**DRILLING PLAN**

**Federal 10/11-16-21**

**SWSE Sec 21, T6S-R91W,**

**BLM Lease # COC-066370**

Dejour Energy (USA) presents the following Drilling Plan for the Federal 10/11-16-21 well located lat. 39.508516N, long. -107.556004W, located in the southeast quarter of Section 21, T6S, R91W. This well is located on BLM managed lands and is authorized under lease COC-066370. The proposed well will be drilled to a TD 8163 feet Measured Depth (MD) and a True Vertical Depth of 8100 feet (TVD).

In accordance with the requirements of Onshore Oil and Gas Order Number 1 (43 CFR 3162.3), the following detailed drilling plan is provided.

**Proposed Locations:**

Surface Location: 1765' FEL x 782' FSL, SW of SE Section 21-T6S-R91W, Garfield Co., CO

Bottomhole Location: 2002'FEL x 164' FSL, SW of SE Section 21-T6S-R91W, Garfield Co., CO

Geologic Information for the Drilling Plan

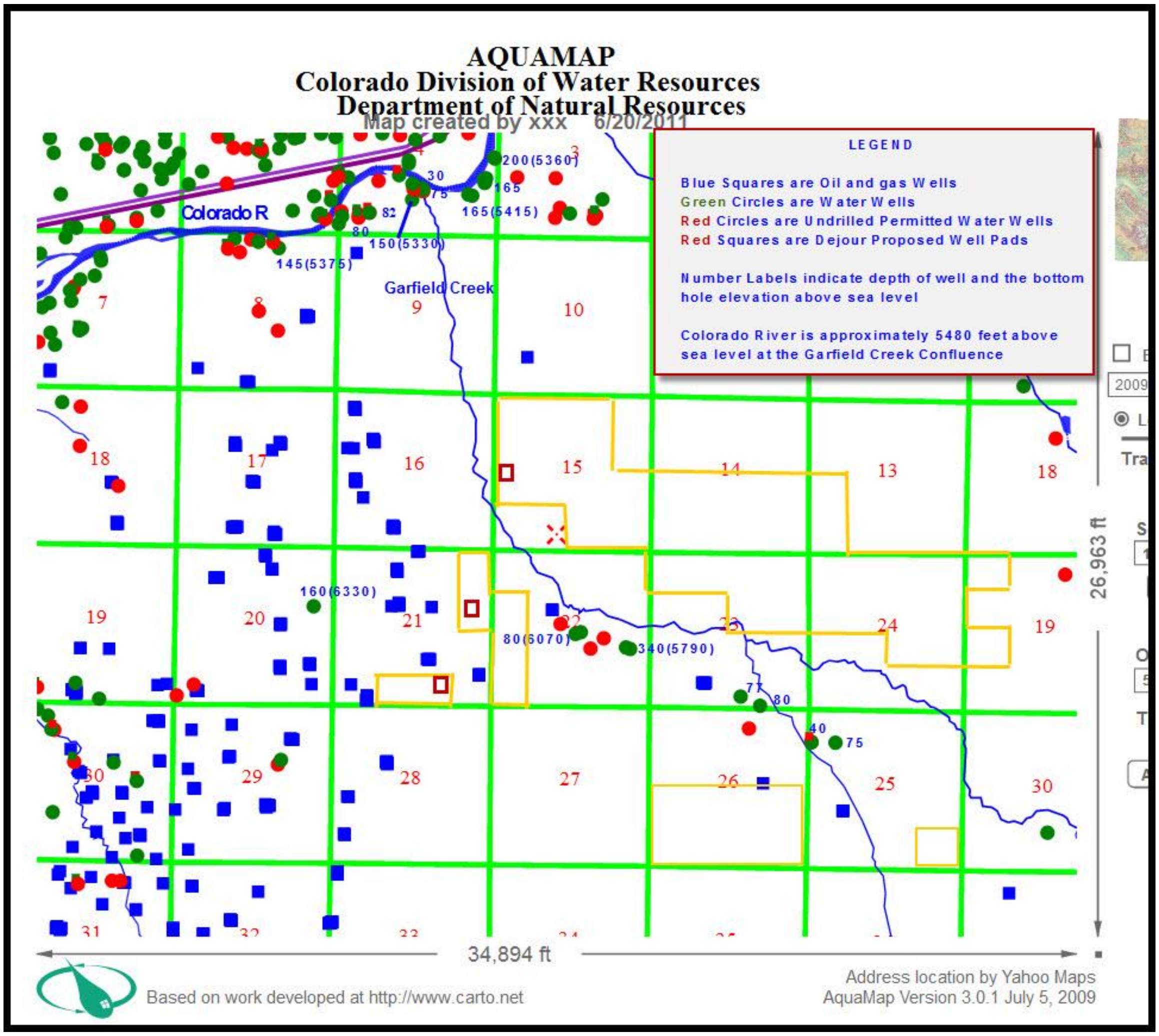
Formation Tops (approx.) Federal 10/11-16-21

| Formation | Sea Level Elevation | TVD from Surface Pad |
|---|---|---|
| Wasatch Formation | Ground-7008 | 0 |
| Williams Fork | 2595 | 4413 |
| Rollins SS | -900 | 7908 |

