

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-  
May 27, 2

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

Submit to appropriate District Of

☐ AMENDED REPC

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

<sup>1</sup> Operator Name and Address McElvain Oil & Gas Properties, Inc. 1050 17 <sup>th</sup> St., Suite 1800 Denver, CO 80265-1801		<sup>2</sup> OGRID Number 22044
<sup>3</sup> Property Code 360165		<sup>3</sup> API Number 30-039-30118
<sup>5</sup> Property Name Badger Com 14		<sup>6</sup> Well No. 2
<sup>9</sup> Proposed Pool 1 Blanco Mesa Verde		<sup>10</sup> Proposed Pool 2

**<sup>7</sup> Surface Location**

UL or lot no. B	Section 14	Township 25N	Range 2W	Lot Idn	Feet from the 671	North/South line North	Feet from the 1530	East/West line East	County Rio Arriba
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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 7314'
<sup>16</sup> Multiple N	<sup>17</sup> Proposed Depth 5898'	<sup>18</sup> Formation Mancos	<sup>19</sup> Contractor D&J Drilling	<sup>20</sup> Spud Date January 1, 2007
Depth to Groundwater 90 ft		Distance from nearest fresh water well > 1000 ft		Distance from nearest surface water > 1000 ft
Pit: Liner: Synthetic X 12 mils thick Clay <input type="checkbox"/> Pit Volume: 11000 bbls		Drilling Method: Mud/air Fresh Water X Brine <input type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air X		
Closed-Loop System <input type="checkbox"/>				

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

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12.250"	9.625"	36	500	265	Surface
8.750"	7.000"	20	3818	280	1588'
			DV@1588	190	Surface
6.250"	4.500"	10.5	3698-5898	225	3698

<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 plan and blowout prevention diagram attached

RCVD NOV30'06  
OIL CONS. DIV.  
DIST. 3

<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 X, a general permit ☐, or an (attached) alternative OCD-approved plan ☒.

Signature:

Printed name: Robert E. Fielder

Title: Agent

E-mail Address: pmci@advantas.net

Date: November 29, 2006

Phone: 505.320.1435

**OIL CONSERVATION DIVISION**

Approved by:

Title: DEPUTY OIL & GAS INSPECTOR, DIST. 4

Approval Date: DEC 05 2006 Expiration Date: DEC 05 2007

Conditions of Approval Attached ☐

12-5-06

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State of New Mexico  
Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

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

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

APF Number <b>30-039-30118</b>		Pool Code <b>72319</b>	Pool Name <b>Blanco Mesa Verde</b>
Property Code <b>30165</b>	Property Name <b>BADGER COM 14</b>		Well Number <b>2</b>
GRID No. <b>22044</b>	Operator Name <b>McELVAIN OIL &amp; GAS PROPERTIES</b>		Elevation <b>7314</b>

**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
<b>B</b>	<b>14</b>	<b>25N</b>	<b>2W</b>		<b>671</b>	<b>North</b>	<b>1530</b>	<b>East</b>	<b>Rio Arriba</b>

