

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
June 16, 2008

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**

¹ Operator Name and Address McElvain Oil & Gas Properties, Inc. 1050 17 th St., Suite 1800 Denver, CO 80265-1801		² OGRID Number 22044
³ Property Code 37465		⁴ API Number 30 - 039 - 30581
⁵ Property Name Lybrook		⁶ Well No. 4
⁹ Proposed Pool 1 Lybrook Gallup		¹⁰ Proposed Pool 2

⁷ Surface Location									
UL or lot no. O	Section 36	Township 24N	Range 07W	Lot Idn	Feet from the 675	North/South line South	Feet from the 1620	East/West line East	County Rio Arriba

⁸ 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

Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 6746'
¹⁶ Multiple No	¹⁷ Proposed Depth 5525'	¹⁸ Formation Gallup	¹⁹ Contractor Not selected	²⁰ Spud Date 12/01/2008


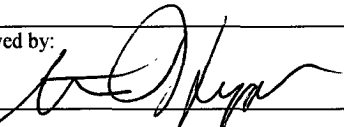
²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12.250"	8.625"	24 #	300'	210	surface
7.875"	5.500"	15.5 #	5525'	Stg 1-315	3400'
			DV @ 3400'	Stg 2 - 440	surface

²² 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.
See attached drilling program. Blowout prevention program described in attached drilling program. Schematic of BOPE attached.

A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOC D FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOC D PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

**NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT**

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.		OIL CONSERVATION DIVISION	
Signature: 		Approved by: 	
Printed name: Robert E. Fielder		Title: DEPUTY OIL & GAS INSPECTOR, DIST. #3	
Title: Agent		Approval Date: NOV 07 2008	Expiration Date: NOV 07 2010
E-mail Address: pmci@advantas.net			
Date: 10/31/2008	Phone: 505.320.1435	Conditions of Approval Attached <input type="checkbox"/>	

NOV 07 2008 



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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 October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

* APE Number 30039-30581		* Pool Code 42289	* Pool Name Lybrook Gallup
* Property Code 37465	* Property Name LYBROOK		* Well Number 4
* OGRID No. 22044	* Operator Name McELVAIN OIL & GAS PROPERTIES, INC.		* Elevation 6746

10 Surface Location

UL or lot no. 0	Section 36	Township 24N	Range 7W	Lot Edn	Feet from the 675	North/South line South	Feet from the 1620	East/West line East	County Rio Arriba
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11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Edn	Feet from the	North/South line	Feet from the	East/West line	County
* Dedicated Acres SW/SE-40		* Joint or Infill N	* 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.

16	N 87°11' W	78.38 Ch.	<p>17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete, to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Robert E. Fielder</i> 10/31/2008 Signature Date</p> <p>Robert E. Fielder Printed Name</p>
81.89 Ch.			
	Sec.		
	36		
			<p>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.</p> <p>14 May 2008 Date of Survey</p> <p><i>William E. Mahne II</i> Signature and Seal of Professional Surveyor</p> <p>William E. Mahne II Certificate Number 8466</p>
N 0°05' E	Lat. 36.26267° N Long. 107.52483° W	E6833-19 (337.8') 675'	
		1620'	
	N 87°36' W	77.66 Ch.	

McElvain Oil & Gas Properties, Inc.

Lybrook No. 4

675' FSL & 1620' FEL

Section 36, T24N, R07W, NMPM

Rio Arriba County, New Mexico

TEN POINT DRILLING PROGRAM

1. **Surface Formation:** San Jose

2. **Surface Elevation:** 6746' GL.

3. **Estimated Formation Tops:**

<u>Formation</u>	<u>Top - feet</u>	<u>Expected Production</u>
San Jose	surface	
Ojo Alamo	1302	
Fruitland	1372	GAS
Pictured Cliffs	1917	GAS
Lewis	2005	
Cliff House	3430	WATER
Menefee	3475	GAS/WATER
Pt. Lookout	4180	GAS/WATER
Upper Mancos	4445	
Upper Gallup	4895	GAS/OIL
Lower Gallup	5375	GAS/OIL
TOTAL DEPTH	5525	

4. **Surface Hole Program:**

Bit: Drill an 12 $\frac{1}{4}$ " hole to 300' 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 - 300	8.6 or less	9.0-9.5	40 - 50	No Control

Casing and Cementing: A string of 8 $\frac{3}{8}$ " 24 ppf J-55 or K-55 ST&C casing will be set and cemented to the surface in a single stage with 210 sacks (247.8 cf) of Class "B" cement (yield = 1.18 cf/sk) containing 2% CaCl₂ and 1/4 lb/sack 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 $\frac{1}{4}$ " by 8 $\frac{3}{8}$ " annulus. Minimum clearance between couplings and hole is 1.3125". 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 to full working pressure using a test plug. Drill out cement to within five feet of surface casing shoe. Test surface casing and BOPE to a minimum of 600 psig for 15 minutes.

Centralizers: Run three (3) 8 $\frac{3}{8}$ " X 12 $\frac{1}{4}$ " regular bowspring centralizers. Install first one on stop ring in middle of shoe joint.

Drilling Program
McElvain Oil & Gas Properties, Inc.
Lybrook No. 4
Page Two

4. **Surface Hole Program:** - cont'd

Float Equipment: Cement nose guide shoe thread locked. Self fill insert float valve run one joint above bottom. Thread lock connection between first and second joint run.

5. **Production Hole Program:**

Bit: Drill a 7 $\frac{1}{2}$ " hole to 5525' using TCI, IADC Class 447 bits. WOB: 30-35K. RPM: 60 - 75. Hold RPM at 55 - 65 through Ojo Alamo.

