

State of Colorado Oil and Gas Conservation Commission

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FOR OGCC USE ONLY

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06/30/2016

UNDERGROUND INJECTION FORMATION PERMIT APPLICATION

Per Rule 325, this form shall be submitted with all required attachments.

A Form 31 – Intent shall be submitted and approved prior to completing an injection zone.

A Form 31 – Subsequent shall be submitted following collection of water samples and injectivity test (if performed) and must be approved prior to injection in any new injection facility.

NOTE: Per Rule 324B, an aquifer exemption is required for any injection formation with water quality less than 10,000 mg/L total dissolved solids (TDS). Contact the Commission for further requirements if the TDS as determined by water analysis for the injection zone is less than 10,000 mg/L.

Form 31 Type [X] Intent [] Subsequent UIC Facility ID 159995 UIC Facility ID Required for Subsequent Form 31

UIC FACILITY INFORMATION

Facility Name and Number: Puckett SWD H2-797 County: GARFIELD
Facility Location: 66 / 2 / 7S / 97W / 6 Field Name and Number: WILDCAT 99999
Facility Type: [] Enhanced Recovery [X] Disposal [] Simultaneous Disposal
Single or Multiple Well Facility? [X] Single [] Multiple

Proposed Injection Program (Required):

Caerus proposes to inject Class II waste fluid into the Ohio Creek Formation at approximately 5829 ftMD with perforations at depths of 6045 feet to 6053 feet. Caerus will perforate and swab test the proposed interval to collect formation fluid samples to show the Ohio Creek interval in this part of field has TDS values >10,000ppm. An extended injection test will then be performed to determine the fracture gradient and a maximum allowable injection pressure. The permeability listed on the enclosed Form 31 is an educated estimate based on other UIC wells in the area. The Ohio Creek Formation comprises conglomerates, sandstones and shales. Due to the depth of the injection zones, no underground sources of drinking water will be affected by this operation. Water samples from the Ohio Creek Formation in this well indicate a TDS above 10,000 ppm TDS. Since the Puckett H2-797 SWD is located on a multi-well pad, a resistivity log will be run on one of the producing wellbores, with data gathered through the Ohio Creek section. Caerus plans to evaluate the data gathered from that log for use in the analysis of the proposed UIC well. The injection skid for the Puckett SWD H2-797 will be placed on the pad location. Fluid will be delivered to the well by pipeline and water truck. The Surface Facility Diagram shows the proposed surface facility outlining all pipelines, tanks and associated facilities. A listing of all sources of water will be submitted via Form 26 at a later date. An estimated total of 170 currently producing wells may potentially use this facility for disposal. Future development could bring that well count to over 200 wellbores, which would all be gathered via the existing pipeline, additional pipelines for future pads or trucks. The UIC well would help in minizing truck traffic in the Rulison area.

OPERATOR INFORMATION

OGCC Operator Number: 10456 Contact Name and Telephone:
Name of Operator: CAERUS PICEANCE LLC Name: Reed Haddock
Address: 1001 17TH STREET #1600 Phone: (720) 880-6369 Fax: (303) 565-4606
City: DENVER State: CO Zip: 80202 Email: rhaddock@caerusoilandgas.com

INJECTED FLUID TYPE

All injected fluids must be Exempt E&P waste per RCRA Subpart C.

(Check all that apply.)

- [X] Produced Water [] Natural Gas [] CO2 [] Drilling Fluids
[] Exempt Gas Plant Waste [] Used Workover Fluids [] Flowback Fluids

[] Other Fluids (describe):

[Empty box for describing other fluids]

Commercial Disposal Facility [] Yes [X] No Commercial UIC Bond Surety ID:

Commercial Facility Description: Describe the physical region of the facility, the details of the operations, and the type of fluids to be injected.

[Empty box for Commercial Facility Description]

PROPOSED INJECTION FORMATIONS

FORMATION (Name): OHIO CREEK Porosity: 12 %
Formation TDS: 15000 mg/L Frac Gradient: 0.7 psi/ft Permeability: 350 mD
Proposed Stimulation Program: Acid Frac Treatment None

ANTICIPATED FACILITY OPERATIONS CONDITIONS

Under normal operating conditions, estimated TOTAL fluid injection rates and pressures for this facility:

FOR WATER: Daily Injection Rate Range From 100 to 8000 bbls/day
Surface Injection Pressure Range From 850 to 2500 psi
FOR GAS: Daily Injection Rate Range From _____ to _____ mcf/day
Surface Injection Pressue Range From _____ to _____ psi

Estimated Initial Injection Date: 12/1/2016

AREA OF REVIEW OIL and GAS WELL EVALUATION SUMMARY

Review all existing wells within 1/2 mile for injection formation isolation.

