

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

¹ Operator Name and Address McElvain Oil & Gas properties, Inc. 1050 17 th Street, Suite 1800 Denver, CO 80265-1801		² OGRID Number 22044	
³ Property Code 25034		⁴ Property Name Cougar Corn 33	
⁵ API Number 30 - 039 - 29719		⁶ Well No. 1B	
⁹ Proposed Pool 1 Blanco Mesa Verde		¹⁰ Proposed Pool 2	

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	33	26N	2W		755	South	2470	East	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 G	¹³ Cable/Rotary R	¹⁴ Lease Type Code P	¹⁵ Ground Level Elevation 7482'
¹⁶ Multiple N	¹⁷ Proposed Depth 6254'	¹⁸ Formation Mancos	¹⁹ Contractor D&J Drilling	²⁰ Spud Date December 30, 2005
Depth to Groundwater > 100 ft		Distance from nearest fresh water well > 1000 ft		Distance from nearest surface water 300 ft
Pit: Liner: Synthetic X <u>12</u> mils thick Clay <input type="checkbox"/> Pit Volume: <u>6400</u> bbls Drilling Method: Mud/Air Closed-Loop System <input type="checkbox"/> Fresh Water X Brine <input type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air X				

²¹ 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	4195'	265	2098'
		DV tool @	2098	245	Surface
6.250"	4.500"	10.5	4075-6254'	225	4075'

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.

Spud in San Jose formation. Drill surface hole to 500 feet using fresh water mud. Run and cement surface casing with cement returns to surface. WOC 12 hours. Install BOPE. Pressure test to minimum of 600 psi for 15 minutes. Drill intermediate hole to 4195 feet using fresh water mud. Run and cement intermediate casing in two stages with cement returns to surface. WOC 12 hours. Pressure test BOPE to 1500 psi for 15 minutes. Drill production hole to TD in Mancos formation using air hammer. Log well. Run and cement production liner with cement returns to liner top. Move out drilling equipment. Move in completion equipment. Run cased hole correlation logs. Pressure test intermediate casing and production liner to 3500 psi for 30 minutes. Perforate select Mesa Verde intervals and stimulate with 2% KCl base fluid. Clean up and test well. Install surface production equipment. Place well on production.

²³ 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 ☐.

Printed name: Robert E. Fielder

Title: Agent

E-mail Address: pmci@acs-online.net

Date: December 6, 2005

Phone: 505.632.3869

OIL CONSERVATION DIVISION

Approved by:

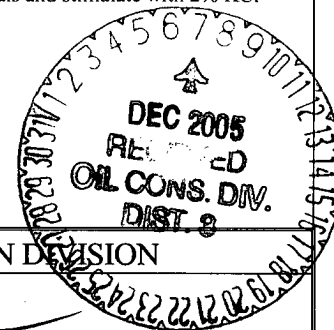
Title: DEPUTY OIL & GAS INSPECTOR, DIST. 3

Approval Date:

DEC 07 2005

Expiration Date:

DEC 07 2006

Conditions of Approval Attached ☐

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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102

Revised February 21, 1994

District II
PO Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

District III
1000 Rio Brazos Rd., Aztec, NM 87410

PO Box 2088
Santa Fe, NM 87504-2088

District IV
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-29719	Pool Code 72319	Pool Name BLANCO MESAVERDE
Property Code 25034	Property Name COUGAR COM 33	Well Number 1B
OGRID No. 22044	Operator Name McELVAIN OIL & GAS PROPERTIES	Elevation 7482'


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
0	33	26N	2W		755	SOUTH	2470	EAST	RIO ARRIBA

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
¹² Dedicated Acres 320.0 Acres - S/2					¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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	5281.32'	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief <i>Robert E. Fielder</i> Signature Robert E. Fielder Printed Name Agent Title December 6, 2005 Date
5280.00'	33	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. Survey Date: OCTOBER 24, 2005 Signature and Seal of Professional Surveyor  JASON C. EDWARDS Certificate Number 15269
LEASE NM-97827	#1 LEASE NM-01397	
#1M	LEASE FEE	
2640.00'	LAT: 36°26.1755' N LONG: 107°03.2560' W DATUM: NAD27 2470' 755'	
	2640.00'	

