

FORM  
2

Rev  
08/13

State of Colorado

Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

400498622

APPLICATION FOR PERMIT TO:

☒ Drill ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER \_\_\_\_\_

Refilling ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Date Received:

10/30/2013

Well Name: DIAMOND VALLEY EAST

Well Number: 9

Name of Operator: TEKTON WINDSOR LLC

COGCC Operator Number: 10392

Address: 640 PLAZA DRIVE #290

City: HIGHLANDS  
RANCH

State: CO

Zip: 80129

Contact Name: CLAYTON DOKE

Phone: (720)420-5700

Fax: (720)420-5800

Email: cdoke@iptengineers.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20110188

WELL LOCATION INFORMATION

QtrQtr: SWSW Sec: 23 Twp: 6N Rng: 67W Meridian: 6

Latitude: 40.467750

Longitude: -104.869810

Footage at Surface: 928 feet FNL/FSL FSL 155 feet FEL/FWL FWL

Field Name: WATTENBERG

Field Number: 90750

Ground Elevation: 4769

County: WELD

GPS Data:

Date of Measurement: 08/19/2013 PDOP Reading: 1.7 Instrument Operator's Name: MARK ANGELL

If well is ☐ Directional ☒ Horizontal (highly deviated) submit deviated drilling plan.

Footage at Top of Prod Zone: FNL/FSL FEL/FWL Bottom Hole: FNL/FSL FEL/FWL  
1815 FSL 460 FEL 1815 FSL 460 FWL  
Sec: 22 Twp: 6N Rng: 67W Sec: 22 Twp: 6N Rng: 67W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Surface Owner is: ☐ is the mineral owner beneath the location.

(check all that apply) ☐ is committed to an Oil and Gas Lease.

☐ has signed the Oil and Gas Lease.

☒ is the applicant.

The Mineral Owner beneath this Oil and Gas Location is: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: No

The right to construct the Oil and Gas Location is granted by: applicant is owner

Surface damage assurance if no agreement is in place:

Surface Surety ID:

## LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

Township 6 North, Range 67 West, Section 22: SW/4

Total Acres in Described Lease: 160 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 908 Feet  
Building Unit: 949 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 906 Feet  
Above Ground Utility: 1349 Feet  
Railroad: 1405 Feet  
Property Line: 155 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a: ☒ Buffer Zone  
☐ Exception Zone  
☐ Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 09/01/2013

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 0 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

## SPACING & FORMATIONS COMMENTS

Township 6 North, Range 67 West, Section 22; S/2

## OBJECTIVE FORMATIONS

| Objective Formation(s) | Formation Code | Spacing Order Number(s) | Unit Acreage Assigned to Well | Unit Configuration (N/2, SE/4, etc.) |
|------------------------|----------------|-------------------------|-------------------------------|--------------------------------------|
| NIOBRARA               | NBRR           |                         | 320                           | GWA                                  |

## DRILLING PROGRAM

Proposed Total Measured Depth: 11746 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 0 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H<sub>2</sub>S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? No

BOP Equipment Type: ☒ Annular Preventor ☒ Double Ram ☐ Rotating Head ☐ None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: \_\_\_\_\_ or Document Number: 2167132

## CASING PROGRAM

| Casing Type | Size of Hole | Size of Casing | Wt/Ft | Csg/Liner Top | Setting Depth | Sacks Cmt | Cmt Btm | Cmt Top |
|-------------|--------------|----------------|-------|---------------|---------------|-----------|---------|---------|
| SURF        | 12+1/4       | 9+5/8          | 36    | 0             | 500           | 265       | 500     | 0       |
| 1ST         | 8+3/4        | 7              | 23    | 0             | 7449          | 708       | 7449    | 3000    |
| 1ST LINER   | 6+1/8        | 4+1/2          | 11.6  | 6310          | 11746         |           |         |         |

☒ Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- ☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- ☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- ☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- ☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- ☒ Rule 318A.a. Exception Location (GWA Windows).
- ☒ Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number \_\_\_\_\_

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- ☐ Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

