

Mesa Energy Partners, LLC  
**BDU 1-2-199**  
SHL: 1,361' FNL 2,002' FWL (NE/4 NW/4) Lot 7  
BHL: ±951' FNL ±1,952' FEL (NW/4 NE4) Lot 6  
Sec. 1 T1S R99W  
Rio Blanco County, Colorado  
Federal Lease: COC62815

**DRILLING PROGRAM**  
**(All Drilling Procedures will be followed as Per Onshore Orders No. 1 and No. 2)**

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. All specific concerns and specific stipulations from the BLM are addressed herein.

Please contact Mr. Dave Cesark, Vice President, Environmental and Regulatory Affairs with Mesa Energy Partners, LLC at 970-683-5447, for all drilling, completion and all other matters.

SURFACE ELEVATION – 6,811.4' (Graded ground elevation)

SURFACE FORMATION – Bridger (Green River) – Fresh water possible

ESTIMATED FORMATION TOPS

<u>Formation</u>	<u>TVD</u>	<u>MD</u>	<u>Description</u>
Green River	Surface	Surface	Sandstones, shales
Top A Groove	1,083'	1,083'	Sand
Mahogany Bench Top	1,173'	1,173'	Oil shales
Base B Groove	1,233'	1,233'	Sand
Wasatch	2,621'	2,623'	Sandstones, shales
Williams Fork	6,043'	6,135'	Sandstones, shales
Rollins	8,829'	9,040'	Sandstones, shales
Cozzette	8,915'	9,131'	Sandstones, shales
Corcoran	9,100'	9,328'	Sandstones, shales
Sego	9,655'	9,898'	Sandstones, shales
<b>TOTAL DEPTH</b>	<b>10,150'</b>	<b>10,400'</b>	

ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS, OR MINERAL BEARING FORMATIONS

Estimated depths at which water, oil, gas or other mineral-bearing formations are expected to be encountered:

<u>Formation</u>	<u>TVD</u>	<u>MD</u>	<u>Description</u>
<u>MD</u> <u>Description</u>			
Green River	Surface	Surface	Possible water
Top A Groove	1,083'	1,083'	Possible water
Mahogany Bench Top	1,173'	1,173'	Oil shales

Base B Groove	1,233'	1,233'	Possible water
Wasatch	2,621'	2,623'	None
Williams Fork	6,043'	6,135'	Potential gas
Rollins	8,829'	9,040'	Potential gas
Cozzette	8,915'	9,131'	Potential gas
Corcoran	9,100'	9,328'	Potential gas
Sego	9,655'	9,898'	Potential gas

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth and protected.

### CASING PROGRAM

Depth (MD)	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0' – 100'	20"	16"	Conductor Casing	Class III to surface
0' – 2,500'	12-1/4"	9-5/8"	J-55 36# ST&C New	To surface: (Lead: $\pm 585$ sxs Class G; Tail: $\pm 295$ sxs Class G)
0' – 10,400'	7-7/8"	4-1/2"	P-110 11.6# LT&C New	TD to 2,400': (Lead: $\pm 1,210$ sxs Class G 75:25 Poz; Tail: $\pm 680$ sxs Class G)

\* All cement volumes will be determined by caliper log.

*If caliper logs are not available, then surface casing cement volumes will be calculated at 100% excess and production casing cement volumes will be calculated at 25% excess.*

Centralizers will be installed per approved centralizer program from cement vendor.

Yields	Surface	Lead:	Class "G" yield = $2.11 \text{ ft}^3/\text{sx}$ (12.5 ppg)
		Tail:	Class "G" yield = $1.54 \text{ ft}^3/\text{sx}$ (14 ppg)
	Production	Lead:	Class "G" 75:25 Poz yield = $1.89 \text{ ft}^3/\text{sx}$ (12 ppg)
		Tail:	Class "G" TXI yield = $1.88 \text{ ft}^3/\text{sx}$ (13 ppg)

Cement additives – (Note: Some additives are Halliburton or BJ Services proprietary products. If another cement contractor is used, these blends and products may vary slightly).

