

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 <b>PATTERSON PETROLEUM LP</b>		<sup>2</sup> OGRID Number <b>141928</b>
<sup>3</sup> Property Code <b>34852</b>	<sup>4</sup> Property Name <b>MUNRO 5 STATE</b>	<sup>5</sup> API Number <b>30-025-37292</b>
<sup>9</sup> Proposed Pool 1 <b>VACUUM; MORROW (Pna) 86840</b>		<sup>10</sup> Proposed Pool 2 <b>VACUUM; ATOKA, WEST</b>

**Surface Location**

UL or lot no. <b>H</b>	Section <b>5</b>	Township <b>18-S</b>	Range <b>34-E</b>	Lot Idn	Feet from the <b>1980</b>	North/South line <b>North</b>	Feet from the <b>660</b>	East/West line <b>East</b>	County <b>Lea</b>
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**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 <b>N</b>	<sup>12</sup> Well Type Code <b>G</b>	<sup>13</sup> Cable/Rotary <b>Rotary</b>	<sup>14</sup> Lease Type Code <b>S</b>	<sup>15</sup> Ground Level Elevation <b>4064'</b>
<sup>16</sup> Multiple <b>No</b>	<sup>17</sup> Proposed Depth <b>13,800'</b>	<sup>18</sup> Formation <b>Morrow</b>	<sup>19</sup> Contractor <b>Patterson-UTI</b>	<sup>20</sup> Spud Date <b>10/01/05</b>
Depth to Groundwater <b>105'</b>		Distance from nearest fresh water well <b>2000'</b>		Distance from nearest surface water <b>None</b>
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 12 mils thick Clay <input type="checkbox"/> Pit Volume: <b>15,000</b> bbls Drilling Method: Fresh Water <input checked="" type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				
Closed-Loop System <input type="checkbox"/>				

**Proposed Casing and Cement Program**

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17-1/2"	13-3/8"	48	400'	500	Surface
12-1/4"	9-5/8"	40	4800'	1750	Surface
8-3/4"	5-1/2"	17	13,800'	1000	8000'

<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.

Drilling fluid synopsis attached.

BOP: Series 900, 5000# WP - See figure 2.5 attached.

Additional casing & cementing information attached.



<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"/> .		<b>OIL CONSERVATION DIVISION</b>	
Printed name: <b>Nolan von Roeder</b>		Approved by:	
Title: <b>Engineer</b>		Title: <b>PETROLEUM ENGINEER</b>	
E-mail Address: <b>vonroedern@patenergy.com</b>		Approval Date: <b>JUN 10 2005</b> Expiration Date: <b> </b>	
Date: <b>06/09/05</b>	Phone: <b>325/573-1938</b>	Conditions of Approval Attached <input type="checkbox"/>	

**Permit Expires 1 Year From Approval  
Date Unless Drilling Underway**

## 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

## OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

Form C-102

Revised JUNE 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-025-37292</b>	Pool Code <b>86840</b>	Pool Name <b>VACUUM; MORROW (Gas)</b>
Property Code <b>34852</b>	Property Name <b>MUNRO 5 STATE</b>	Well Number <b>1</b>
OGRID No. <b>141928</b>	Operator Name <b>PATTERSON PETROLEUM, LP</b>	Elevation <b>4064'</b>

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	5	18-S	34-E		1980	NORTH	660	EAST	LEA

