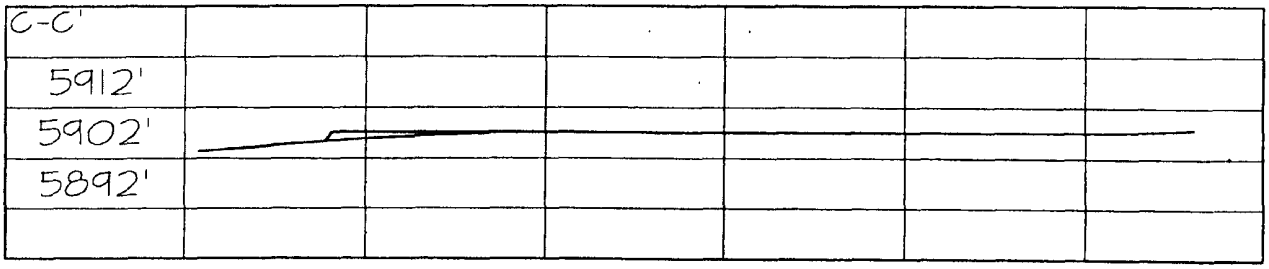
PATINA SAN JUAN, INC. HARMS WAY FEDERAL 30 #19
685' FNL & 1815' FWL, SECTION 30, T31N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 5902'



LATITUDE: 36°52'33"
LONGITUDE: 108°08'24"
DATUM: NAD1927







Note: Contractor should call One-Call for location of any marked or unmarked buried pipelines or cables on well pad and/or access road at least two (2) working days prior to construction

Harms Way Federal 30 No. 19
General Drilling Plan
Patina San Juan, Inc.
San Juan County, New Mexico

1. LOCATION:

NENW of Section 30, T31N, R12W
San Juan, New Mexico

Field: Fruitland Coal
Surface: BLM
Minerals: NM SF 078244

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

Surface formation – Nacimiento

Formation	*Estimated Formation Top (Ft)*
Ojo Alamo	450
Fruitland	1575
TD	2400

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 the lesser of its rated working pressure, 70-percent of the internal yield of the surface casing or 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 and 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:

Casing Program:

Hole Size	Depth / Formation	Casing Size
12 ¼"	250'	9 5/8"
8 ¾"	2400' and through the Fruitland coal to sufficient depth to test the coal	7"

Hole Size	Casing Type	Top (MD)	Bottom (MD)	Wt. (lb./ ft)	Grade	Thread	Condition
9-5/8"	Surface	0'	250'	36.0	K55/J55	STC	New
7"	Intermediate	0'	2400' +/-	23.0	K55/J55	STC / LTC	New

Casing Data OD	Wt/Ft	Grade	Thread	Collapse (psi)	Burst (psi)	Min. Tensile (Lbs.)
9-5/8"	36.0 lbs.	K55/J55	STC	2,020	3,520	394,000
7"	23.0 lbs.	K55/J55	STC / LTC	3,270	4,360	~~366,000~~ 284,000

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:	900 psi
Maximum anticipated mud weight:	9.0 ppg
Maximum surface treating pressure:	3,500 psi

Float Equipment:

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

Production Casing: 7" cement nosed guide shoe and a float collar on top of bottom joint with centralizers over potential hydrocarbon bearing zones.

CEMENTING PROGRAMS:

9-5/8" Surface casing:
165 sxs Type III cement with 2% $CaCl_2$, ¼#/sx cellofakes. 100% excess to circulate cement to surface. WOC 12 hrs. Pressure test surface casing to 1000 psi for 30 minutes.

Slurry weight: 15.2 ppg
Slurry yield: 1.27 ft^3/sack

Volume basis:	40' of 9-5/8" shoe joint	17 cu ft
	300' of 12-1/4" x 9-5/8" annulus	94 cu ft
	100% excess (annulus)	94 cu ft
	Total	205 cu ft

Note:
1. Design top of cement is the surface.
2. Have available 100 sx Type III cement with 2% $CaCL_2$ for top out purposes.

7" Production casing:
220 sacks of Premium lite high strength 35/65 pozmix cement.

Slurry weight: 12.4 ppg
Slurry yield: 1.91 ft^3/sack

Volume basis:	40' of 7" shoe joint	9 cu ft
	7 " x 8 3/4" hole	322 cu ft
	250' of 9 5/8" x 7" casing overlap	42 cu ft
	15% excess (annulus)	48 cu ft
	Total	421 cu ft

Note.
1. Design top of cement is the surface.
2. Actual cement volumes to be based on caliper log plus 15%.