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

<u>Interval (ft)</u>	<u>Weight (ppg)</u>	<u>Ph</u>	<u>Vis(sec/qt)</u>	<u>Water Loss</u>
300 - 1300	8.6 - 8.8	9.0-9.5	28 - 35	10 - 12
1301 - 4400	8.6 - 8.8	9.0-9.5	32 - 35	8 - 10
4401 - 5525	8.6 - 8.8	9.0-9.5	32 - 35	6 - 8

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 surface pit 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.

Lost Circulation can occur in the Fruitland Coal, Pictured Cliffs and Mesa Verde formations. Mud weights should be controlled as low as possible with solids control equipment and water dilution.

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. Surface casing and BOPE 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. 5 $\frac{1}{2}$ " 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: Dual Induction and Epithermal Neutron/Formation Density logs will be run from TD to the surface casing shoe.

Drilling Program
McElvain Oil & Gas Properties, Inc.
Lybrook No. 4
Page Three

5. Production Hole Program: - cont'd

Casing and Cementing Program: Run 5½" 15.5 ppf J-55 production casing from surface to TD and cement in a two stages with a mechanical DV tool set at 3400'±. Cement stage 1 (5525-3400') with 185 sacks (392.2 cf) 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 130 sacks (163.8 cf) of Type V with 5 pps gilsonite and 0.25 pps celloflake mixed at 15.2 ppg to yield 1.26 cf/sk. Cement stage 2 (3400-surface) with 390 sacks (826.8 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 50 sacks (63.0 cf) of Type V with 5 pps gilsonite and 0.25 pps celloflake mixed at 15.2 ppg to yield 1.26 cf/sk.

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

Slurry volumes assume a 50% excess over gauge hole volume to circulate to surface. Minimum clearance between couplings and hole is 0.9125". Safety factors utilized in the design of this casing string were: burst = 1.1; collapse = 1.125; and tension = 1.8.

Centralizers: 15 - 5½" X 7¾" bowspring centralizers will be run across all prospective pays and 3 - 5½" X 7¾" turbolizers will be spaced such that one (1) is just below the base of the Fruitland coal, one just below the base of the Ojo Alamo and one (1) in the Ojo Alamo.

Float Equipment: Cement nose float shoe, 1 joint 5½" casing, and float collar. Mechanical DV tool with cement basket below DV tool.

6. Auxiliary Equipment:

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

7. Logging Program:

Dual Induction and Epithermal Neutron / Formation Density will be run from TD to surface casing shoe. Deep induction curve will be merged onto the porosity log.

Coring and Testing Program:

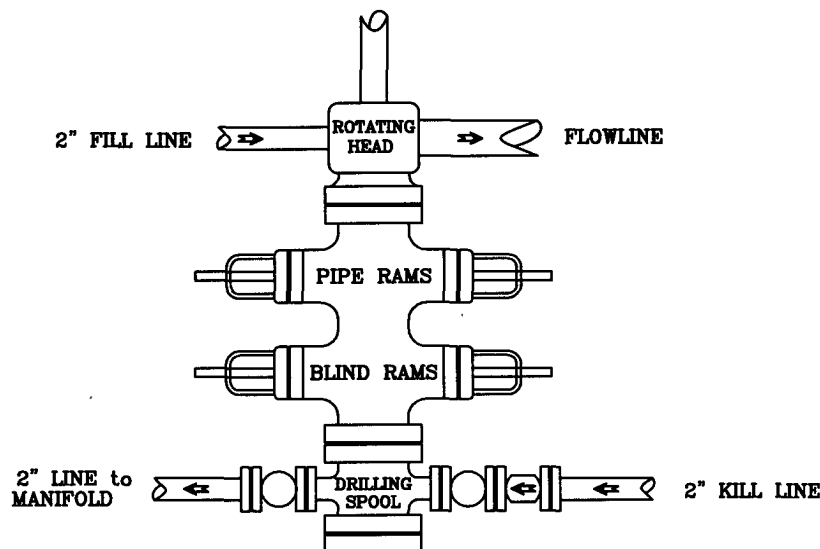
No cores or drill stem tests are planned.

8. Abnormal Pressure:

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

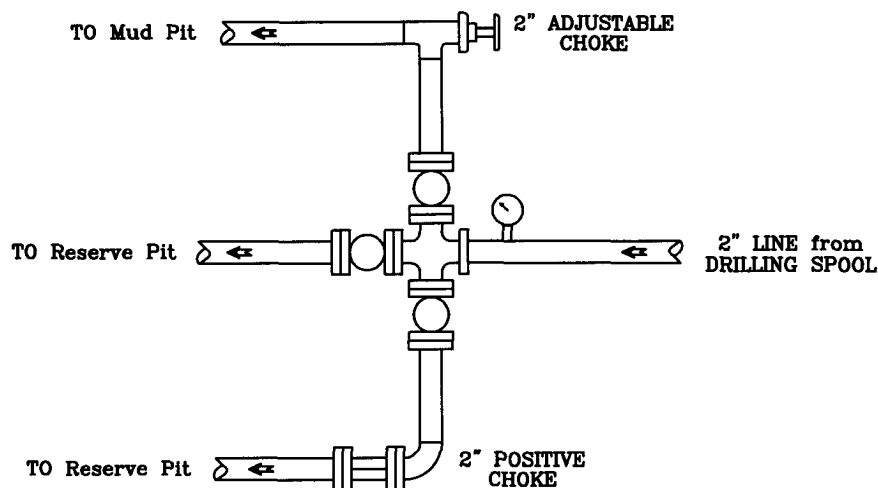
PRESSURE CONTROL

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.

Lybrook No. 4

675' FSL - 1620' FEL

Section 36, T24N, R07W, NMPM
Rio Arriba County, New Mexico