Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2005 DEC 16 PM 12 08
RECEIVED
070 FARMINGTON NM

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No.
	6. If Indian, Allotee or Tribe Name
	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. **BIG JAKE ~~FEDERAL 26~~ #14**
2. Name of Operator **PATINA OIL AND GAS**	9. API Well No. **30-045-33485**
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 **Blanco MV/Basin DK/Basin FC**
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface **770' FSL and 1650' FWL** At proposed prod. zone **SAME**	11. Sec., T. R. M. or Blk. and Survey or Area **N SEC 26-T31N-R13W**
14. Distance in miles and direction from nearest town or post office* **4 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 drig. unit line, if any)	16. No. of acres in lease **331.77 ACRES**	17. Spacing Unit dedicated to this well **W/2 331.77 ACRES**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth **6850'**	20. BLM/BIA Bond No. on file **LMP8720503**
21. Elevations (Show whether DF, KDB, RT, GL, etc.) **5968' GR**	22. Approximate date work will start* **01/15/2006**	23. Estimated duration **8 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)* **JEAN M. MUSE**	Date **12/01/2005**
Title **REGULATORY/ENGINEERING TECH**		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date **3/3/06**
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)

HOLD C104 FOR Basin Fruitland Coal / Gas
Change in Status to Big Jake #14

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

MAR 2006

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

NMOCD

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

2005 DEC 16 PM 12 09 ☐ AMENDED REPORT

RECEIVED
070 FARMINGTON NM

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹API Number	²Pool Code	³Pool Name
30-045-33485	71599 / 71629	BASIN DAKOTA / BASIN FRUITLAND COAL

⁴Property Code	⁵Property Name	⁶Well Number
~~35199~~ 25672	BIG JAKE [redacted]	14

⁷OGRID No.	⁸Operator Name	⁹Elevation
173252	PATINA SAN JUAN, INC.	5968'

¹⁰ Surface Location

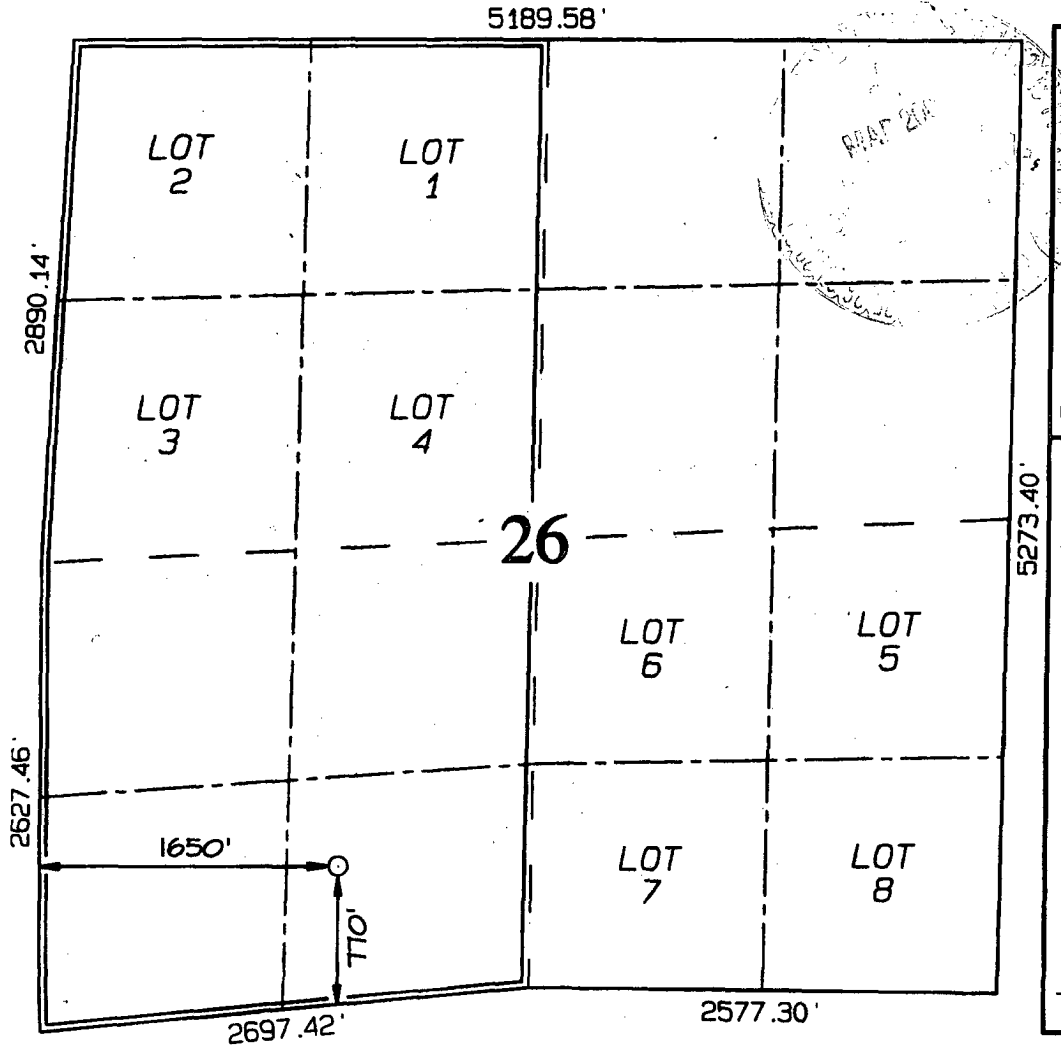
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	26	31N	13W		770	SOUTH	1650	WEST	SAN JUAN