McElvain Oil & Gas Properties, Inc.
 Cougar Com 33 No. 1B
 755' FSL & 2470' FEL
 Section 33, T26N, R2W, NMPM
 Rio Arriba County, New Mexico

TEN POINT DRILLING PROGRAM

1. Surface Formation: San Jose
2. Surface Elevation: 7482' GL.
3. Estimated Formation Tops:

<u>Formation</u>	<u>Top - feet</u>	<u>Expected Production</u>
Nacimiento	1707	
Ojo Alamo	3422	
Fruitland	3648	
Pictured Cliffs	3763	GAS
Lewis	3995	
Intermediate TD	4195	
Huerfanito	4255	
Chacra	4765	
Cliff House	5528	GAS
Menefee	5610	GAS
Pt. Lookout	5924	GAS
Upper Mancos	6104	
TOTAL DEPTH	6254	

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 3% 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 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 surface casing and BOPE to 600 psi for 15 minutes.

Centralizers: Run four (4) 9 5/8" X 12 1/4" regular bowspring centralizers. Install first one on stop ring in middle of shoe joint.

Drilling Program
McElvain Oil & Gas Properties, Inc.
Cougar Com 33 No. 1B
Page Two

4. Surface Hole Program - continued

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

5. Intermediate Hole Program:

Bit: Drill an 8 3/4" hole to 4195' using TCI, IADC Class 447 bit. 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 - 3500	8.6 - 8.8	9.0-9.5	28 - 35	10 - 12
3500 - 4195	8.9 - 9.2	9.0-9.5	35 - 50	8 - 10

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.

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 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: No logs will be run in intermediate hole.

Drilling Program
McElvain Oil & Gas Properties, Inc.
Cougar Com 33 No. 1B
Page Three

5. Intermediate Hole Program: - continued

Casing and Cementing Program: Run 7" 20# J-55 production casing from surface to Intermediate TD and cement in two stages with a mechanical DV tool installed at \pm 2098'. **Stage 1:** (4195-2098 ft) Cement with 165 sacks (349.8 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 100 sacks (126.0 cf) of Class B containing 2% CaCl_2 , 5 pps Gilsonite and 0.25 pps celloflake mixed at 15.2 ppg to yield 1.26 cf/sk. **Stage 2:** (2098 ft - surface) Cement with 195 sacks (413.4 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 Class B containing 2% CaCl_2 , 5 pps Gilsonite and 0.25 pps celloflake mixed at 15.2 ppg to yield 1.26 cf/sk.

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. Pressure test intermediate casing and BOPE to 1500 psi for 15 minutes.

Centralizers: 10 - 7" X 8 3/4" bowspring centralizers will be run across all prospective pays and 5 - 7" X 8 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. 1 - mechanical DV tool with two cement baskets below the tool.

6. Production Hole Program:

Bits: Drill a 6 1/4" hole to 6254' 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.

Drilling Program
McElvain Oil & Gas Properties, Inc.
Cougar Com 33 No. 1B
Page Four

6. Production Hole Program: - continued

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: Induction and Compensated density/Epithermal neutron logs from TD to intermediate casing shoe. Pull gamma ray to surface for correlation purposes. A temperature log may be run if natural flows are encountered

Casing and Cementing Program: Run 4 ½" 10.5# J-55 production liner on sufficient amount of drill pipe to place liner hanger minimum of 120' into intermediate casing. Cement in a single stage with 125 sacks (251.3 cf) of 65/35 Class H Poz containing 5 pps gilsonite and 2 pps celloflake mixed at 12.3 ppg to yield 2.01 cf/sk. Tail in with 100 sacks (133.0 cf) of 50/50 Class H Poz with 2% gel, 5 pps gilsonite, 0.25 pps celloflake, 0.4% fluid loss additive and 0.2% friction reducer 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: 9 - 4½" X 6¾" rigid centralizers will be run across all prospective pay zones in Mesa Verde.

Float Equipment: Cement nose float shoe, 1 joint 4 1/2" 10.5 # casing, and latch collar. 4 ½" X 7" Linger Hanger run between casing and drill pipe.

