

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Form C-101  
May 27, 2004

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address Patina San Juan, Inc. 5802 U. S. Highway 64 Farmington, NM 87401 (505) 632-8056		<sup>2</sup> OGRID Number 173252
		<sup>3</sup> API Number 30-045-32686
<sup>4</sup> Property Code 24027	<sup>5</sup> Property Name COMPASS	<sup>6</sup> Well No. #16
<sup>9</sup> Proposed Pool 1 BASIN DAKOTA		<sup>10</sup> Proposed Pool 2 BLANCO MESA VERDE

<sup>7</sup> Surface Location

UL or lot no. P	Sec. 22	Township 31N	Range 13W	Lot Idn P	Feet from the 660	North/South line SOUTH	Feet from the 780	East/West line EAST	County SAN JUAN
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<sup>8</sup> Proposed 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
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Additional Well Information

<sup>11</sup> Work Type Code N	<sup>12</sup> Well Type Code G	<sup>13</sup> Cable/Rotary R	<sup>14</sup> Lease Type Code P	<sup>15</sup> Ground Level Elevation 5593'
<sup>16</sup> Multiple N	<sup>17</sup> Proposed Depth 7300'	<sup>18</sup> Formation Basin Dakota	<sup>19</sup> Contractor N/A	<sup>20</sup> Spud Date JUNE 1, 2005
Depth to Groundwater >100'		Distance from nearest fresh water well >200'		Distance from nearest surface water >1000'
Pit: Liner: Synthetic <input type="checkbox"/> 12_mils thick Clay <input type="checkbox"/> Pit Volume: _____ bbls Drilling Method: Closed-Loop System <input type="checkbox"/> Fresh Water <input type="checkbox"/> Brine <input type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input checked="" type="checkbox"/>				

<sup>21</sup> Proposed Casing and Cement Program

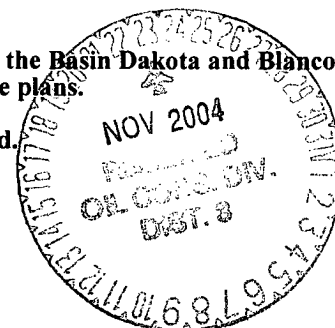
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	9 5/8"	36#	250'	165 sx	SURFACE
8 3/4"	7"	23#	4100' +/-	465 sx	SURFACE
6 1/4"	4 1/2"	11.6#	7300'	220 sx	3900'

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Patina San Juan, Inc. proposes to drill a vertical well at the above described location and test the Basin Dakota and Blanco Mesa Verde formations as referenced in the attached drilling plan and multi-point surface use plans.

The Basin Dakota/Blanco Mesa Verde formations will be selectively perforated and completed.

The well will be connected to Williams Field Services gathering system.



<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines <input checked="" type="checkbox"/> , a general permit <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> .		OIL CONSERVATION DIVISION	
Printed name: JEAN M. MUSE		Approved by:	
Title: REGULATORY/ENGINEERING TECHNICIAN		Title: DEPUTY OIL & GAS INSPECTOR, DIST. 8	
E-mail Address: jmuse@patinasanjuan.com		Approval Date: NOV 23 2004 Expiration Date: NOV 23 2005	
Date: 11/22/04	Phone: 505-632-8056	Conditions of Approval Attached <input type="checkbox"/>	

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

District II  
PO Drawer 00, 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

API Number <b>3005-32686</b>		Pool Code <b>72319/71599</b>	Pool Name <b>Blanco Mesa Verde</b>
Property Code <b>24027</b>	Property Name <b>COMPASS</b>		Well Number <b>16</b>
GRID No. <b>173252</b>	Operator Name <b>PATINA SAN JUAN, INC.</b>		Elevation <b>5593</b>