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

¹²Dedicated Acres	¹³Joint or Infill	¹⁴Consolidation Code	¹⁵Order No.
331.77 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.

Signature: T Muse

Printed Name: Leah Muse

Title: Regulatory/Engineering Tech

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.

Date Revised: DECEMBER 13, 2005
Survey Date: DECEMBER 9, 2004

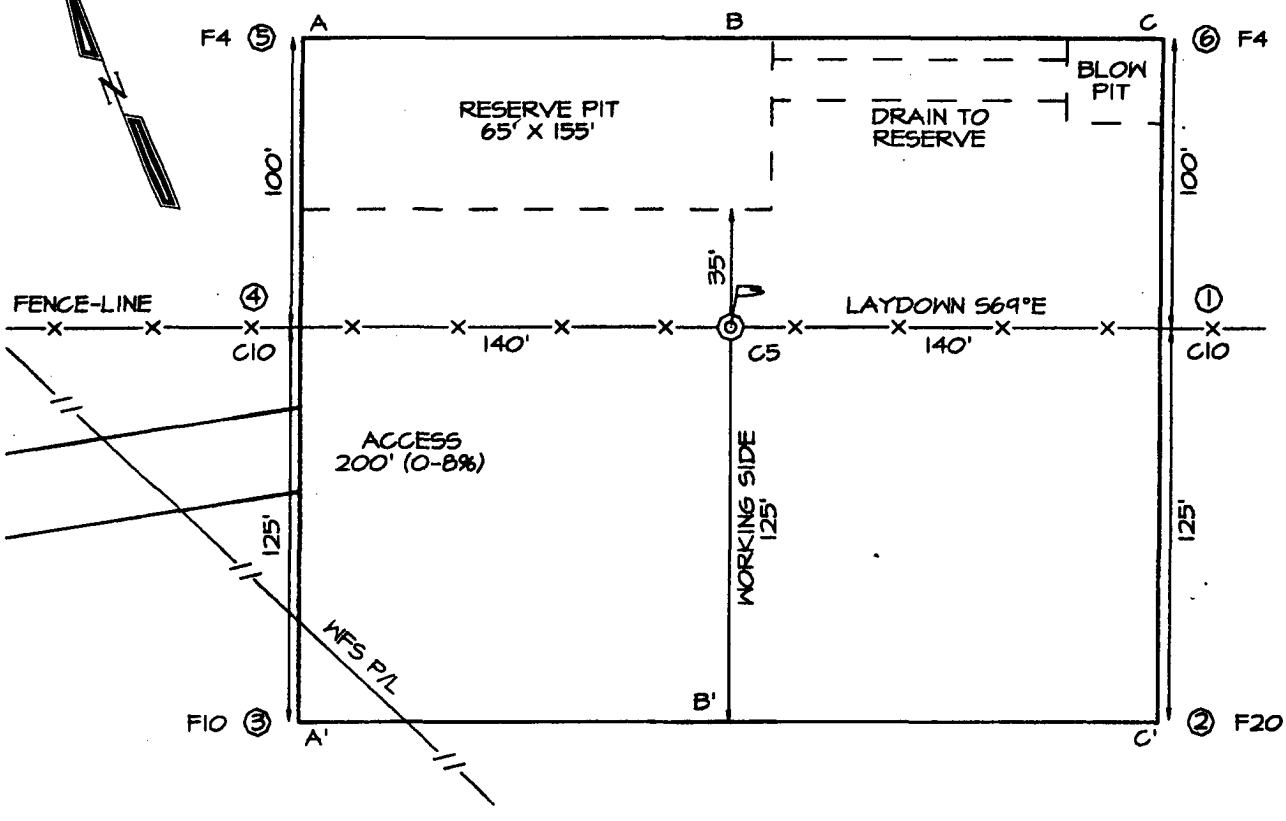
Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