**11 Bottom Hole Location If Different From Surface**

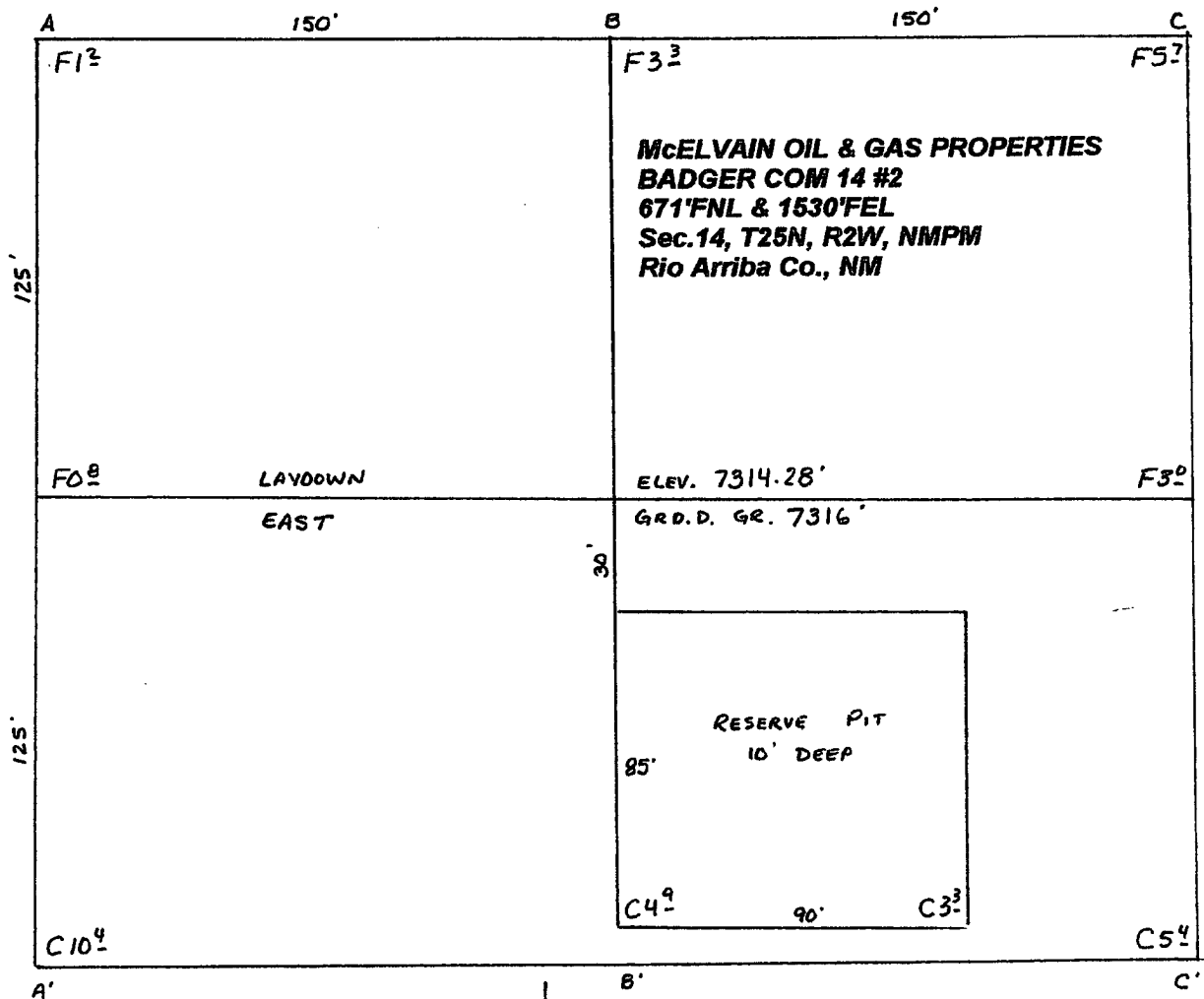
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres <b>320</b>		Joint or Infill		Consolidation Code		Order No.			