Depth to Oil, Gas, Water & Minerals - Fed 10/11-16-21

| Substance | Formation | TVD from Surface Pad |
|---|---|---|
| Water | Wasatch | <500 |
| Gas | Williams Fork | 4413 |

Note: The nearest water wells range, in bottomhole depths, from 5330 feet to 6330 feet above sea level. Casing design is to a consistent depth of 5200 feet above sea level.



AQUAMAP
Colorado Division of Water Resources
Department of Natural Resources
Map created by xxx 6/20/2011
LEGEND
Blue Squares are Oil and gas Wells
Green Circles are Water Wells
Red Circles are Undrilled Permitted Water Wells
Red Squares are Dejour Proposed Well Pads
Number Labels indicate depth of well and the bottom hole elevation above sea level
Colorado River is approximately 5480 feet above sea level at the Garfield Creek Confluence
Colorado R
Garfield Creek
200(5360)
165(5415)
150(5330)
145(5375)
160(6330)
80(6070)
340(5790)
34,894 ft
26,963 ft
Based on work developed at http://www.carto.net
Address location by Yahoo Maps
AquaMap Version 3.0.1 July 5, 2009

**Well Control Equipment for all wells drilled off of Pad 21A**

1. Dejour Energy (USA) (Dejour) minimum specifications for pressure control are as follows:

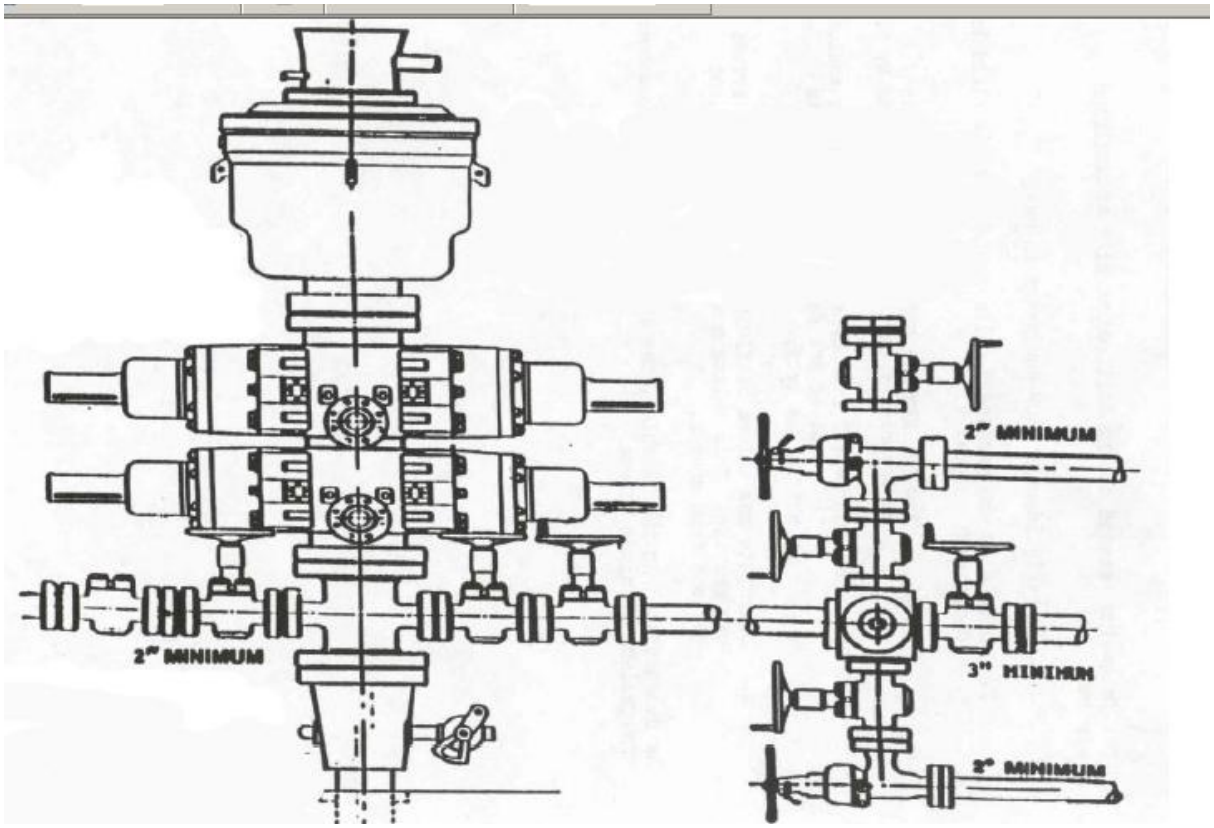
| **Depth Range** | **Well Control Equipment** |
|---|---|
| 0 - 1500’ (surface interval) | No Control |
| 1500’ – TD | 11”, 5000 psi ram type preventers with one set of blind rams, one set of pipe rams and 5000 psi annular type preventer with choke manifold as per attached diagram. |
| No abnormal temperatures or $H_2S$ gas are anticipated. No over-pressured intervals are expected. | |