<sup>10</sup> Surface Location

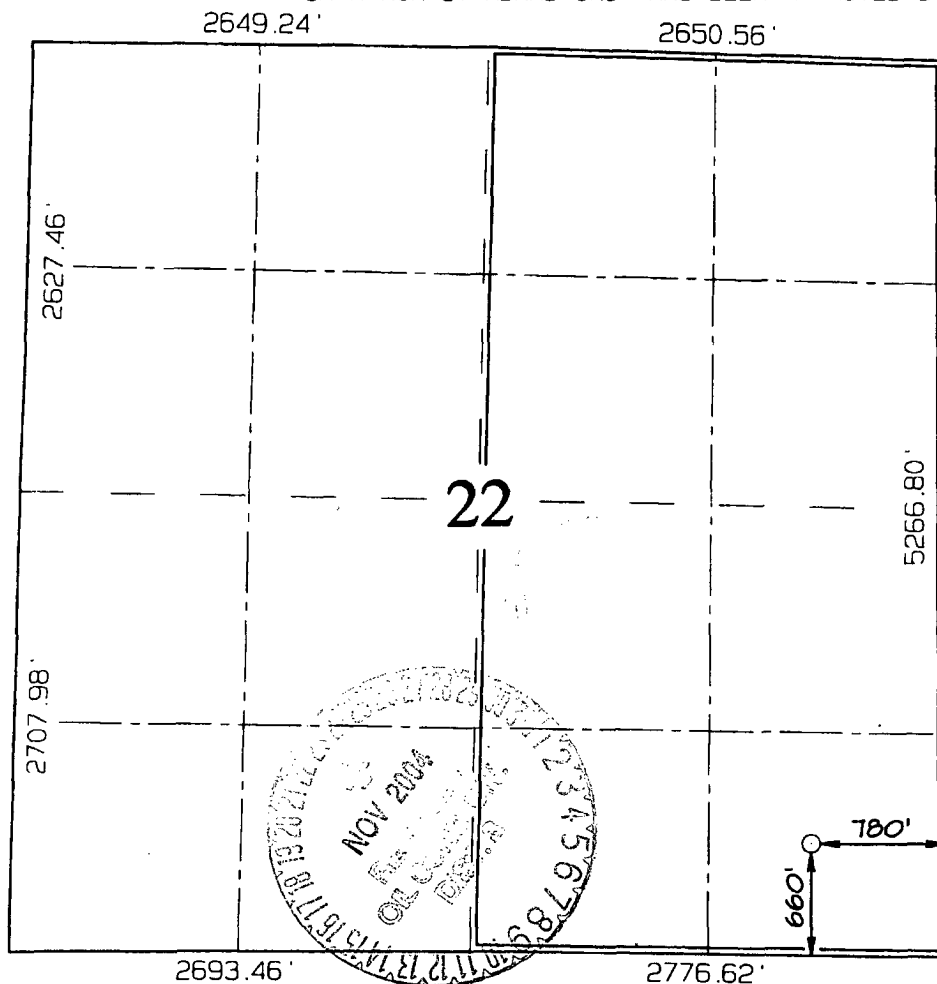
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	22	31N	13W		660	SOUTH	780	EAST	SAN JUAN

<sup>11</sup> 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

<sup>12</sup> Dedicated Acres <b>320.0 Acres - (E/2)</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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



<sup>17</sup> OPERATOR CERTIFICATION

I hereby certify that the information  
contained herein is true and complete  
to the best of my knowledge and belief

*JEAN M. MUSE*  
Signature

**JEAN M. MUSE**  
Printed Name

**Regulatory/Engr'g Tech**  
Title

**11/22/04**  
Date

<sup>18</sup> 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.