5. MUD PROGRAM:

The surface hole will be drilled with spud mud. Gel and polymer sweeps will be used from surface to 250 feet as necessary to keep hole clean.

The production hole will be drilled with LSND mud from base of surface casing to TD. Anticipated mud weight ranges from 8.5 – 9.0 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

6. EVALUATION PROGRAM:

Mud logger: None Planned.

Testing: No DST is planned

Coring: None Planned

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

7. ABNORMAL PRESSURE AND TEMPERATURE:

H_2S	None
Coal	Fruitland
Minerals	None
Water	None
Static BHT	175° F
Lost Circulation	Possible
Hole Deviation	None
Abnormal Pressures	None
Unusual Drilling Problems	None

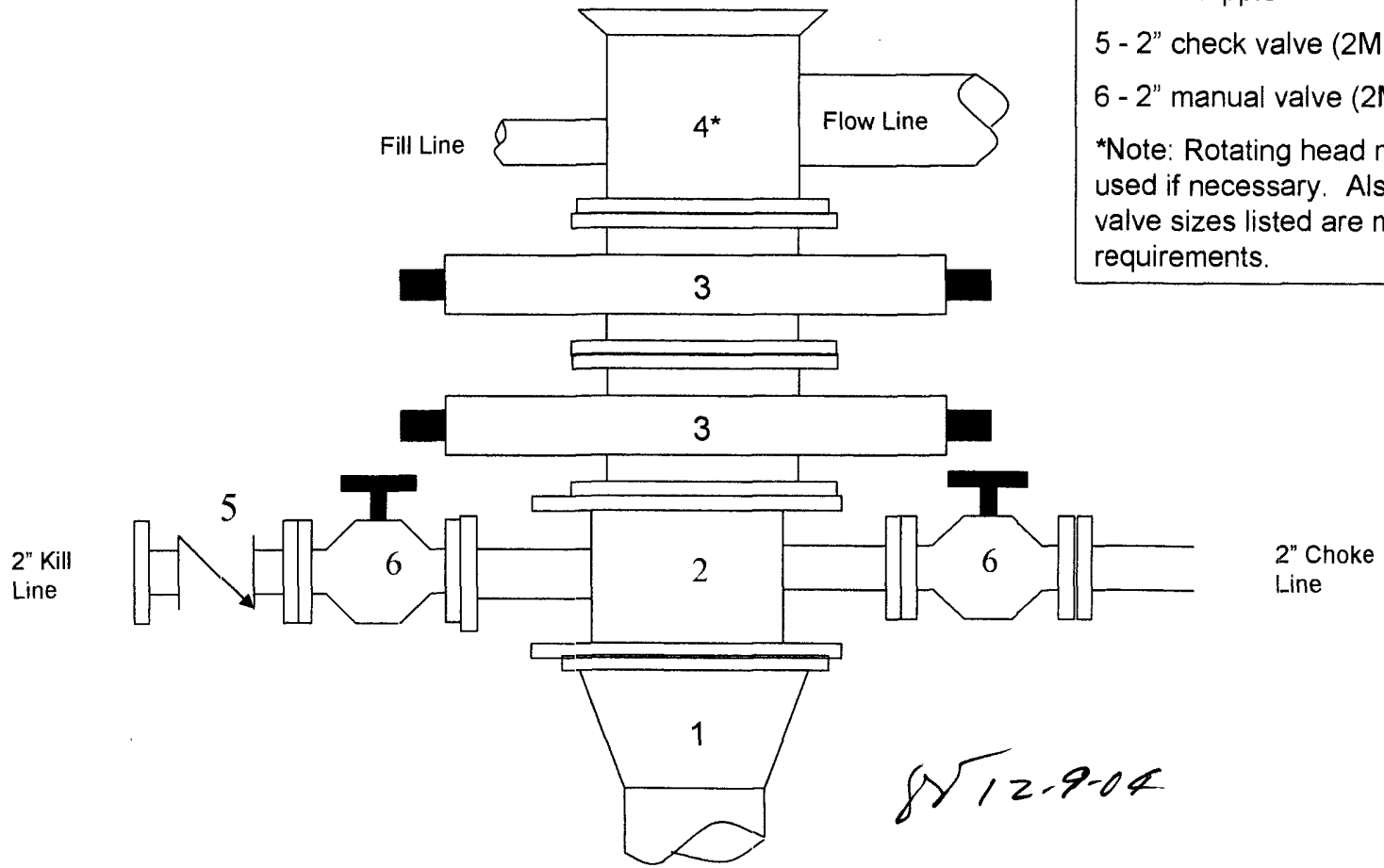
8. ANTICIPATED STARTING DATE: April 1, 2005