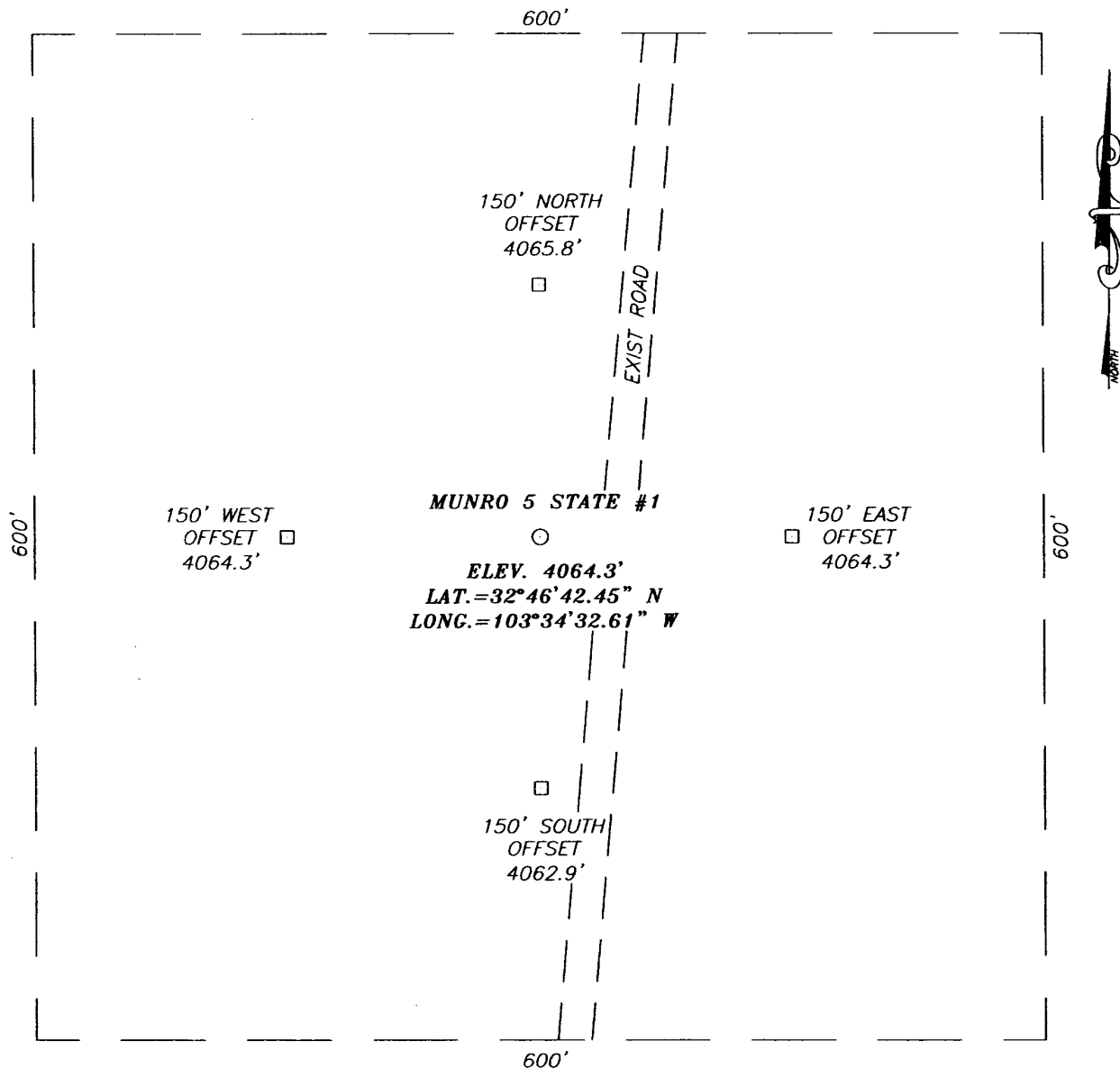
## Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres <b>320</b>	Joint or Infill	Consolidation Code	Order No.						

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

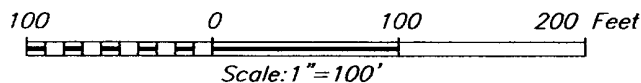
	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Nolan von Roeder</i> Signature</p> <p>Nolan von Roeder Printed Name</p> <p>Engineer Title</p> <p>06/09/2005 Date</p> <p><b>SURVEYOR CERTIFICATION</b></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>MAY 26, 2005</p> <p>Date Surveyed _____ JR</p> <p>Signature &amp; Seal of Professional Surveyor <i>Gary A. Elnson</i></p> <p>NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR 05.11.082105</p> <p>Certificate No. GARY E. ELSON 12641</p>
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**SECTION 5, TOWNSHIP 18 SOUTH, RANGE 34 EAST, N.M.P.M.,**  
 LEA COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

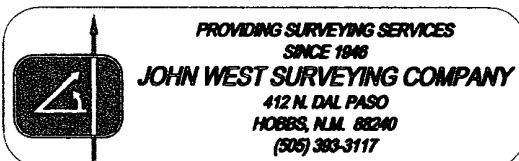
FROM THE INTERSECTION OF ST. HWY. #529 AND QUERECHO RD., GO NORTH/NE ON QUERECHO RD. FOR APPROX. 3.2 MILES TO TEXAS CAMP RD., TURN RIGHT (EAST) ON TEXAS CAMP RD. AND GO APPROX. 1.0 MILES TO A CALICHE RD. GO SOUTH FOR APPROX. 1.0 MILES. THIS LOCATION IS APPROX. 100' WEST.