7. Auxiliary Equipment:

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

8. Logging Program:

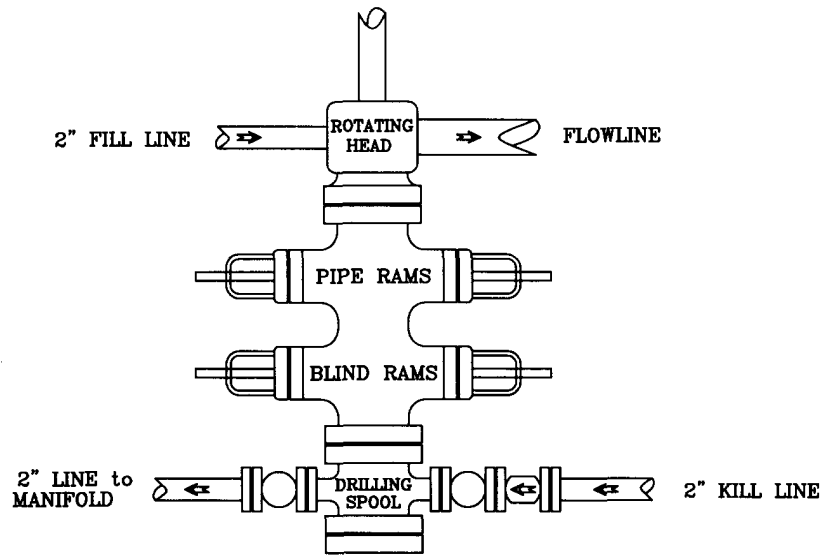
Gamma Ray Induction and Epithermal Neutron / Formation Density will be run from TD to intermediate casing shoe. Bulk density will be presented on a 5 " scale through the coals in the Menefee. Deep induction curve will be merged onto the porosity log.

Coring and Testing Program:

No cores or drill stem tests are planned.