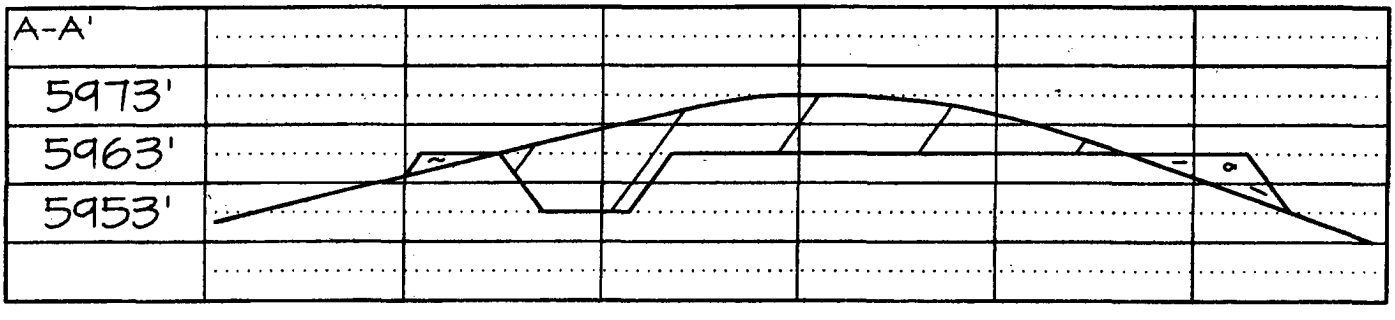
JASON C. EDWARDS

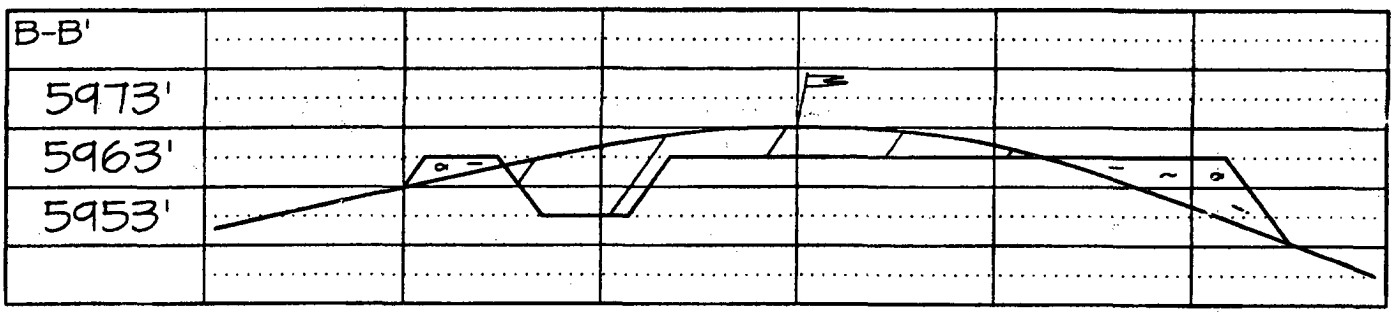
Certificate Number 15269

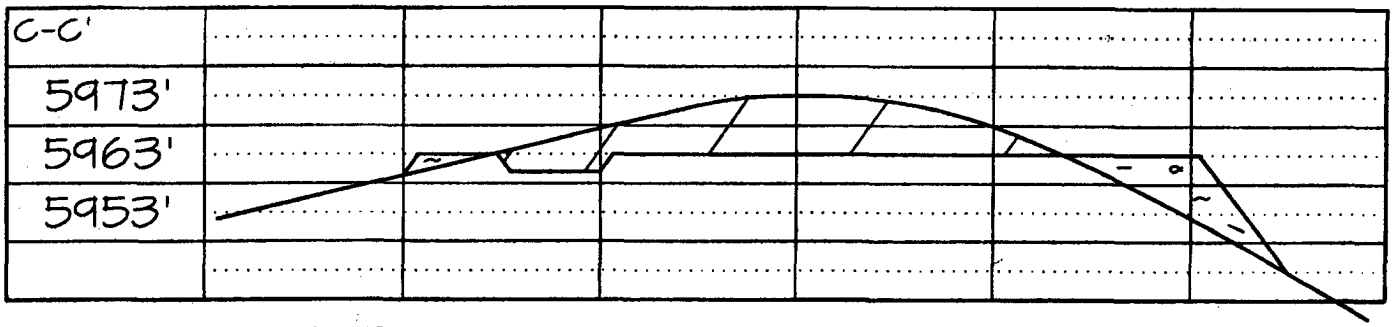
PATINA SAN JUAN, INC. BIG JAKE FEDERAL 26 #14
770' FSL & 1650' FWL, SECTION 26, T31N, R13W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 5968'



LATITUDE: 36°51'56"
LONGITUDE: 108°10'35"
DATUM: NAD1927







FILENAME: 311326FT	SHEET 2 OF 3	NCE SURVEYS, INC.	DRAWN BY: EDO	CHECKED BY: JCE

Big Jake Federal 26 #06
General Drilling Plan
Patina San Juan, Inc.
San Juan County, New Mexico

1. LOCATION:

Est. elevation: 5739'
SENW of Section 26, T31N, R13W
San Juan, New Mexico

Field: Blanco Mesa Verde & Basin DK
Surface: BLM
Minerals: BLM

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

Surface formation – Nacimiento

Formation	*Estimated Formation Top (Ft)*
Ojo Alamo	823
Kirtland	1007
Fruitland **	1539
Pictured Cliffs**	1940
Lewis	2125
Cliff House**	3519
Menefee**	3673
Point Lookout***	4311
Mancos	4673
Gallup	5846
Greenhorn	6372
Graneros	6434
Dakota***	6508
TD	~~6750~~ 6800 CEB

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	13.50	9.625	0	300
Intermediate	8.75	7.0	0	4700
Production	6.25	4.5	4400	6800

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
7.000	6.366	23.0	L80	LTC	3,830	6,340	435,000
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.

Intermediate Casing: Float shoe on bottom joint and a float collar one joint up from float shoe. One centralizer 10 ft above float shoe and nine centralizers spaced every joint above the float collar. Stage tool above the Cliffhouse formation. One centralizer below stage tool and one centralizer above stage tool.