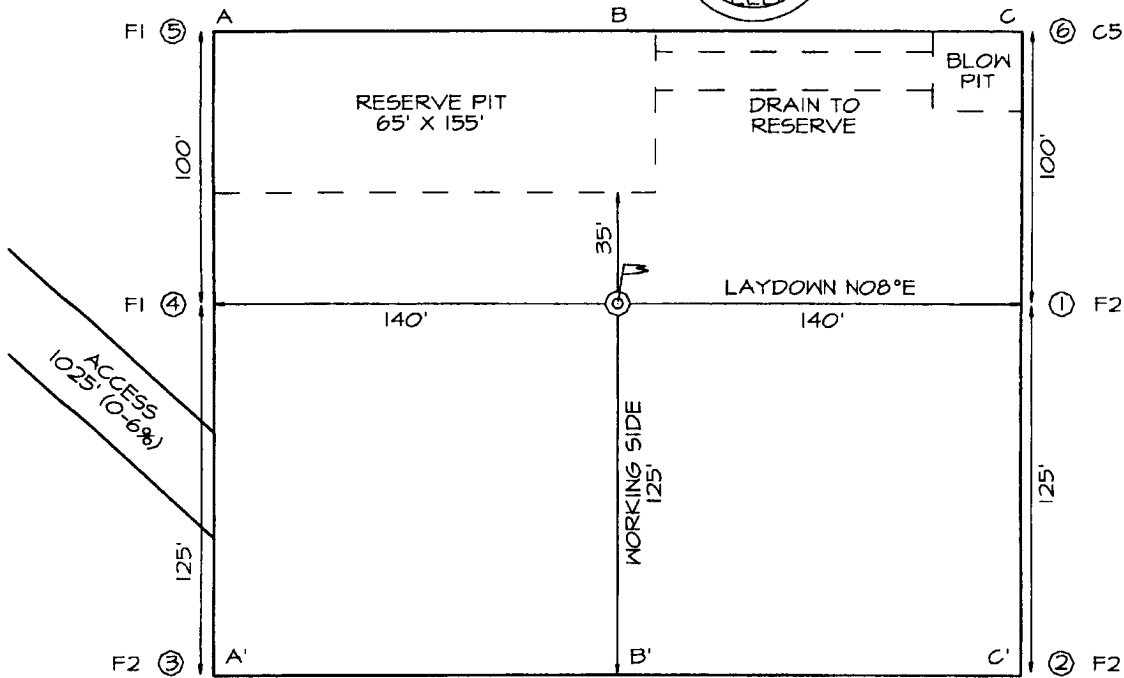
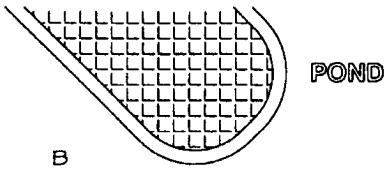
Survey Date: **OCTOBER 22, 2004**

Signature and Seal of Professional Surveyor

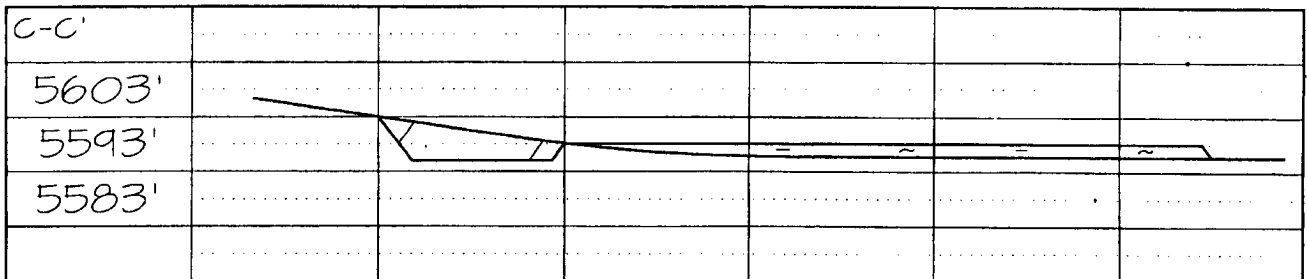
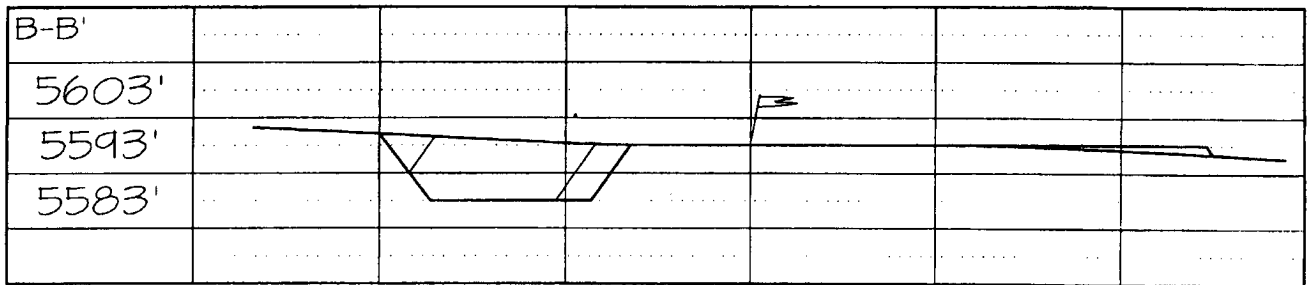
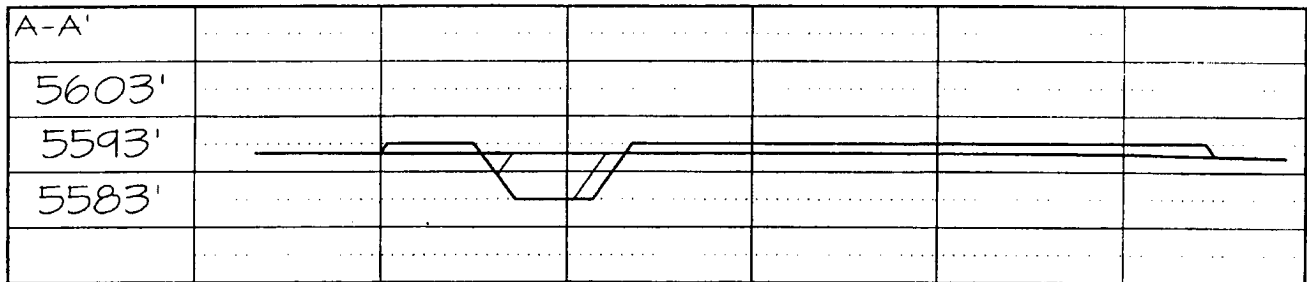