**OPERATOR COMMENTS AND SUBMITTAL**

Comments

Pad slot #9. This well is a Rule 318A.a.(4)D Horizontal GWA Well; PSU Map is attached. Operator notified via certified mail on 09/4/13 all owners as defined in C.R.S. §34-60-103(7) within the proposed spacing unit and received no written objections. Tekton respectfully requests that the Rule 318A.a.(4)D Horizontal well and proposed spacing unit be approved. Applicant is surface owner and waives Rule 318A.a & 318A.c. Request is attached

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: 435083

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

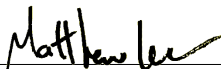
Signed: \_\_\_\_\_ Print Name: CLAYTON DOKE

Title: SENIOR ENGINEER Date: 10/30/2013 Email: cdoke@iptengineers.com

Operator must have a valid water right or permit allowing for industrial use or purchased water from a seller that has a valid water right or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_



Director of COGCC

Date: 1/3/2014

Expiration Date: 01/02/2016

**API NUMBER**

05 123 38760 00

### Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

#### COA Type

#### Description

|  |  |
|--|--|
|  | 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.<br>2) Comply with Rule 317.i and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara and from 200' below Shannon to 200' above Sussex. Verify coverage with cement bond log.<br>3) Comply with Rule 321. Run and submit Directional Survey from TD to base of surface casing. Ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well. |
|  | Operator shall comply with Buffer Zone Move-In, Rig-Up Notice Policy dated 12-16-2013.   |

### Best Management Practices

#### No BMP/COA Type

#### Description

|   |                 |   |
|---|-----------------|---|
| 1 | Planning        | Multi-well Pads. It is a multi-well pad located in a manner which allows for resource extraction while maintaining the highest distances possible from the offsetting residential areas |
| 2 | Traffic control | Traffic Plan. Traffic plans will be reviewed with the Town of Windsor in order to minimize impact to streets and residents.   |
| 3 | Traffic control | Access roads. The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times.  |

|    |  |  |
|----|--|--|
| 4  | General Housekeeping                   | Fencing requirements. A permanent plan will be reviewed by the surface owner, the applicant  |
| 5  | General Housekeeping                   | Removal of surface trash. All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as applicable.  |
| 6  | Material Handling and Spill Prevention | Leak Detection Plan. Pumper will visit the location daily and visually inspect all tanks and fittings for leaks. Additionally, monthly documented SPCCP inspections are conducted pursuant to 40 CFR §112.   |
| 7  | Material Handling and Spill Prevention | Loadlines. All loadlines shall be bullplugged or capped.   |
| 8  | Material Handling and Spill Prevention | Tank specifications. Tanks will be designed, constructed and maintained in accordance with NFPA Code 30. The tanks are visually inspected once a day for issues, and recorded inspections are conducted once a month   |
| 9  | Construction                           | Berm construction. Tank berms shall be constructed of steel rings with a synthetic or engineered liner and designed to contain 150% of the capacity of the largest tank. All berms will be visually checked periodically to ensure proper working condition  |
| 10 | Emissions mitigation                   | Green Completions – Emission Control Systems. Test separators and associated flow lines and sand traps shall be installed on-site to accommodate Green completions techniques pursuant to COGCC Rules. In the anticipated absence of a viable gas sales line, the flowback gas shall be thermally oxidized in an emissions control device (ECD), which will be installed and kept in operable condition for least the first 90-days of production pursuant to CDPHE rules. This ECD shall have an adequate capacity for 1.5 times the largest flowback within a 10 mile radius, will be flanged to route gas to other or permanent oxidizing equipment and shall be provided with the equipment needed to maintain combustion where non-combustible gases are present. |
| 11 | Drilling/Completion Operations         | Closed Loop Drilling Systems – Pit Restrictions. Not applicable; a closed-loop system will be used for drilling.   |
| 12 | Drilling/Completion Operations         | Blowout preventer equipment (“BOPE”). A double ram and annular preventer will be used during drilling. At least the drilling company shall have a valid well blowout prevention certifications.  |
| 13 | Drilling/Completion Operations         | BOPE for well servicing operations. Adequate BOP equipment shall be used. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid.   |
| 14 | Drilling/Completion Operations         | Pit level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug.  |
| 15 | Drilling/Completion Operations         | Drill stem tests. Not applicable; no Drill Stem tests are planned.   |
| 16 | Drilling/Completion Operations         | Control of fire hazards. All materials which are considered fire hazards shall be a minimum of 25' from the wellhead tanks or separators. Electrical equipment shall comply with API RP 500 and will comply with the current national electrical code. An emergency response plan has been generated for this site, please see the attached “EMERGENCY RESPONSE AND FIRE PROTECTION PLAN: DIAMOND VALLEY EAST LOCATION”  |
| 17 | Drilling/Completion Operations         | Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q.   |