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

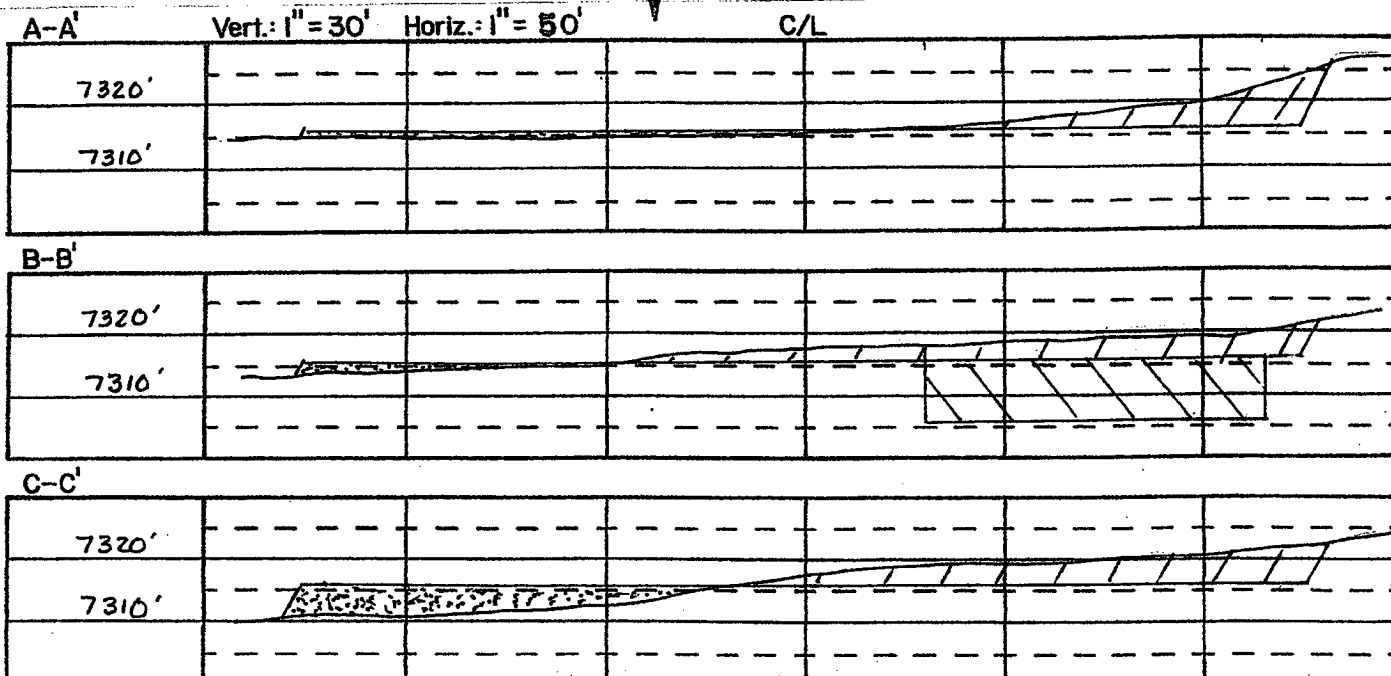
<p>16</p> <p>80.00 Ch.</p> <p>N 89°59'W</p> <p>Lat. 36.40328° N Long. 107.01586° W</p> <p>671'</p> <p>1530'</p> <p>Sec.</p> <p>14</p> <p>80.05 Ch.</p> <p>West</p>	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Robert E. Fielder</i></p> <p>Signature</p> <p>Robert E. Fielder</p> <p>Printed Name</p> <p>Agent pmci@advantas.net</p> <p>Title and E-mail Address</p> <p>November 29, 2006</p> <p>Date</p>
	<p>18 SURVEYOR CERTIFICATION</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>20 Sep 2006</p> <p>Date of Survey</p> <p><i>William E. Mahinke II</i></p> <p>Signature and Seal of Professional Surveyor</p> <p>William E. Mahinke II</p> <p>Certificate Number 8466</p>

RCVD NOV 30 2006  
OIL CON. DIV

DIST. 3



SCALE: 1" = 50'



**McElvain Oil & Gas Properties, Inc.**  
**Badger Com 14 No. 2**  
**671' FNL & 1530' FEL**  
**Section 14, T25N, R2W, NMPM**  
**Rio Arriba County, New Mexico**

**TEN POINT DRILLING PROGRAM**

1. **Surface Formation:** San Jose
2. **Surface Elevation:** 7314' GL.
3. **Estimated Formation Tops:**

<u>Formation</u>	<u>Top - feet</u>	<u>Expected Production</u>
Nacimiento	1588	
Ojo Alamo	3088	
Fruitland	3288	
Pictured Cliffs	3388	GAS
Lewis	3618	
Intermediate TD	3818	
Huerfanito	3878	
Chacra	4378	
Cliff House	5108	GAS
Menefee	5258	GAS
Pt. Lookout	5573	GAS
Upper Mancos	5748	
TOTAL DEPTH	5898	

4. **Surface Hole Program:**

**Bit:** Drill a 12 1/4" hole to 500' using a retip mill tooth, IADC Class 115 or 116, bit. WOB: all. RPM: 70 - 100.

**Mud:** Use a fresh water base spud mud with the following properties:

<u>Interval (ft)</u>	<u>Weight (ppg)</u>	<u>Ph</u>	<u>Vis(sec/qt)</u>	<u>Water Loss</u>
0 - 500	8.6 or less	9.0-9.5	40 - 50	No Control

**Casing and Cementing:** A string of 9 5/8" 36# J-55 or K-55 ST&C casing will be set and cemented to the surface in a single stage with 265 sacks (312.7 cf) of Class "B" cement (yield = 1.18 cf/sk) containing 2% CaCl<sub>2</sub> and 0.25 pps celloflake. Slurry volume assumes 100% excess over calculated hole volume. If cement does not circulate to surface, cement will be topped off using 1" pipe down the 12 1/4" by 9 5/8" annulus. Minimum clearance between couplings and hole is 0.8125". Prior to drilling out the shoe, casing and BOPE will be tested to a minimum of 600 psig. Safety factors utilized in the design of this casing string were: burst = 1.1; collapse = 1.125; and tension = 1.8.