Surface:	Lead:	<b>Class G</b> 2.00% bwoc $\text{CaCl}_2$ 0.25% bwoc Cello Flake 8.00% bwoc Bentonite 24.40% Fresh Water
	Tail:	<b>Class G</b> 2.00% bwoc $\text{CaCl}_2$ 0.25 lbs/sx Cello Flake 44.30% Fresh Water
Production:	Lead:	<b>Class G</b> 2.00% bwoc $\text{CaCl}_2$ 0.25 lbs/sx Cello Flake 44.30% Fresh Water

Tail:	<b>Class G</b>
	w/ 2.00% bwoc CaCl <sub>2</sub>
	0.25 lbs/sx Cello Flake
	44.30% Fresh Water

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**PRESSURE CONTROL**

- See attached Blowout Preventer (BOP) diagram.

BOPs and choke manifold will be installed and pressure tested before drilling out of surface casing (subsequent pressure test will be performed whenever pressure seals are broken), and then will be checked daily as to mechanical operating condition. BOPs will be pressure tested at least once every 30 days. Ram type preventers and related pressure control equipment will be pressure tested to related working pressure of the stack assembly if a test plug is used. If a plug is not used, the stack assembly will be tested to the rated working pressure of the stack assembly or 70% of the minimum internal yield of the casing, whichever is less. Annular type preventers will be pressure tested to 50% of their working pressure. All casing strings will be pressure tested to 0.22 psi/ft or 1,500 psi, whichever is greater, not to exceed 70% of the internal yield.

A manual locking device (i.e. hand wheels) or automatic locking devices shall be installed on the BOP stack. Remote controls capable of both opening and closing all preventers shall be readily accessible to the driller.

The choke manifold and accumulator will meet or exceed Onshore Order No. 2 (OSO #2) standards. The BOP equipment will be tested after any repairs to the equipment. Pipe rams, blind rams and annular preventer will be activated on each trip and weekly BOP drills will be conducted with each crew. All tests, maintenance, and BOP drills will be documented on rig "tower sheets".

**Statement of Accumulator System and Location of Hydraulic Controls**

*The drilling rig has not been selected for this well. Selection will take place after approval of this application is granted. Manual and/or hydraulic controls will be in compliance with OSO #2 for a 3,000 psi system.*

*A remote accumulator will be used. Pressures, capacities, location of remote hydraulic and manual controls will be identified at the time of the BLM supervised BOP test.*

**MUD PROGRAM**

0' -	2,500'	Spud Mud
		M.W.: 5.0 – 9.5
		F.L.: NC
		Visc.: 20 - 80
2,500' -	6,000'	Gel/Polymer
		M.W.: 5.0 – 10.5 ppg
		F.L.: 6 - NC
		Visc.: 30 - 100
6,000' -	TD	Gel/Polymer
		M.W.: 8.5 – 11.5 ppg
		F.L.: 4 - 10
		Visc.: 30 - 100

Sufficient mud materials to maintain mud properties, control lost circulation and to contain a “kick” will be available on location.

#### AUXILIARY EQUIPMENT

- A. Upper Kelly cock; (lower Kelly cock to be available on rig floor).
- B. Inside BOP or stabbing valve with handle (available on rig floor).
- C. Safety valve(s) and subs to fit all string connections in use.
- D. Mud monitoring will be visually observed.

#### LOGGING, CORING TESTING PROGRAM

- A. Logging: Triple Combo: TD to base of surface casing (GR to surface)  
CBL-CCL-GR: TD to 500' above top of cement
- B. Coring: Possible sidewall cores in Williams Fork/Cameo.
- C. Testing: No Drill Stem Tests (DSTs) are planned. DSTs may be run on shows of interest.

#### ABNORMAL CONDITIONS

- A. Pressures: No abnormal conditions are anticipated  
Cameo pressure gradient is 0.40 psi/ft  
Williams Fork pressure gradient is 0.30 psi/ft
- B. Temperatures: No abnormal conditions are anticipated
- C. H<sub>2</sub>S: None anticipated
- D. Estimated bottomhole pressure using 0.45 pressure gradient: 4,568 psi at TD

#### ANTICIPATED START DATE

July 1, 2010

#### COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-3/8" J-55 4.7#/ft tubing will be run for a production string. A Sundry Notice (SN) will be submitted with a revised completion program if warranted.