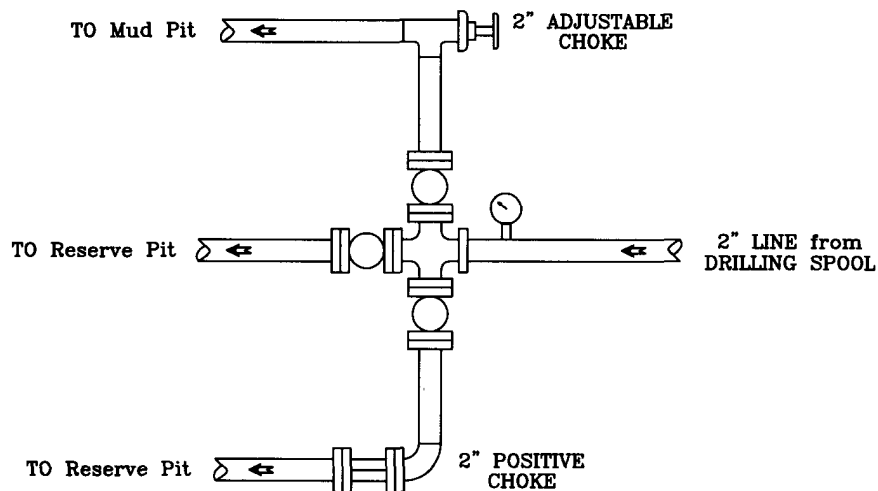
PRESSURE CONTROL

Wellhead Assembly



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

Choke Manifold



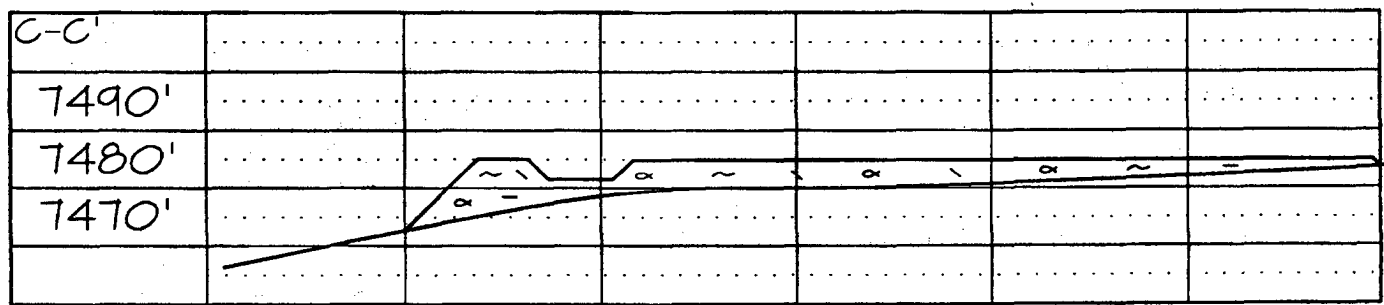
