

State of Colorado
Oil and Gas Conservation Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109

FOR OGCC USE ONLY

Document Number:

401270179

Date Received:

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

☐ Intent☒ Subsequent

UIC Facility ID 160002

UIC Facility ID Required for Subsequent
Form 31

UIC FACILITY INFORMATION

Facility Name and Number: EWS 4 County: WELD

Facility Location: NWSW / 17 / 2N / 63W / 6 Field Name and Number: WATTENBERG 90750

Facility Type: ☐ Enhanced Recovery ☒ Disposal ☐ Simultaneous DisposalSingle or Multiple Well Facility? ☐ Single ☒ Multiple

Proposed Injection Program (Required):

Two wells, EWS 4 and EWS 4A, will be drilled and linked to the EWS facility #4 by buried lines. Both wells will be completed in the Denver Basin Combined Disposal Zone, which at this site will consist of every formation from the top of the Lyons into the middle of the Fountain. The facility will take a variety of Class II waste, including produced water, flowback water, used workover fluids, and exempt gas plant waste.

OPERATOR INFORMATION

OGCC Operator Number: 10649

Name of Operator: EWS 4 DJ BASIN LLC

Address: 1023 39TH AVENUE SUITE E

City: GREELEY State: CO Zip: 80634

Contact Name and Telephone:

Name: Jeremiah Demuth

Phone: (303) 290-9414 Fax: ()

Email: jdemuth@petrotek.com

INJECTED FLUID TYPE

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

(Check all that apply.)

☒ Produced Water ☐ Natural Gas ☐ CO2 ☒ Drilling Fluids☒ Exempt Gas Plant Waste ☒ Used Workover Fluids ☒ Flowback Fluids☐ Other Fluids (describe):Commercial Disposal Facility ☒ Yes ☐ No Commercial UIC Bond Surety ID: 20170005

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

The EWS Facility #4 will serve the Greater Wattenberg area and the surrounding fields. The facility will accept for injection the following fluids: produced water, drilling fluids, flowback fluids, exempt gas plant waste, and used workover fluids. The EWS 4 and 4A wells will be linked to the EWS Location #4 by buried pipelines. This will allow the two vertical wells to have a standoff of more than one-half mile from each other. An unloading station will be constructed at the EWS Facility #4 where there will be water and oil tanks. Produced water will be pumped through buried 4" heavy duty pipelines to the EWS 4 and 4A wells.

PROPOSED INJECTION FORMATIONS

FORMATION (Name): ADMIRE Porosity: 10 %
 Formation TDS: 34890 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): AMAZON Porosity: 10 %
 Formation TDS: 34890 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): COUNCIL GROVE Porosity: 10 %
 Formation TDS: 34890 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): DENVER BASIN COMBINED DISPOSAL ZONE Porosity: 10 %
 Formation TDS: mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): FOUNTAIN Porosity: 10 %
 Formation TDS: 17190 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): LOWER SATANKA Porosity: 10 %
 Formation TDS: 16300 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): LYONS Porosity: 10 %
 Formation TDS: 20090 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): MISSOURI Porosity: 10 %
 Formation TDS: 16290 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): VIRGIL Porosity: 10 %
 Formation TDS: 16290 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 mD
 Proposed Stimulation Program: ☒ Acid ☐ Frac Treatment ☐ None

FORMATION (Name): WOLFCAMP Porosity: 10 %
 Formation TDS: 16300 mg/L Frac Gradient: 0.45 psi/ft Permeability: 12 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 30000 to 40000 bbls/day
Surface Injection Pressure Range From 1000 to 2600 psi
FOR GAS: Daily Injection Rate Range From _____ to _____ mcf/day
Surface Injection Pressue Range From _____ to _____ psi

Estimated Initial Injection Date: 5/1/2017

AREA OF REVIEW OIL and GAS WELL EVALUATION SUMMARY

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

Area Review Date: 9/14/2016

Total number of Oil & Gas Wells within Area of Review: 9

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

Total within Area of Review	3
Number To Be Re-Plugged	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	8
Number Requiring Casing Repair	0
Number To Be Plugged	0

Operator's Area of Review Contact Email: jdemuth@petrotek.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: Jeremiah Demuth Signed: _____

Title: Engineering Technician Date: _____

COGCC Approved: _____ Date: _____

Form 31 - Intent Expiration Date: _____

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: 160002

CONDITIONS OF APPROVAL, IF ANY:

<u>COA Type</u>	<u>Description</u>
-----------------	--------------------

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401270216	STEP RATE/INJECTIVITY TEST DOCUMENTATION
401270217	STEP RATE/INJECTIVITY TEST DOCUMENTATION
401270218	MAXIMUM INJECTION VOLUME CALCULATION
401270219	MAXIMUM INJECTION VOLUME CALCULATION
401270221	MAP OF MINERAL OWNERS ¼-MILE
401270223	WELLBORE DIAGRAM-SUBSEQUENT
401270227	WELLBORE DIAGRAM-SUBSEQUENT
401270231	ANALYSIS OF INJECTION ZONE WATER

Total Attach: 8 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)