WOC 12 HOURS. Nipple up 11" 2000# BOPE. Pressure test BOPE and wellhead to full working pressure. Drill out cement to within 20 feet of shoe. Test BOPE and surface casing to a minimum of 600 psig for 15 minutes.

**Drilling Program**  
**McElvain Oil & Gas Properties, Inc.**  
**Badger Com 14 No. 2**  
Page Two

4. **Surface Hole Program:** - continued

**Centralizers:** Run three (3) 9 $\frac{3}{4}$ " X 12  $\frac{1}{4}$ " regular bowspring centralizers. Install first one on stop ring in middle of shoe joint.

**Float Equipment:** Cement nose guide shoe run on bottom of first joint. Self fill insert float valve run in top of first joint. Thread lock shoe and connection between first and second joint run.

5. **Intermediate Hole Program:**

**Bit:** Drill an 8  $\frac{3}{4}$ " hole to 3818' using TCI, IADC Class 447 bits. WOB: 35-45K. RPM: 60 - 75. Reduce RPM to 55 - 65 through Ojo Alamo.

**Mud:** Use a fresh water base LSND mud with the following properties:

<u>Interval (ft)</u>	<u>Weight (ppg)</u>	<u>Ph</u>	<u>Vis(sec/qt)</u>	<u>Water Loss</u>
500 - 3200	8.6 - 8.8	9.0-9.5	28 - 35	10 - 12
3200 - 3818	8.9 - 9.2	9.0-9.5	35 - 50	8 - 10

Fresh water will be used for dilution and building volume. Sufficient materials will be on location at all times to maintain mud properties and to control any lost circulation problem or unforeseen abnormal pressures. The mud volume in the rig pits will be visually monitored and recorded on a routine basis.

Note: Raise **viscosity** to 55 - 60 for logging. Thin to 40 - 45 viscosity to run casing.

**pH** is to be maintained with lime or caustic soda at the recommended levels to assure drill pipe corrosion protection.

Drispac will be used for control of fluid loss.

Hole will be drilled to top of Fruitland using polymer and drispac additions to water. Mud up before drilling into Fruitland.

Lost Circulation is expected and can occur in the Fruitland Coal and Pictured Cliffs formation. Mud weights should be controlled as low as possible with solids control equipment then as low as practical with water dilution.

**Drilling Program**  
**McElvain Oil & Gas Properties, Inc.**  
**Badger Com 14 No. 2**  
Page Three

**5. Intermediate Hole Program: - continued**

**Pressure Control:** A 2M psi BOP well control system will be utilized. BOP's and choke manifold will be installed and pressure tested to full working pressure. BOPE and surface casing will be tested to a minimum of 600 psig before drilling out from under surface casing. Mechanical operation of pipe rams will be checked daily and blind rams will be checked on each trip out of hole. 7" rams will be installed before running intermediate casing.

A full opening internal blowout preventor or drill pipe safety valve will be on the drill floor at all times and will be capable of fitting all connections.

**Logging Program:** Run Dual Induction and Formation Density/Epithermal Neutron logs from Intermediate TD to surface casing shoe. Merge deep induction curve onto porosity log.

**Casing and Cementing Program:** Run 7" 20# J-55 production casing from surface to Intermediate TD and cement in 2 stages with a mechanical DV tool installed  $\pm$  1588'. **Stage 1** (3818' - 1588') will be cemented with 180 sacks (381.6 cf) of 65/35 Class B Poz containing 5 pps Gilsonite, and 0.25 pps celloflake mixed at 12.1 PPG to yield 2.12 cf/sk. Tail in with 100 sacks (126.0 cf) of Class B with 2%  $\text{CaCl}_2$ , 5 pps gilsonite and 0.25 pps celloflake mixed at 15.2 ppg to yield 1.26 cf/sk. **Stage 2** (1588' - surface) will be cemented with 140 sacks (296.8 cf) of 65/35 Class B Poz with 5 pps gilsonite and 0.25 pps celloflake mixed at 12.1 PPG to yield 2.12 cf/sk. Follow with 50 sacks (63.0 cf) of Class B with 2%  $\text{CaCl}_2$ , 5 pps gilsonite and 0.25 pps celloflake mixed at 15.2 PPG to yield 1.26 cf/sk.