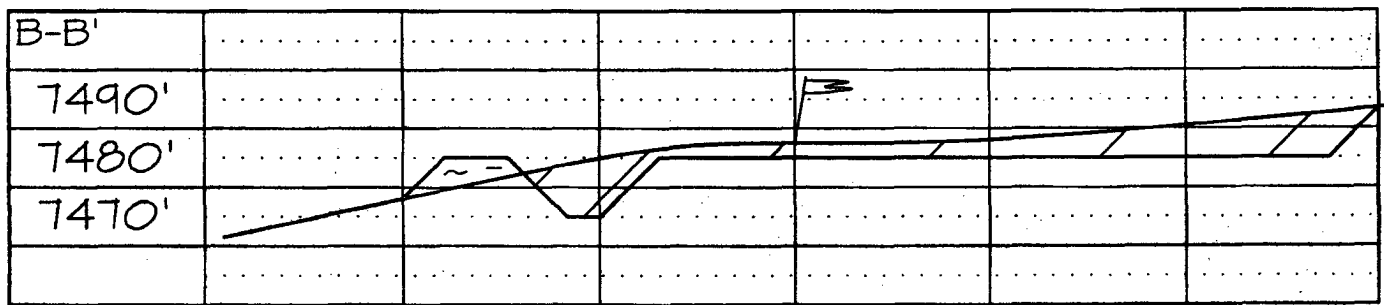
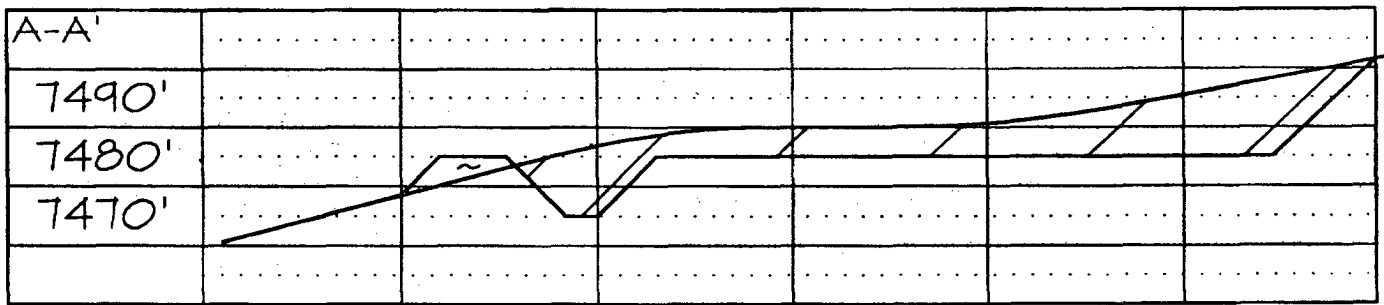
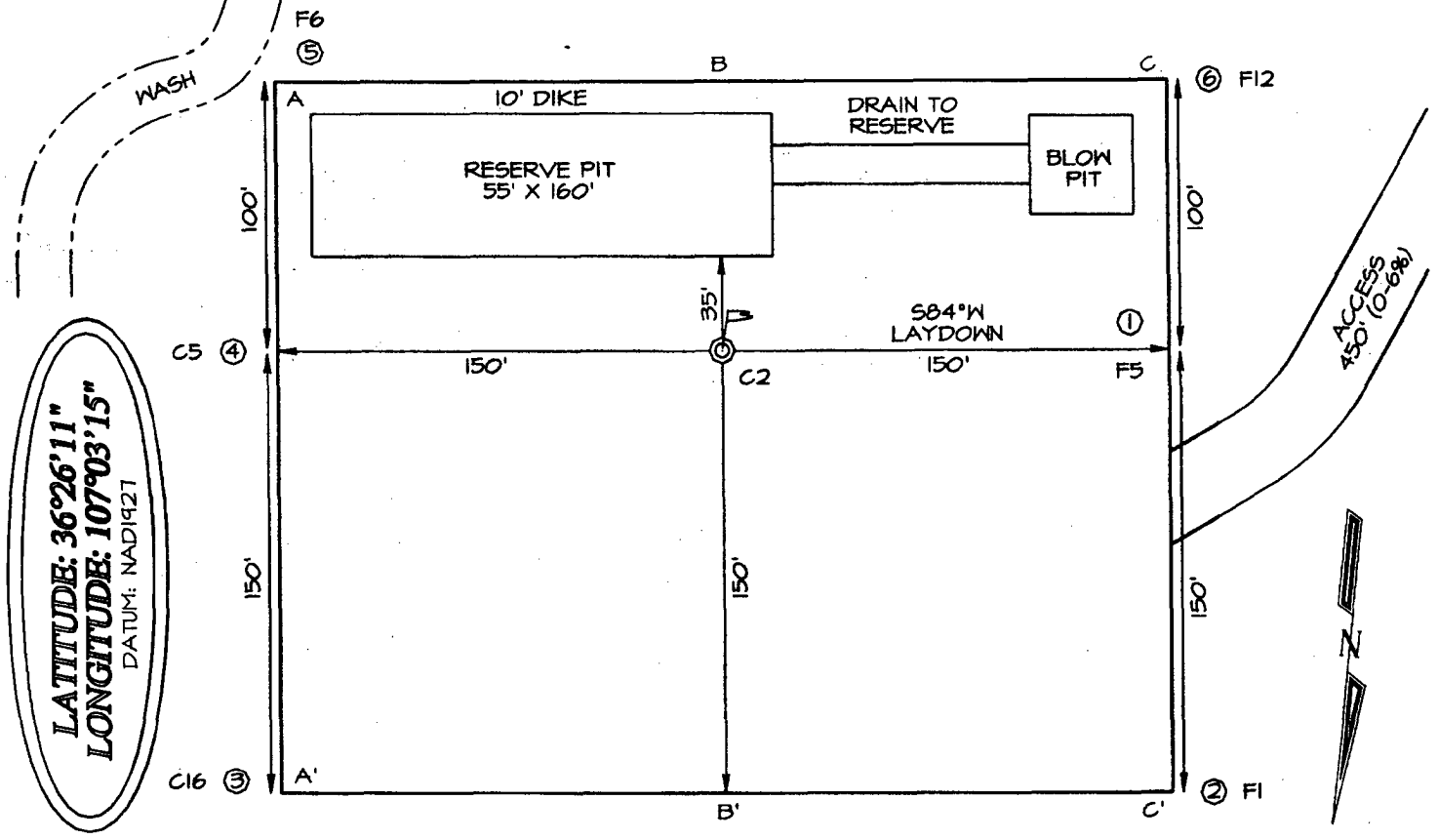
McElvain Oil & Gas Properties, Inc.