Production Casing: 4 1/2" whirler type 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:
225 sx Type III cement with 3% $CaCl_2$, 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: 14.5 ppg
Slurry yield: 1.42 ft^3/sack

Volume basis:	40' of 9-5/8" shoe joint	17 cu ft
	300' of 13-1/2" x 9-5/8" annulus	147 cu ft
	100% excess (annulus)	147 cu ft
	Total	311 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" Intermediate Casing:

1st Stage:
155 sx of Type III cement plus additives
Slurry weight: 12.3 ppg
Slurry yield: 2.22 ft^3/sx

2nd Stage: (Stage tool at ±3000')
Lead: 235 sx of Type III cement plus additives
Slurry weight: 12.3 ppg
Slurry yield: 2.22 ft^3/sx

Tail: 50 sx of Type III cement plus additives
Slurry weight: 14.5 ppg
Slurry yield: 1.40 ft^3/sx

Volume Basis:	40' of 7" shoe joint	9 cu ft
	4400' of 7" x 8 ¾" hole	662 cu ft
	300' of 7" x 9 5/8" casing	50 cu ft
	30% excess (annulus)	214 cu ft
	Total	935 cu ft

Note:
1. Design top of cement is surface.
2. Actual cement volumes to be based on caliper log plus 30%.

4 1/2" Production casing:

177 sx of Type III cement plus additives
Slurry weight: 12.5 ppg
Slurry yield: 2.06 ft^3/sx

Volume basis:	40' of 4 1/2" shoe joint	5 cu ft
	2050' of 4 ½" x 6 1/4" hole	210 cu ft
	300' of 4 ½" x 7" casing overlap	33 cu ft
	200' above 4.5" liner (without drill pipe)	44 cu ft
	30% excess (annulus)	73 cu ft
	Total	365 cu ft

Note:

1. Design top of cement is ±4200' (200' above the top of the 4.5" liner w/out drill pipe).
2. Actual cement volumes to be based on caliper log plus 30%.