**JASON C. EDWARDS**  
Certificate Number 15269

**PATINA SAN JUAN, INC. COMPASS 22 #16**  
**660' FSL & 780' FEL, SECTION 22, T31N, R13W, NMPM**  
**SAN JUAN COUNTY, NEW MEXICO ELEVATION: 5593'**



**LATITUDE: 36°52'48"**  
**LONGITUDE: 108°11'03"**  
 DATUM: NAD1927



### **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	Casing Size
12 1/4"	250'	9 5/8"
8 3/4"	4100' +/- / 150' below Menefee top	7"
6 1/4"	7300' / through Dakota	4 1/2"

Casing Size	Casing Type	Top (MD)	Bottom (MD)	Wt. (lb./ft)	Grade	Thread	Condition
9-5/8"	Surface	0'	250'	36.0	J55	STC	New
7"	Intermediate	0'	4100' +/-	23.0	N80	LTC	New
4 1/2"	Production	3900'	7300'	11.6	N80	LTC	New

Casing Data				Collapse	Burst	Min. Tensile
OD	Wt/Ft	Grade	Thread	(psi)	(psi)	(Lbs.)
9-5/8"	36.0 lbs.	J55	STC	2,020	3,520	394,000
7"	23.0 lbs.	N80	LTC	3,830	6,340	442,000
4 1/2"	11.6 lbs.	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: 3,500 - 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:

165 sxs Type III cement with 2% CaCl<sub>2</sub>, 1/4#/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<sup>3</sup>/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
	<u>100% excess (annulus)</u>	<u>94 cu ft</u>
	Total	205 cu ft

Note:

1. Design top of cement is the surface.
2. Have available 100 sx Type III cement with 2% CaCl<sub>2</sub> for top out purposes.

### 7" Intermediate Casing:

1st Stage: 100 sacks of Type III cement

Slurry weight: 14.5 ppg  
Slurry yield: 1.4 ft<sup>3</sup>/sack

2<sup>nd</sup> Stage: (Stage tool at 3300' +/-): 365 sacks of Premium Lite FM

Slurry weight: 12.4 ppg  
Slurry yield: 1.92 ft<sup>3</sup>/sack

Volume Basis:	40' of 7" shoe joint	9 cu ft
	3800' of 7" x 8 3/4" annulus	586 cu ft
	300' of 7" x 9 5/8" hole	50 cu ft
	<u>30% excess (annulus)</u>	<u>176 cu ft</u>
	Total	821 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:**

Stage 1: 220 sacks of Premium Lite High Strength FM out guide shoe.