Circulate and WOC between stages for four (4) hours.

Slurry volumes assume a 50% excess over gauge hole volume. Minimum clearance between couplings and hole is 0.5470". Safety factors utilized in the design of this casing string were: burst = 1.1; collapse = 1.125; and tension = 1.8.

WOC 12 HOURS from plug down on first stage. Pressure test intermediate casing and BOPE to 1500 psi for 15 minutes.

**Centralizers:** 10 - 7" X 8 $\frac{3}{4}$ " bowspring centralizers will be run across all prospective pays and 5 - 7" X 8 $\frac{3}{4}$ " turbolizers will be spaced such that one (1) is just below the Basal Fruitland Coal, two (2) across base of Ojo Alamo, and two (2) across base of Nacimiento.

**Float Equipment:** Cement nose float shoe, 1 joint 7" casing, float collar, and 1 - mechanical DV tool with 2 cement baskets below the DV.

**Drilling Program**  
**McElvain Oil & Gas Properties, Inc.**  
**Badger Com 14 No. 2**  
Page Four

**6. Production Hole Program:**

**Bits:** Drill a 6 1/4" hole to 5898' feet using air hammer. WOB: 5 - 25K.  
RPM: to be determined by drilling conditions. If hole gets wet use TCI,  
IADC class 637 to finish hole.

**Mud:** Air from Intermediate casing shoe to TD. If hole gets wet use a  
fresh water based low solids non dispersed system with the following  
properties: **Note:** Pull into intermediate casing to mud up.

<u>Interval (ft)</u>	<u>Weight (ppg)</u>	<u>pH</u>	<u>Vis(sec/qt)</u>	<u>Water Loss</u>
? - TD	8.6 - 9.0	9.0-9.5	28 - 40	8 - 10 cc

**Pressure Control:** A 2M psi BOP well control system will be  
utilized. BOP's and choke manifold will be installed and pressure  
tested to a minimum of 1500 psig before drilling out from under  
intermediate casing. Mechanical operation of pipe rams will be  
checked daily and blind rams will be checked on each trip out of  
hole. 4 1/2" rams will be installed before running production  
casing.

A full opening internal blowout preventor or drill pipe safety  
valve will be on the drill floor at all times and will be capable  
of fitting all connections.

**Logging Program:** Gamma Ray Induction and Compensated Density/Epithermal  
neutron logs from TD to intermediate casing shoe. Merge deep induction  
curve onto porosity logs.

**Casing and Cementing Program:** Run 4 1/2" 10.5# J-55 production liner from  
TD to 120 feet into intermediate casing. Cement in a single stage with  
125 sacks (251.25 cf) of 65/35 Class H Poz containing 5 pps gilsonite  
and 0.25 pps celloflake mixed at 12.3 PPG to yield 2.01 cf/sk. Followed  
with 100 sacks (133.0 cf) of 50/50 Class H POZ with 2% gel, 5 pps  
gilsonite, 0.25 pps celloflake, .2% FR and .4% FLA mixed at 13.7 PPG to  
yield 1.33 cf/sk.

Slurry volumes assume a 70% excess over gauge hole volume to bring  
cement back into the intermediate casing. Cement volume is subject to  
change after review of open hole caliper log to caliper volume + 30%.  
Minimum clearance between couplings and hole is 0.625". Safety factors  
utilized in the design of this casing string were: burst = 1.1;  
collapse = 1.125; and tension = 1.8.

**Centralizers:** 7 - 4 1/2" X 6 1/4" rigid centralizers will be run across  
prospective pays of the Mesa Verde.

**Float Equipment:** Cement nose float shoe, 1 joint 4 1/2" 10.5 # casing,  
and plug landing collar. TIW 4 1/2" X 7" liner hanger.