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 intermediate hole will be drilled with water until mud up at about 3100 ft. From mud up point to intermediate casing depth (±4600'), 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.

The production hole will be drilled with air or air/mist to TD.

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.

Big Jake Federal 26 #14

2000 psi BOP stack
Minimum requirements

Components

1 - Wellhead 9-5/8" (2M)

2 – Drilling spool 11" (2M)

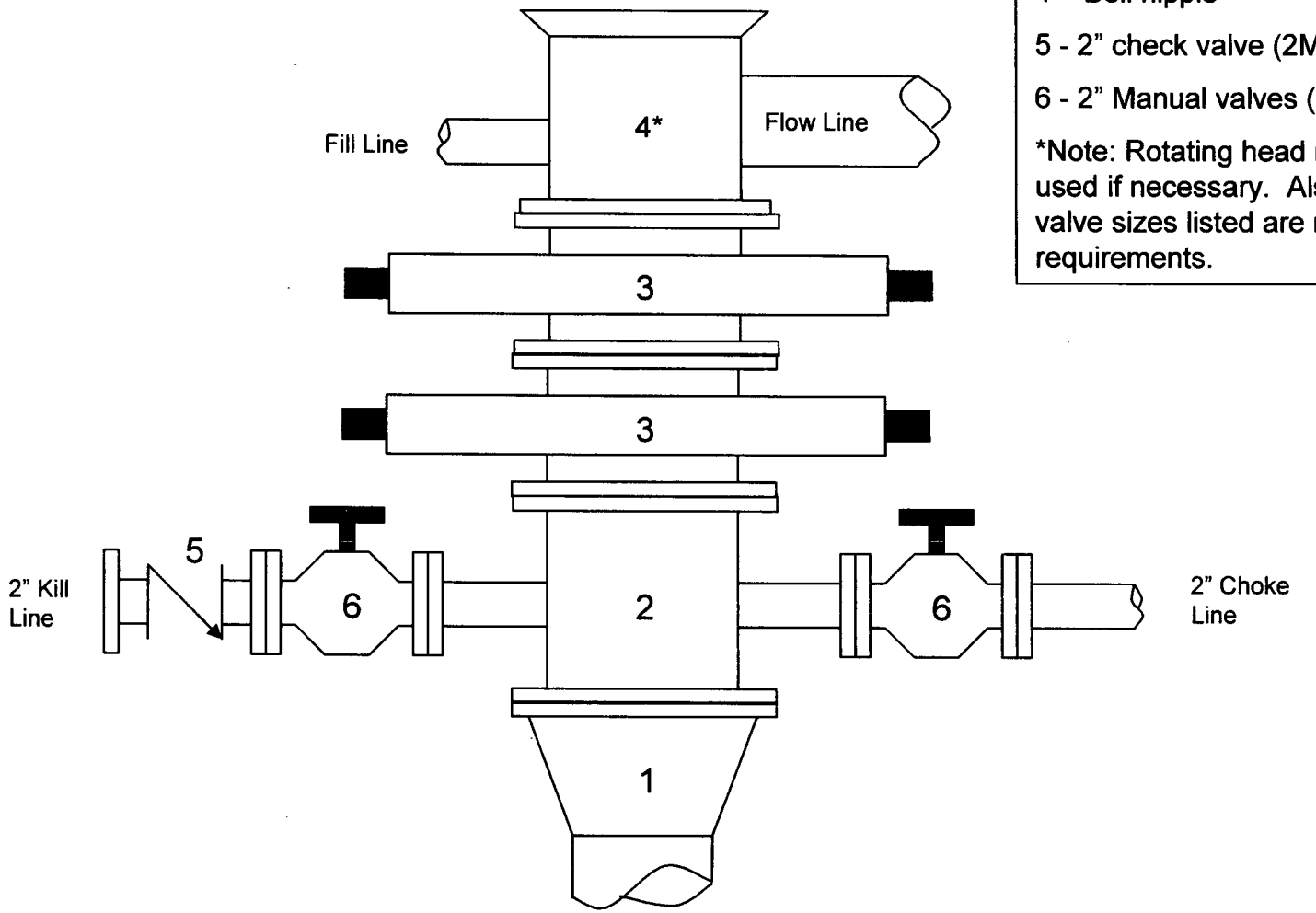
3 – A double or two single rams with blinds on bottom 11" (2M)