Slurry weight: 12.3 ppg  
Slurry yield: 2.13 ft<sup>3</sup>/sack

Volume basis:	40' of 4 1/2" shoe joint	5 cu ft
	4 1/2" x 6 1/4" hole	318 cu ft
	4 1/2" x 7" casing	33 cu ft
	<u>30% excess (annulus)</u>	<u>107 cu ft</u>
	Total	463 cu ft

Note:

1. Design top of cement is 3800 +/- ft. or 300 ft. into 7" intermediate casing.
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 3000 ft. From 3000' to 4100', intermediate casing depth, will be drilled with LSND mud. 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.

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

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.

# Compass 22 No. 16

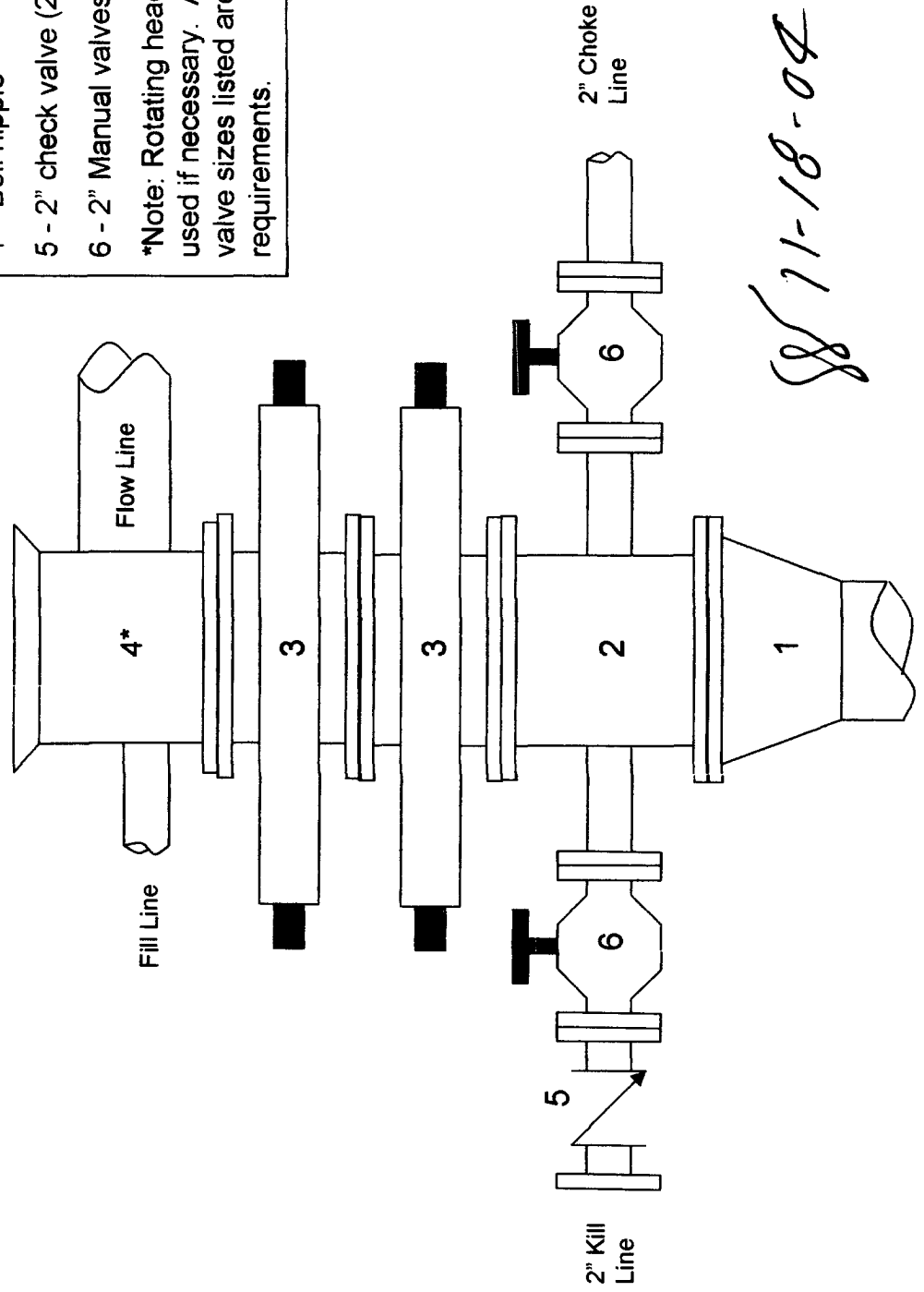
2000 psi BOP stack

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.