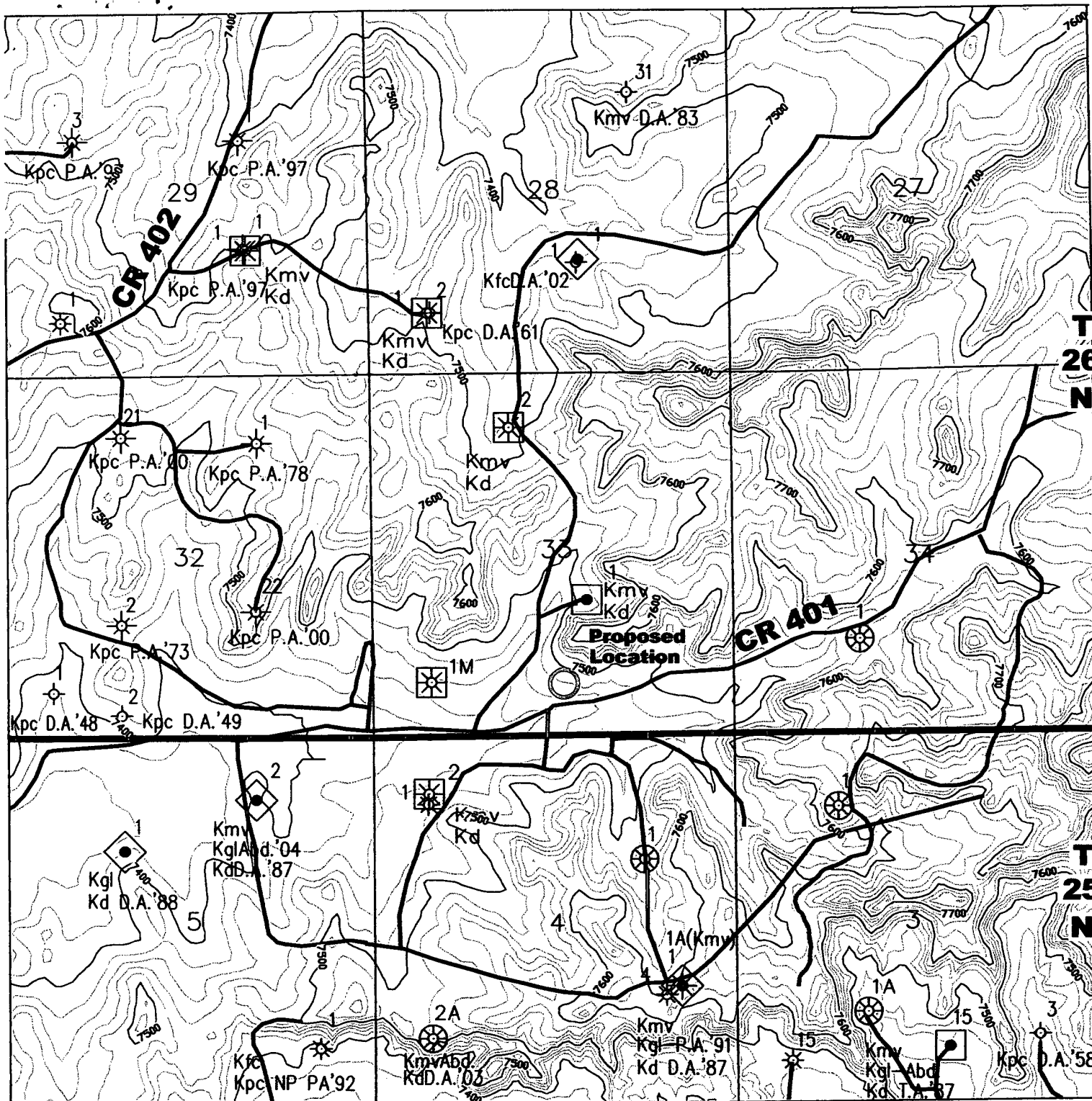
Cougar Com 33 No. 1B

755' FSL - 2470' FEL

Section 33, T26N, R2W, NMPM
Rio Arriba County, New Mexico

McELVAIN OIL & GAS PROPERTIES COUGAR COM 33 #1B
755' FSL, 2470' FEL, SECTION 33, T26N, R2W, NMPM
RIO ARriba COUNTY, NM GROUND ELEVATION: 7482'





R - 2 - W



McElvain Oil & Gas Properties, Inc.

VICINITY MAP

Cougar Com 33 #1B

755' FSL, 2470' FEL

SECTION 33, T26N / R2W

RIO ARRIBA COUNTY, NEW MEXICO

POSTED TO: 10-21-05

C.I. = 20'

SCALE: 1"=2000'

Prepared by: **HOPKINS MAP SERVICE**

P. O. BOX 536 FARMINGTON, N.M. 87499