

Puckett Land Company  
**RG Federal 2G-34D (fka RG Federal 4D-34D)**  
SHL: 232' FSL 1,236' FEL (SE/4 SE/4)  
BHL: ±1,003' FSL ±952' FEL (SE/4 SE/4) within 50' radius  
Sec. 34 T1S R98W  
Rio Blanco County, Colorado  
Federal Lease: COC64831

#### 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. This NOS process included an onsite meeting on August 18, 2010, for the RG Federal 2G-34D (fka RG Federal 4D-34D) prior to the submittal of this application, at which time the specific concerns of Puckett Land Company (Puckett) and the BLM were discussed. All specific concerns are addressed herein, as are specific stipulations from the BLM.

Please contact Mr. David Banko, Principal and consulting Petroleum Engineer, with Banko Petroleum Management, Inc. at 303-820-4480, for all drilling, completion and all other matters.

SURFACE ELEVATION – 6,743.45' (Graded ground elevation)

SURFACE FORMATION – Uinta – Fresh water possible

#### ESTIMATED FORMATION TOPS

<u>Formation</u>	<u>MD</u>	<u>Description</u>
Uinta	Surface	Sandstones
Green River	566'	Sandstones, shales
A Groove	1,060'	Sand
Mahogany Marker	1,266;	Oil shales
B Groove	1,429'	Sand
Garden Gulch	2,710'	Sandstone
Douglas Creek	3,092'	Sandstone
Wasatch	3,302'	Sandstone
Wasatch G	5,188'	Sandstones, shales
Base Wasatch G	5,235'	Sandstones, shales
Fort Union	5,488'	Oil shales
Ohio Creek	6,857'	Sand
Mesaverde	7,103'	Sandstone
Cameo	10,374'	Sandstones, shales
Rollins	10,684'	Sandstones, shales
Cozzette	10,814'	Sandstones, shales
Corcoran	11,143'	Sandstones, shales

Sego	11,421'	Sandstones, shales
L Sego	11,846'	Sandstones, shales
<b>TOTAL DEPTH</b>	<b>11,861' (MD)</b>	<b>11,784' (TVD)</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>MD</u>	<u>Description</u>
Uinta	Surface	Possible water
Green River	566'	Possible water
A Groove	1,060'	Possible water
Mahogany Marker	1,266'	None
B Groove	1,429'	Possible water
Garden Gulch	2,710'	Possible water, gas
Douglas Creek	3,092'	Possible water, gas
Wasatch	3,302'	None
Wasatch G	5,188'	None
Base Wasatch G	5,235'	Possible gas
Fort Union	5,488'	Possible gas
Ohio Creek	6,857'	Possible gas
Mesaverde	7,103'	Potential gas
Cameo	10,374'	Potential gas
Rollins	10,684'	Potential gas
Cozzette	10,814'	Potential gas
Corcoran	11,143'	Potential gas
Sego	11,421'	Potential gas
L Sego	11,846'	Potential gas

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

**CASING PROGRAM**

<b>Depth (MD)</b>	<b>Hole Diameter</b>	<b>Casing Diameter</b>	<b>Casing Weight and Grade</b>	<b>Cement</b>
0' – 100'	20"	16"	Conductor Casing	Redimix to surface
0' – 2,800'	12-1/4"	9-5/8"	J-55 36# ST&C New	To surface: (Lead: ±685 sxs Class G; Tail: ±365 sxs Class G)
0' – 11,861'	7-7/8"	4-1/2"	P-110 11.6# LT&C New	TD to 2,700': (Lead: ±1,385 sxs Class G 75:25 Poz; Tail: ±780 sxs Class G TXI)

\* 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 ft <sup>3</sup> /sx (12.5 ppg)
		Tail:	Class "G" yield = 1.54 ft <sup>3</sup> /sx (14 ppg)
	Production	Lead:	Class "G" 75:25 Poz yield = 1.89 ft <sup>3</sup> /sx (12 ppg)
		Tail:	Class "G" TXI yield = 1.88 ft <sup>3</sup> /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 CaCl <sub>2</sub> 0.25% bwoc Cello Flake 8.00% bwoc Bentonite 24.40% Fresh Water
	Tail:	<b>Class G</b> 2.00% bwoc CaCl <sub>2</sub> 0.25 lbs/sx Cello Flake 44.30% Fresh Water
Production:	Lead:	<b>Class G 75:25 Poz</b> 2.00% bwoc CaCl <sub>2</sub> 0.25 lbs/sx Cello Flake 44.30% Fresh Water
	Tail:	<b>Class G TXI</b> w/ 2.00% bwoc CaCl <sub>2</sub> 0.25 lbs/sx Cello Flake 44.30% Fresh Water

### 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. The casing shoe will be tested by drilling 5-20' out from under the shoe and pressure tested to a maximum expected mud weight equivalent as shown in the mud program listed below.

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 5,000 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' - 2,800'	Spud Mud
	M.W.: 5.0 – 8.4 ppg
	F.L.: NC
	Visc.: 20 - 80
2,800' - 6,000'	Gel/Polymer
	M.W.: 8.4 – 9.6 ppg
	F.L.: 6 - NC
	Visc.: 30 - 100
6,000' - TD	Gel/Polymer
	M.W.: 9.0 – 9.6 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 will be installed while drilling and tested with 5,000 psi BOP).
- 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: GR-HRI-SP: TD to base of surface casing (GR to surface)  
GR-LDCN: TD to base of surface casing  
GR-BHC: TD to base of surface casing
- B. Coring: None planned.
- 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
- B. Temperatures: No abnormal conditions are anticipated
- C. H<sub>2</sub>S: None anticipated
- D. Estimated bottomhole pressure using 0.48 pressure gradient: 5,700 psi at TD

ANTICIPATED START DATE

December 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.