Drilling Program  
McElvain Oil & Gas Properties, Inc.  
Badger Com 14 No. 2  
Page Five

7. **Auxiliary Equipment:**

An upper kelly cock will be utilized. The handle will be available on rig floor at all times

8. **Logging Program:**

Gamma Ray Induction and Epithermal Neutron / Formation Density will be run from TD to surface casing shoe. Bulk density will be presented on a 5 " scale through the coals in the Menefee. Deep induction curve will be merged onto the porosity log.

**Coring and Testing Program:**

No cores or drill stem tests are planned.

9. **Abnormal Pressure:**

Although not expected, abnormal pressures are possible in the Fruitland formation.

**Estimated Bottom Hole Pressure:**

1500 - 2000 psig.

10. **Anticipated Starting Date:**

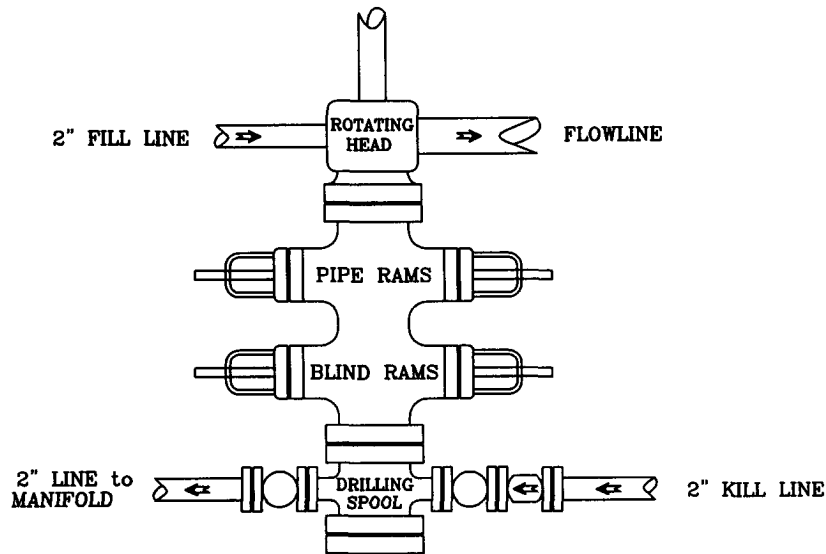
January 1, 2007

**Duration of Operations:** It is estimated a total of 10 days will be required for drilling operations and 10 days for the completion operation.



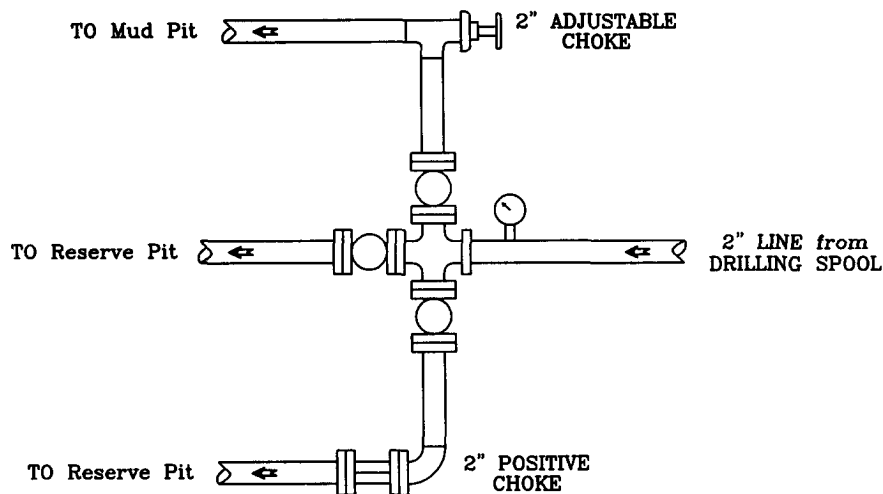
# PRESSURE CONTROL

## Wellhead Assembly



Preventer and Spools are to have a  
6" Bore or larger and a 2000 PSI  
or higher Pressure Rating

## Choke Manifold



*McElvain Oil & Gas Properties, Inc.*

Badger Com 14 No. 2

671' FNL - 1530' FEL

Section 14, T25N, R2W, NMPM  
Rio Arriba County, New Mexico