|    |                                |  |
|----|--------------------------------|--|
| 18 | Drilling/Completion Operations | Anti-collision BMP: Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an asconstructed gyro survey will be submitted to COGCC with the Form 5. |
| 19 | Drilling/Completion Operations | Will comply with COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.  |
| 20 | Final Reclamation              | Well site cleared. Within 90-day subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site.   |
| 21 | Final Reclamation              | Identification of plugged and abandoned wells. P&A'd wells shall be identified pursuant to 319.a.(5).  |

Total: 21 comment(s)

### **Applicable Policies and Notices to Operators**

Notice Concerning Operating Requirements for Wildlife Protection.

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.

### **Attachment Check List**

| <b><u>Att Doc Num</u></b> | <b><u>Name</u></b>         |
|---------------------------|----------------------------|
| 400498622                 | FORM 2 SUBMITTED           |
| 400505111                 | OffsetWellEvaluations Data |
| 400505116                 | PROPOSED SPACING UNIT      |
| 400505117                 | DEVIATED DRILLING PLAN     |
| 400505118                 | DIRECTIONAL DATA           |
| 400505119                 | WELL LOCATION PLAT         |
| 400505121                 | EXCEPTION LOC REQUEST      |
| 400510202                 | WAIVERS                    |
| 400510205                 | VARIANCE REQUEST           |
| 400520557                 | VARIANCE REQUEST           |

Total Attach: 10 Files

### **General Comments**

| <b><u>User Group</u></b> | <b><u>Comment</u></b>  | <b><u>Comment Date</u></b> |
|--------------------------|--|----------------------------|
| Permit                   | Final review complete.   | 12/31/2013<br>8:00:14 AM   |
| Permit                   | Opr has the following comment regarding waiver of Exception Loc. " Applicant is surface owner and waives Rule 318A.a & 318A.c. Request is attached.  | 12/12/2013<br>1:08:07 PM   |
| LGD                      | <p>Please be advised that the subject property is located within the Town's Growth Management Area (GMA).The Town's Comprehensive Plan states, "The GMA is intended to define those specific areas within the planning area where it is most logical to extend urban services in the near term, that is, within the next five to ten years."</p> <p>Below please find the conditions of approval that are typically applied to conditional use grants for oil and gas operations located within Town.Therefore, the Town recommends the following conditions be placed on the subject oil and gas facilities:</p> <p>CONDITIONS:</p> | 12/11/2013<br>10:55:42 AM  |