Anticipated duration: 5 days

Harms Way Federal 30 No. 19

2000 psi BOP stack
Minimum requirements

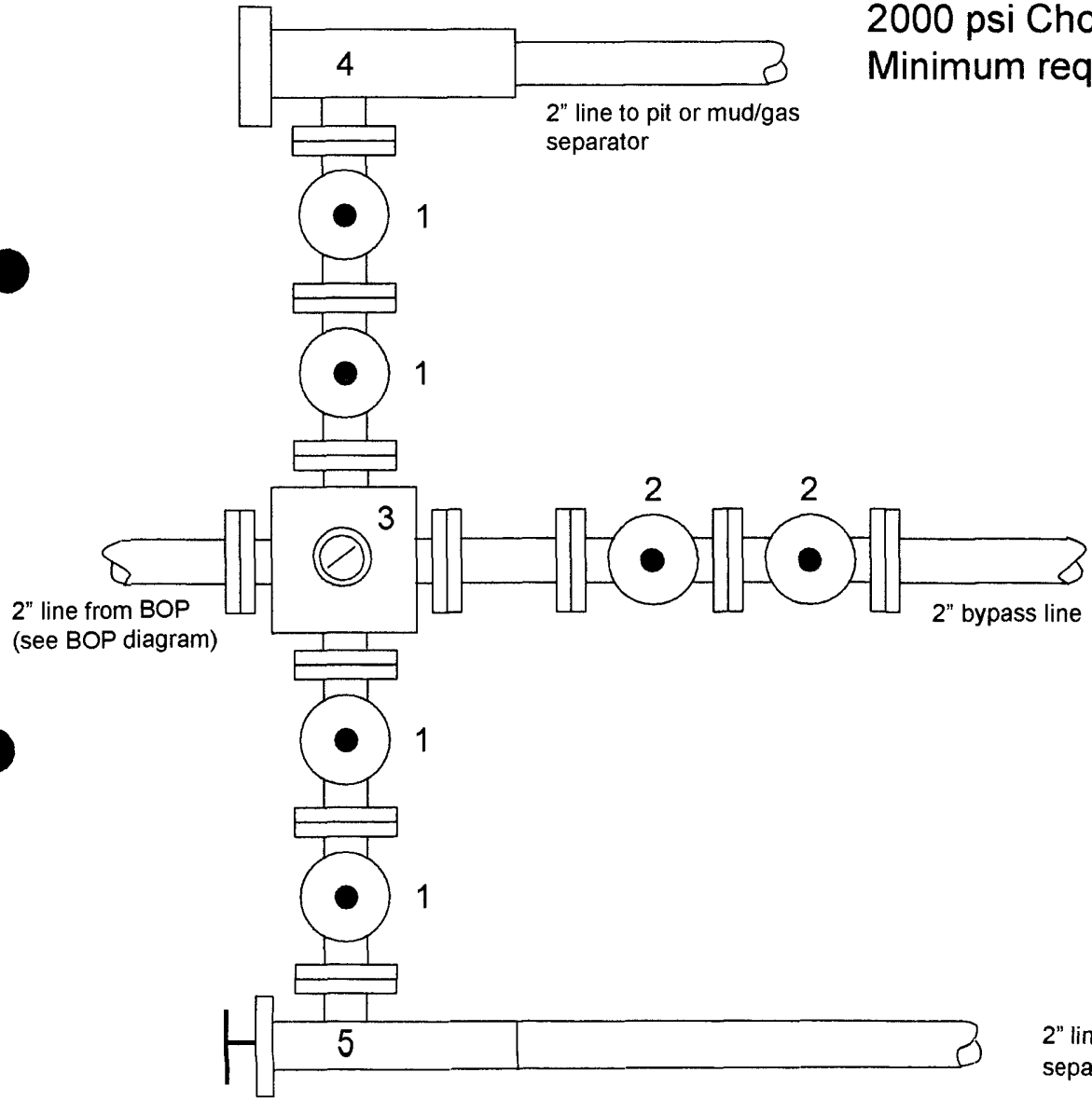
Components
1 - Wellhead 9-5/8" (2M)
2 – Drilling spool 11" (2M)
3 – A double or two single rams with blinds on bottom 11" (2M)
4 – Bell nipple*
5 - 2" check valve (2M)
6 - 2" manual valve (2M)
*Note: Rotating head may also be used if necessary. Also, all line and valve sizes listed are minimum requirements.



12-9-04

Harms Way Federal 30 No. 19

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 beam choke (2M)

5 – Adjustable needle choke (2M)

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

12-9-05