Area Review Date: 6/27/2016

Total number of Oil & Gas Wells within Area of Review:

ABANDONED WELLS (All wells that have been plugged: PA and DA status))

| | |
|-----------------------------|--------------------------------|
| Total within Area of Review | <input type="text" value="0"/> |
| Number To Be Re-Plugged | <input type="text" value="0"/> |

ACTIVE WELLS (All wells that have not been plugged: AC, DG, DM, IJ, PR, SU, SI, TA, WO, XX, UN status)

| | |
|--------------------------------|---------------------------------|
| Total within Area of Review | <input type="text" value="35"/> |
| Number Requiring Casing Repair | <input type="text" value="0"/> |
| Number To Be Plugged | <input type="text" value="0"/> |

Operator's Area of Review Contact Email: nnaeve@caerusoilandgas.com

No Wells within 2,640'

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

Print Name: Reed Haddock Signed: _____

Title: Sr. Regulatory Specialist Date: 6/30/2016 4:17:13 PM

COGCC Approved: *Matthew Lee* Date: 09/01/2016

Form 31 - Intent Expiration Date: 03/01/2017

Per Rule 325.o, a 90 day extension of the Expiration Date may be requested via a Sundry Notice, Form 4 submitted prior to Form 31- Intent expiration

Order Number: _____ UIC FACILITY ID: 159995

CONDITIONS OF APPROVAL, IF ANY:

| COA Type | Description |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Retrieve water sample(s) from injection zone(s) before stimulating formation. Samples must be analyzed for Total Dissolved Solids at a minimum. |
| | Prior approval of Form 4 is required for further or additional step rate and injectivity tests. Note that some pressure and injectivity data has been collected. Any new attempts to collect additional data will require an Approved Sundry for an Intent to Do Work including discussion of proposed activities with COGCC Staff. |
| | Injection is not authorized until approval of Subsequent Forms 31 and 33. |
| | Operator is required to perform additional Mechanical Integrity Tests ("MITs") at five (5) year intervals from the first test date reported here. If the downhole well configuration is changed at any time an MIT must be performed before the well is returned to injection. |
| | One year after the initial injection date Operator is required to file a Form 4-Sundry Notice with injected water analysis. Minimum analyses are TDS, major cations, and major anions. Data must also be submitted to COGCC Database in Electronic Data Deliverable (EDD) format. After the initial 1-year analysis, the analysis shall be repeated at five (5) year intervals. |

Attachment Check List

| Att Doc Num | Name |
|--------------------|-----------------------------------------------|
| 400883287 | COMBINATION OPEN HOLE-PDF |
| 400883690 | CEMENT BOND-PDF |
| 400883693 | CEMENT BOND-TIF |
| 400884247 | COMBINATION OPEN HOLE-PDF |
| 400886579 | COMBINATION OPEN HOLE-LAS |
| 400886584 | COMBINATION OPEN HOLE-LAS |
| 401067216 | FORM 31-INTENT-SUBMITTED |
| 401067256 | SURFACE USE AGREEMENT FOR SALT WATER DISPOSAL |
| 401067257 | CERTIFIED MAIL RECEIPT(S) |
| 401067259 | MAP OF SURFACE OWNERS ¼-MILE |
| 401067260 | MAP OF MINERAL OWNERS ¼-MILE |
| 401067285 | LIST OF MINERAL OWNERS ¼-MILE |
| 401067286 | LIST OF SURFACE OWNERS ¼-MILE |
| 401067287 | WELLBORE DIAGRAM-PROPOSED |
| 401067295 | OIL & GAS WELL PLAT |
| 401067296 | SURFACE FACILITY DIAGRAM |
| 401067297 | NOTICE TO SURFACE & MINERAL OWNERS |
| 401067298 | MAP OF O&G WELLS IN AREA OF REVIEW |
| 401069483 | OFFSET WELL EVALUATION |

Total Attach: 19 Files

General Comments

| User Group | Comment | Comment Date |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| UIC | Open hole TCombo logs from Puckett 42D-2 (API: 045-22618-closest) and Puckett 42B-2 (045-22626) used for this well. Ohio Creek interval adequately covered and wells go much deeper into section. | 9/1/2016 4:37:39 PM |

Total: 1 comment(s)