|  |  |  |
|--|--|--|
| <p>1. Prior to the commencement of drilling, the applicant shall submit comprehensive "Drilling and Site Improvement Plans" for review and approval by the Town. Such plans shall address initial drilling activities, initial installation of site improvements and details, and on-going perpetual maintenance of the subject site including, but not limited to, the following:</p> <p>a. Site access plan. The Drilling and Site Improvement Plans and supplemental information shall address site access points and haul routes for review and approval.</p> <p>b. Public street clean-up and tracking prevention. The Drilling and Site Improvement Plans and supplemental information shall include a tracking pad for review and approval.</p> <p>c. Site grading. The Drilling and Site Improvement Plans and supplemental information shall address site grading, including any earth berms for emergency containment.</p> <p>d. Site lighting. The Drilling and Site Improvement Plans and supplemental information shall include details regarding site lighting fixtures and locations. Security and other site lighting shall utilize full cutoff light fixtures to mitigate light pollution.</p> <p>e. Temporary screening. The applicant shall install a buffer to screen the initial drilling activities and installation of site improvements from surrounding neighborhoods and streets. The temporary buffer shall include hay bales to enclose the drilling operations to provide noise mitigation.</p> <p>f. Permanent screening. Given the close proximity to residential neighbors, the Drilling and Site Improvement Plans shall depict proposed long-term screening materials including landscaping, earth berms and any other screening methods to mitigate visual impacts.</p> <p>g. Fencing. The Drilling and Site Improvement Plans shall depict fencing of the perimeter of the site. Fencing materials shall be reviewed for approval by the Town based upon the character of the surrounding neighborhood.</p> <p>h. Oil and gas equipment.</p> <p>(1) The applicant shall utilize electric motors in order to mitigate the noise impacts to the neighboring properties.</p> <p>(2) The applicant shall ensure that the wells and tanks are of the minimum size required to satisfy present and future functional requirements to mitigate visual impacts.</p> <p>(3) Low profile tanks shall be utilized and shall be installed in the least visible manner possible.</p> <p>(4) All tanks and equipment shall be painted to blend-in with the surrounding landscape.</p> <p>i. Air quality.</p> <p>(1) The applicant shall participate in any required Environmental Protection Agency (EPA) air quality monitoring and/or testing by allowing EPA to install equipment on site for said monitoring and testing.</p> <p>(2) The applicant shall install and operate an emissions control device (ECD) capable of reducing Volatile Organic Compound (VOC) emissions on the subject oil and gas equipment in accordance with Colorado Oil and Gas Conservation Commission (COGCC) and/or the Colorado Department of Public Health and Environment (CDPHE) rules and regulations.</p> <p>(3) The applicant shall submit to the Town copies of all air emissions reporting as required by the COGCC and/or the CDPHE's Air Pollution Control Division.</p> |  |  |
|--|--|--|

|                     |  |                           |  |
|---------------------|--|---------------------------|--|
|                     | <p>j. Water quality.</p> <p>(1) The applicant shall ensure that any hydrocarbon discharges from the site comply with all state and federal water quality requirements.</p> <p>(2) The applicant shall provide test results from Groundwater Baseline Sampling and Monitoring required by COGCC Rule 318A.e(4) to the Town. (condition updated 10/28/13 to reflect updated COGCC rule)</p> <p>k. Emergency containment. The secondary containment berm surrounding all storage vessels shall be designed and constructed to contain a minimum of 110% of the volume of the largest vessel located within the containment area or to State of Colorado standards, whichever requirements are more stringent.</p> <p>l. Waste disposal. The applicant shall submit to the Town copies of all waste management reports as required by the COGCC and/or the CDPHE rules and regulations.</p> <p>m. The following certification blocks shall be included on the Drilling and Site Improvement Plans:</p> <p>(1) A signed owner's acknowledgement certification block.</p> <p>(2) A signed drilling operator's acknowledgement certification block.</p> <p>n. The following notes shall be included on the Drilling and Site Improvement Plans:</p> <p>(1) The applicant shall comply with all rules and regulations of the Colorado Oil and Gas Conservation Commission (COGCC).</p> <p>(2) The applicant shall comply with all rules and regulations of the Colorado Department of Public Health and Environment (CDPHE).</p> <p>(3) The applicant shall maintain on-going compliance with all conditions of the Town and Windsor-Severance Fire Rescue.</p> <p>(4) The facilities shall be kept clean and otherwise properly maintained at all times.</p> <p>(5) The existing access may be utilized for oil and gas well activities. This access point is temporary and will be required to be removed at such time that permanent access is available in the future.</p> <p>2. The applicant shall address and comply with the conditions of Windsor-Severance Fire Rescue.</p> <p>ACCESS COMMENTS:</p> <p>If access to the site is proposed from a Town of Windsor street, such access point (s) shall require approval from the Town of Windsor Engineering Department and any required access improvements, street clean-up, tracking pads, etc., shall be addressed accordingly.</p> |                           |  |
| Permit              | This form passes completeness.   | 12/3/2013<br>8:47:58 AM   |  |
| Permit              | Returned to draft:<br>Needs anti-collision and Bredenhead BMP's<br>Needs Propose spacing unit description.<br>Needs Exception Loc Waiver.  | 11/12/2013<br>8:26:14 AM  |  |
| Permit              | Returned to draft:<br>Missing 318A.m Variance request letter for well within 150'.   | 10/31/2013<br>11:21:42 AM |  |
| Total: 6 comment(s) |  |                           |  |