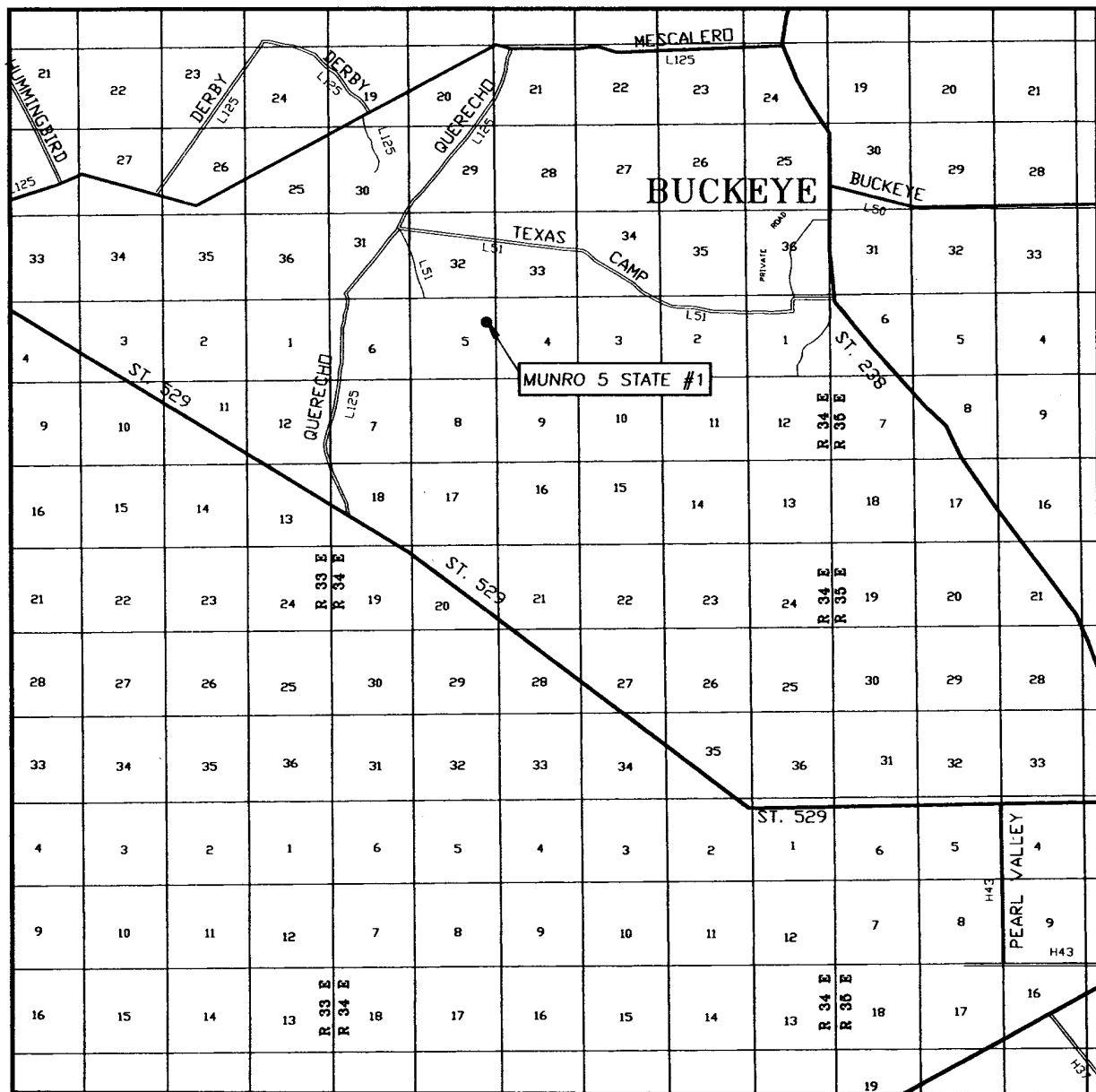
**PATTERSON PETROLEUM, LP**

MUNRO 5 STATE #1 WELL  
 LOCATED 1980 FEET FROM THE NORTH LINE  
 AND 660 FEET FROM THE EAST LINE OF SECTION 5,  
 TOWNSHIP 18 SOUTH, RANGE 34 EAST, N.M.P.M.,  
 LEA COUNTY, NEW MEXICO.