4 – Bell nipple*

5 - 2" check valve (2M)

6 - 2" Manual valves (2M)

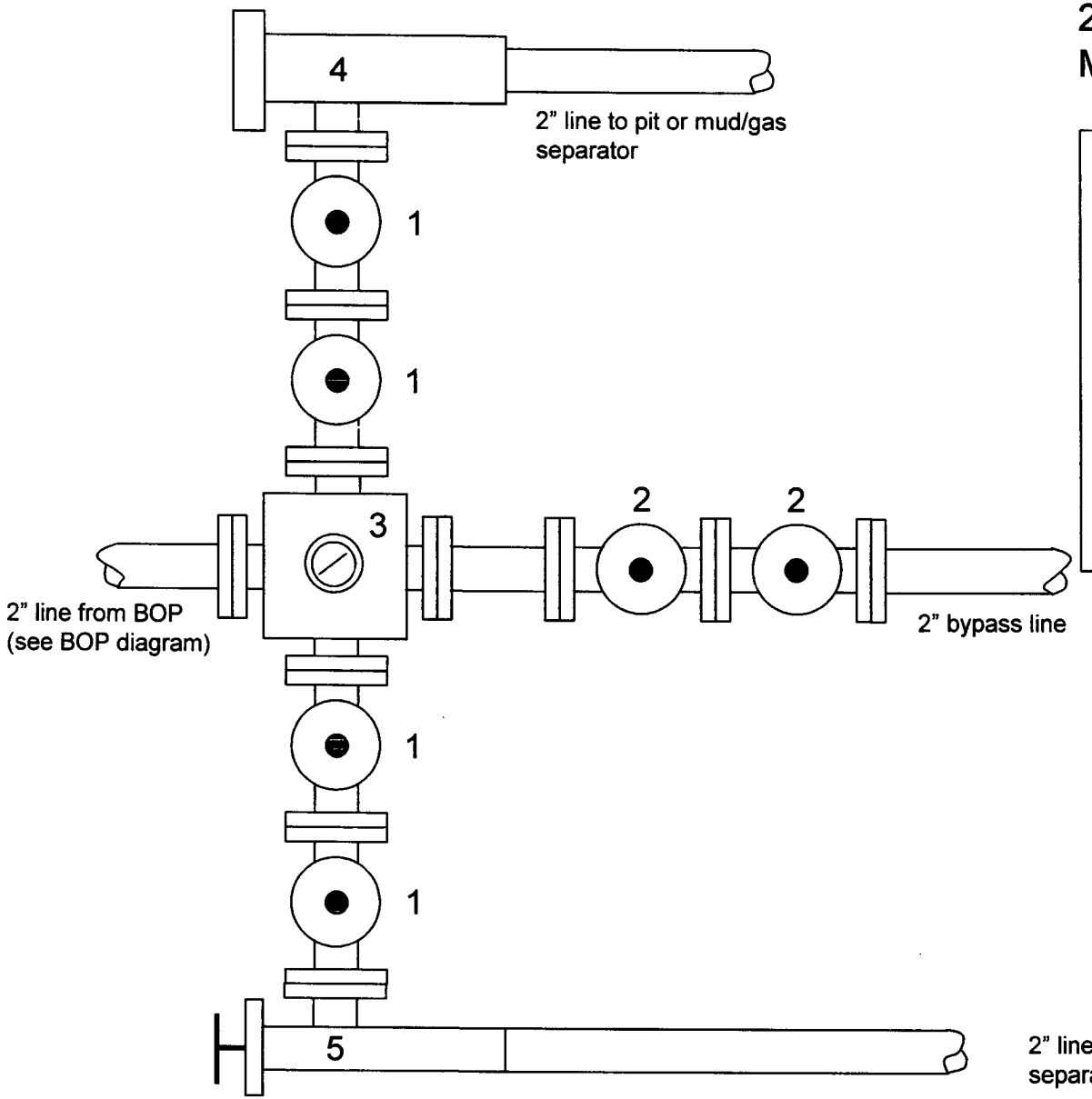
*Note: Rotating head may also be used if necessary. Also, all line and valve sizes listed are minimum requirements.



Attachment #1

Big Jake Federal 26 #14

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.

Attachment #2