2. Dejour will comply with all requirements pertaining to well control as listed in Onshore Oil and Gas Order No. 2 as well as Colorado Oil and Gas Conservation Commission (COGCC) Rules and Regulations.
3. Dejour will comply with Onshore Oil and Gas Order No. 2 as well as COGCC regulations concerning the testing of blow out prevention (BOP) equipment to include the following:
    a. Ram type preventers and associated equipment shall be tested to the equipment rated stack working pressure if isolated by test plug or to 70% of internal yield pressure of casing if BOP stack is not isolated from casing. Pressure shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed-off of pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10% in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test plug shall be open during test of BOP stack.
    b. All BOP tests will be performed by a tester and not by the rig pumps using clear water or an appropriate clear liquid for subfreezing temperatures. Annular type preventers shall be tested to 50% of rated working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.
    c. As a minimum, the above test shall be performed:
        i. When initially installed;
        ii. Whenever any seal subject to test pressure is broken;
        iii. Following related repairs;
        iv. At 30-day intervals; and
        v. Valves shall be tested from working pressure side during BOP tests with all down-stream valves open.
    d. When testing the kill line valve(s), the check valve shall be held open or the ball removed.
    e. Annular preventers shall be functionally operated at least weekly.
    f. Pipe and blind rams shall be activated each trip, however, this function need not be performed more than once a day.

g. A BOP pit level drill shall be conducted weekly by each drilling crew.
h. Pressure tests shall apply to all related well control equipment.
i. All of the above described tests and/or drills shall be recorded in the drilling log.
j. See Figure 3 for a typical BOP diagram.

**Figure 3: Typical Blowout Preventer Diagram**

5,000 psi BOP stack minimum equipment. The actual dimensions and specifications will be determined when the drilling rig is selected.

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5M psi system:

-Double ram with blind rams and pipe rams*

- Annular Preventers
- Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 3-inch minimum diameter, kill side shall be at least 2-inch diameter)*
- Kill line (2 inch minimum)
- A minimum of 2 choke line valves (3 inch minimum)*
- 3 inch diameter choke line
- 2 kill line valves, one of which shall be a check valve (2 inch minimum)*
- 2 chokes (refer to diagram in Attachment 1)
- Pressure gauge on choke manifold
- Upper kelly cock valve with handle available
- Safety valve and subs to fit all drill string connections in use
- All BOPE connections subjected to well pressure shall be flanged, welded, or clamped*
- Fill-up line above the uppermost preventer

**Casing Program**

| Hole Size (in) | Casing/Tubing Size (in) | Wt. (#/ft) | Grade | Connection | Length (ft) | Setting Depth (MDft) |
|---|---|---|---|---|---|---|
| 13 ½” | 9-5/8” | 36 | J-55 | STC | 1500 | 1500 |
| 7 7/8” | 4- ½” | 11.6 | N-80 | LTC | 8163 | 8163 |

| 9 5/8”, 36#, J55, STC | Collapse | Burst | Tensile, Joint St. | ID | Make-Up Torque Ft-lbs |
|---|---|---|---|---|---|
| **100%** | 2,020 psi | 3,520 psi | 394,000 lbs | 8.921”<br>8.765” drift | Min – 2960<br>Opt – 3940<br>Max - 4930 |
| **80%** | 1,616 psi | 2,816 psi | 315,200 lbs | | |

The surface casing string 9 5/8” will be centralized using bow spring centralizers. The bottom (3) joints of casing will be centralized, from that point up, one centralizer will be run on every third joint to surface.

| 4 ½ ”, 11.6#, N-80, LTC | Collapse | Burst | Tensile | ID | Make-Up Torque Ft-lbs |
|---|---|---|---|---|---|
| **100%** | 6,350 psi | 7,780 psi | 267,000 lbs | 4.00”<br>3.875” drift | Min – 1710<br>Opt – 2280<br>Max - 2850 |
| **80%** | 5,080 psi | 6,224 psi | 213,600 lbs | | |

The production casing 4 ½” will be centralized using bow spring centralizers and/or ridged body centralizers as follows: Every joint for first 3 joints, every other joint to 1300’ and every third joint from 1300 ft back to surface.