Survey Date: 05/26/05	Sheet 1 of 1 Sheets
W.O. Number: 05.11.0821	Dr By: J.R. Rev 1:N/A
Date: 05/31/05	Disk: CD#5 05110821 Scale: 1"=100'

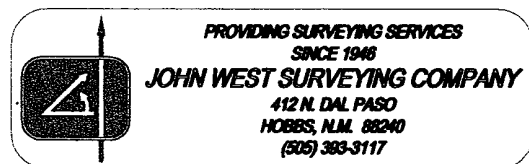


# VICINITY MAP

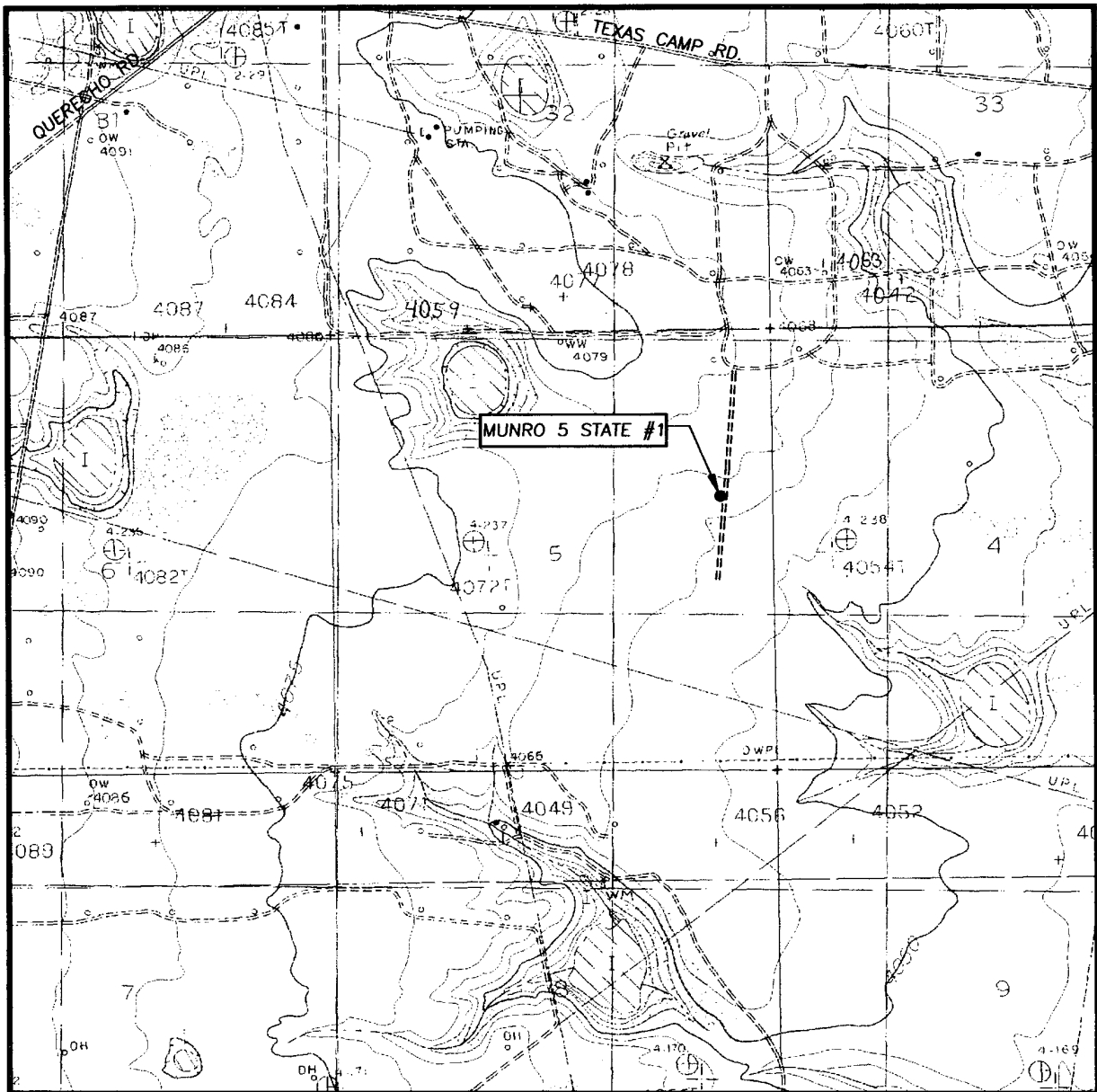


SCALE: 1" = 2 MILES

SEC. 5 TWP. 18-S RGE. 34-E  
 SURVEY N.M.P.M.  
 COUNTY LEA  
 DESCRIPTION 1980' FNL & 660' FEL  
 ELEVATION 4064'  
 OPERATOR PATTERSON  
PETROLEUM, LP  
 LEASE MUNRO 5 STATE



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
BUCKEYE, N.M. - 5'

SEC. 5 TWP. 18-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

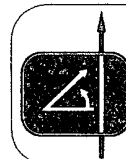
DESCRIPTION 1980' FNL & 660' FEL

ELEVATION 4064'

OPERATOR PATTERSON  
PETROLEUM, LP

LEASE MUNRO 5 STATE

U.S.G.S. TOPOGRAPHIC MAP  
BUCKEYE, N.M.



PROVIDING SURVEYING SERVICES  
SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBBS, N.M. 88240  
(505) 393-3117



# PATTERSON PETROLEUM LP

A LIMITED PARTNERSHIP

P.O. Box 1416, Snyder, TX 79550

4510 Lamesa Hwy., Snyder, TX 79549

Phone: 325-573-1938 • Fax 325-573-1939

## DRILLING FLUID SYNOPSIS

### PATTERSON PETROLEUM LP

#### Munro 5 State No. 1

Section 5

T-18-S

R-34-E

Lea County, New Mexico

#### CASING

13 3/8" at 400'

9 5/8" at 4800'

5 1/2" at 13,800'

DEPTH	MUD WT.	VISCOSITY	FLUID LOSS	DRILL SOLIDS	COMMENTS