8871-18-04



# Compass 22 No. 16

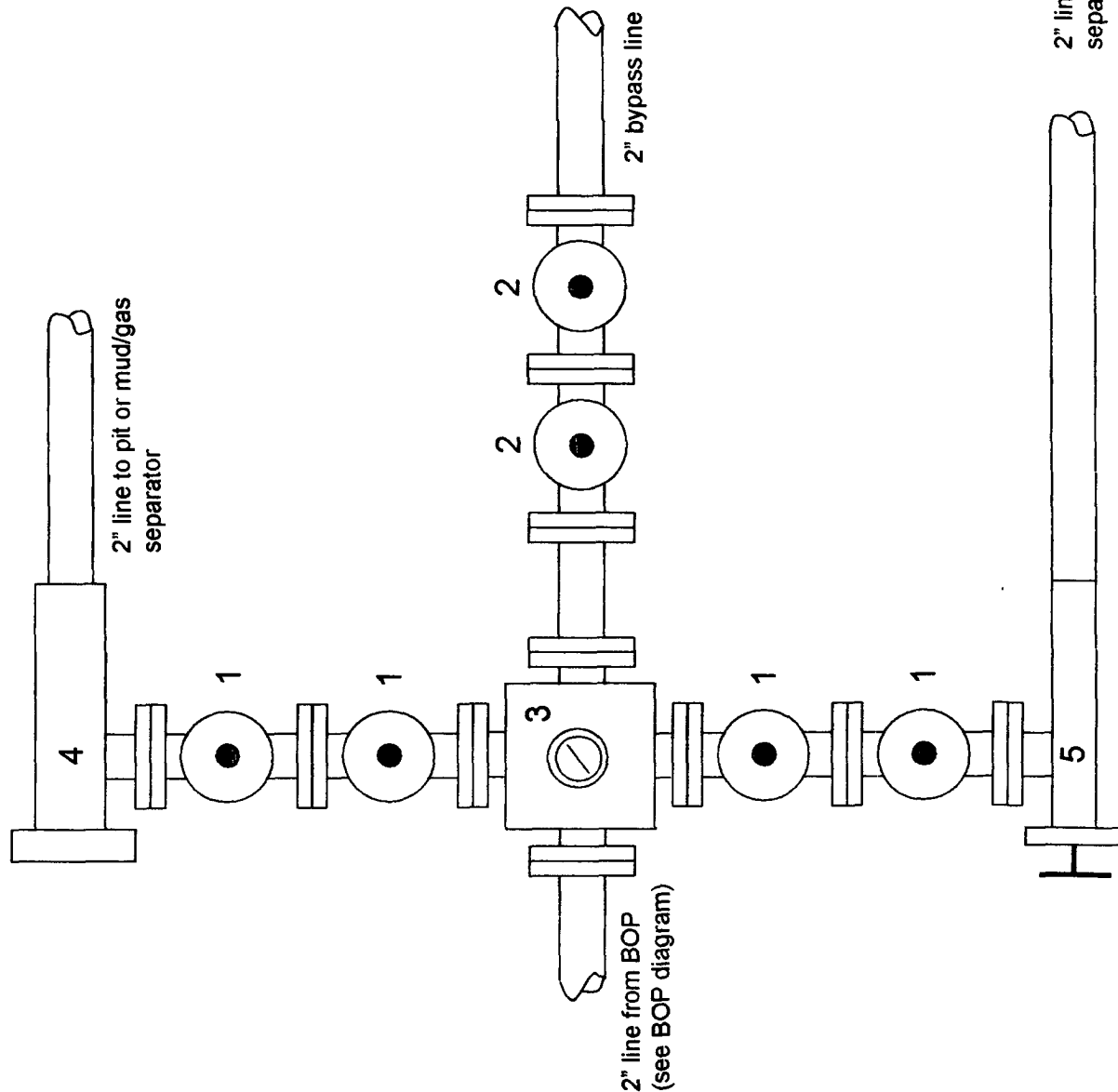
## 2000 psi Choke Manifold

### 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.



2" line to pit or mud/gas separator

*SV 11-18-08*