## I. <u>Cementing Program</u> Casing and Cementing Program:

B. Surface Casing

1. Hole Size: 13-1/2”
2. Casing: Approximately 1500’ of 9-5/8”, 36#, J-55, ST&C casing.
3. Casing Hardware: 1 Guide Shoe, 1 Float Collar, 1 Stop Ring, 19 Centralizers, 1 Thread Lock, 2 Cement Baskets and 1 Top Plug.
4. Cement: Calculate for 75% excess to bring cement to surface with casing on bottom. Cement as follows:

   Lead: 342 sxs Econocem w/ 2% Gel & 2% $CaCl_2$, 12.3 ppg, 2.38 ft3/sx yld

   Tail: 350 sxs Class G w/ 2% Gel & 2% $CaCl_2$, 14.8 ppg, 1.34 ft3/sx yld

   Top job as required to fill 9-5/8” x 13-1/2” annulus to surface with Class G cement containing 2% Calcium Chloride. Wait on cement four hours before slacking off casing.

C. Production Casing:

1. Hole Size: 7-7/8”
2. Casing: Approximately 8163’ of 4-1/2”, 11.6#, N-80, LT&C casing.
3. Casing Hardware: 1 Float Shoe, 1 Float Collar, 1 Stop Ring, 132 Centralizers, 1 Thread Lock, 1 Bottom Plug, 2 Cement Baskets and 1 Top Plug.
4. Cement: 15% excess cement over hole volume to bring top of cement to a depth of 1300’ (200’ inside surface casing). Cement as follows:

   Lead: 250 sxs Premium Type V Cmt w/ 16% gel, 11.0 ppg, 3.82 ft3/sx yld

   Tail: 500 sxs Premium Lite w/ 65% Class G, 35% Poz w/ 6% Gel, 13.1 ppg, 1.70 ft3/sx yld

A water quality analysis will be performed on the mix water used in cementing to ensure adequate cement properties. This analysis will be submitted to the BLM.

**Mud Program**

| Interval | Mud Description | Weight | Viscosity | Wtr Loss |
|---|---|---|---|---|
| Surface to 1500' MD | LSND/PHPA | 8.4–8.6 | 30 – 45 | Less than 8 – 12 cc's |
| 1500-8163'MD (8100' TVD) | LSND/PHPA | 8.6– 9.2 | 30 - 45 | Less than 10 cc's at TD |

Both electrical and mechanical fluid monitoring will be used to monitor the drilling fluid in the well bore. Each tank volume, flow rate, as well as total hole and surface volumes will be monitored on a continuous basis using a Mud Monitoring system.

A closed loop system shall consist of steel tanks and solids control equipment to hold the drilling fluid while the cuttings are routed to the cuttings trench.

Products to be used:

| Product | Description | Function | Concentration |
|---|---|---|---|
| *New Bar* | Barium Sulfate | Weighting Material | As required for slugs and mud weight |
| *NewGel* | Bentonite | Viscosifier | 15-20 ppb |
| *Caustic Soda* | Sodium Hydroxide | Alkalinity Control | 0.15-0.25 ppb |
| *NewPHPA* | PHPA | Viscosifier / Encapsulator | 0.5 ppg |
| *NewPac* | Polyanionic Cellulose | Fluid Loss | 0..5-1.0 ppb |
| *Soda Ash* | $NA_2CO_3$ | Calcium Precipitant | As required |
| *Maxiseal* | LCM Blend | LCM Material | As required |
| *Sawdust* | Wood Fibers | LCM Material | As required |
| *NewCarb* | Calcium Carbonate | LCM Material | As required |
| *DynaFiber* | Microcellulose Fiber | LCM | As required |
| *NewEase* | Proprietary | ROP enhancer | As required |
| *KCL* | Potassium Chloride | Inhibitor | 2% |

**Logging Program**

| Type Log Suite | Interval Top | Interval Bottom |
|---|---|---|
| Resistivity | Surface | TD |
| Density-Neutron | Surface | TD |
| Gamma Ray | Surface | TD |

**Coring Program**

| Core No. | Formation | Est. Depth ft | Core Length (ft) |
|---|---|---|---|
| None planned | | | |

**Water Source**

The freshwater required for the drilling operation will be trucked in from the nearest local water source (Newcastle). Estimated water usage is ~4000 bbls.`

**Additional Information**

1) Normal pressures are expected.
2) Maximum expected bottom hole pressure: 3312 psi
3) Maximum expected bottom hole temperature: 180 deg F
4) H2S is not expected.
5) The well will be directionally drilled. Please see Directional vertical section plan as well as the side view along with the trajectory for deviation program. Maximum angle is 12° with an Azimuth of 200°, KOP will be at 200 ft.
6) Bottomhole target will be a 100’ radius.

Attached to Form 3160-3