0' - 400'	8.4 to 9.0	28 to 40	No Control	5%	Spud mud & paper
400' - 4800'	8.4 to 10.3	28 to 33	No Control	1%	Brine water, paper, caustic
4800 - 12,900'	8.4 to 9.2	28 to 30	No Control	1%	Cut-brine, paper & caustic
12,900 - 13,800'	10 to 10.5	36 to 46	10 cc or less	< 5%	Xanthan gum, starch, pac, & caustic

PATTERSON PETROLEUM LP  
PROPOSED CASING & CEMENTING PROGRAM  
MUNRO 5 STATE WELL NO. 1

13 3/8", 48 lb/ft, H-40 Surface Casing Set at 400' - in a 17 1/2" Hole

Circulate to surface with 500 sacks of Class "C" + 2% CaCl<sub>2</sub> + 1/4 lb/sk celloflake

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 cu.ft/sk
Water Requirement:	6.3 gal./sk

9 5/8", 40 lb/ft, J-55 & N-80 Intermediate Casing Set at 4800' - in a 12 1/4" Hole

Lead : 1500 sx of 35:65 Poz Class "C" + 5% salt + 6% gel + 1/4 lb/sk celloflake  
+ 2/10 % antifoamer

Desired TOC = Surface

Slurry Weight:	12.4 ppg
Slurry Yield:	2.15 cu.ft/sk
Water Requirement:	11.99 gal/sk

Tail : 250 sx of Class "C" Neat

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 cu.ft/sk
Water Requirement:	6.31 gal/sk

5 1/2", 17 lb/ft, N-80 & P110 Production String Casing Set at 13,800' - in an 8 3/4" Hole

Lead : 700 sx of Halliburton Light H + 5% salt + 3/10% HR-7 retarder

Desired TOC = 8000'

Slurry Weight:	12.7 ppg
Slurry Yield:	1.95 cu.ft/sk
Water Requirement:	10.48 gal/sk

Tail : 300 sx of Halliburton Super H w/ 0.5% Lap-1+ 0.4% dispersant +  
0.25% antifoamer and 0.25% retarder

Slurry Weight:	13.2 ppg
Slurry Yield:	1.60 cu.ft/sk
Water Requirement:	8.21 gal/sk

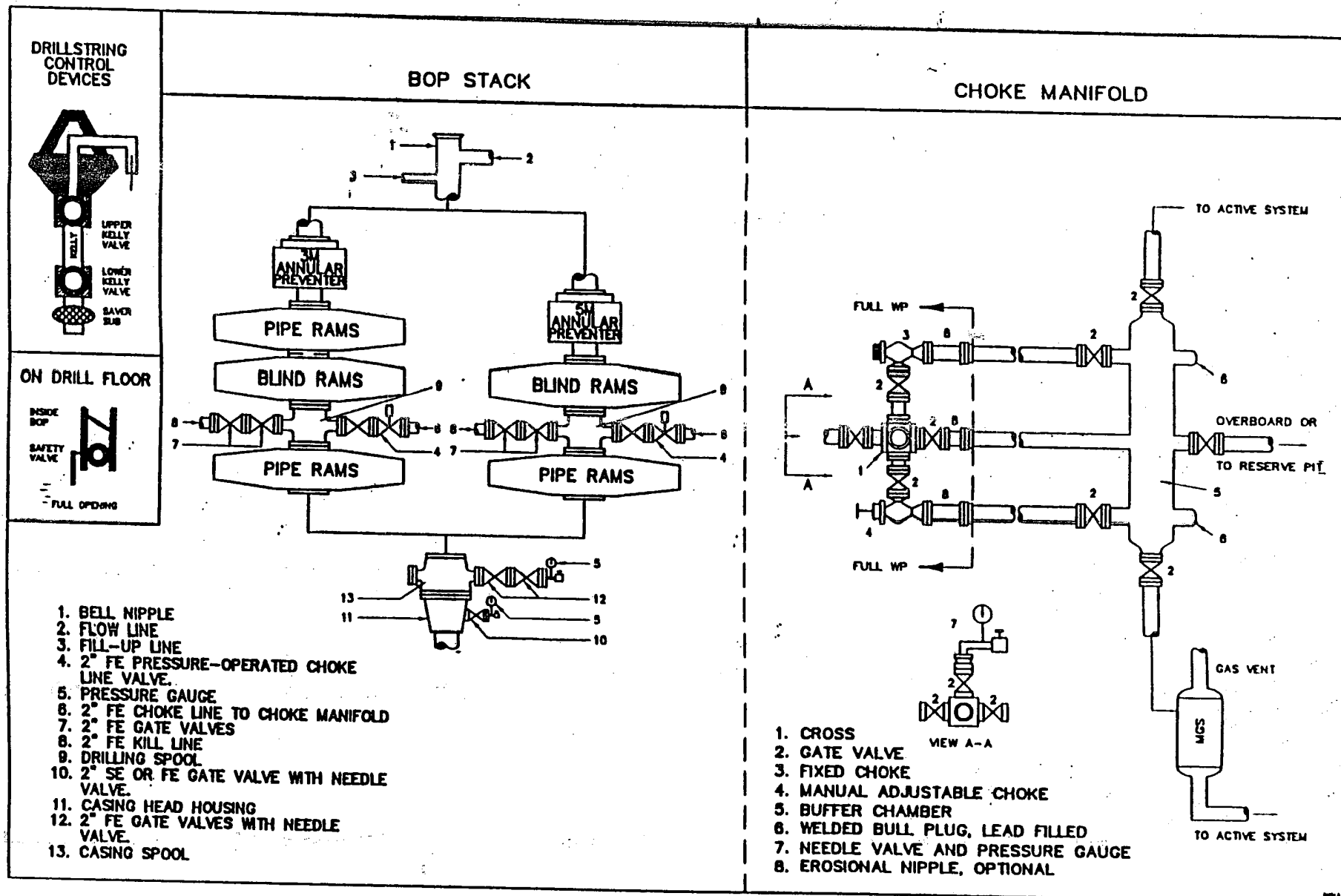


Fig. 2.5. Class 3 BOP and Choke Manifold.