

State of Colorado
Oil and Gas Conservation Commission

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FOR OGCC USE ONLY

Document Number:

2493970

Date Received:

12/11/2014

UNDERGROUND INJECTION FORMATION PERMIT APPLICATION

1. Submit original and one copy of this form.
2. If data on this form is estimated, indicate as such.
3. Attachments - see checklist and explanation of attachments.
4. Aquifer exemption is required for all injection formations with water quality < 10,000 TDS (Rule 322B). Immediately contact the Commission for further requirements if the total dissolved solids (TDS) as determined by water analysis for the injection zone is less than 10,000 ppm.
5. Attach a copy of the certified receipt to each notice to surface and mineral owner(s) or submit a sample copy of the notice and an affidavit of mailing or delivery with names and addresses of those notified. Each person notified shall be specified as either a surface or mineral owner as defined by C.R.S. 34-60-103(7).

OPERATOR INFO

OGCC Operator Number: <u>10373</u> Name of Operator: <u>NGL WATER SOLUTIONS DJ LLC</u> Address: <u>3773 CHERRY CRK NORTH DR #1000</u> City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80209</u>	Contact Name and Telephone: Name: <u>Paul Gottlob</u> Phone: <u>(720) 420-5747</u> Fax: <u>()</u> Email: <u>paul.gottlob@iptenergyservices.com</u>
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Facility Name: NGL C6A Facility Location: SWSE / 30 / 3N / 65W / 6

Facility Type: Enhanced Recovery Disposal Simultaneous Disposal

Single or Multiple Well Facility? Single Multiple

County: WELD Field Name and Number: WATTENBERG 90750

Injection Fluid Type: Produced Water Natural Gas CO2 Drilling Fluids
 Exempt Gas Plant Waste Used Workover Fluids Other Fluids (describe):

Commercial Facility? Yes No

If Yes, describe area of operation and types of fluids to be injected at this facility:

PROPOSED INJECTION PROGRAM
 NGLC6A: The NGL C6A well will take produced water from nearby oil & gas wells in the Wattenberg & other nearby fields. Water will be trucked to the adjacent Surface Facility where residual hydrocarbons and sediments will be removed before injection. Under normal operating conditions, estimated fluid injection rates for produced water will be a minimum of 10,000 bbls per day @ 2200 psi to a maximum of 19,440 bbls per day @ 2250 psi. A Step Rate Test will be used to determine maximum injection pressure. The above volumes are estimated for the single new well to be added to the existing injection facility (COGCC Comment: facility in this case means surface installation, not downhole injection facility) at the NGL C6 Location #310159.

PROPOSED INJECTION FORMATIONS

FORMATION (Name): WOLFCAMP Porosity: 0

Formation TDS: 12846 Frac Gradient: 0.683 psi/ft Permeability: 7

Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): VIRGIL Porosity: 4

Formation TDS: 26665 Frac Gradient: 0.683 psi/ft Permeability: 7

Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): MISSOURI Porosity: 4
 Formation TDS: 44879 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): LYONS Porosity: 7
 Formation TDS: 16960 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): LOWER SATANKA Porosity: 0
 Formation TDS: 13526 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): FOUNTAIN Porosity: 4
 Formation TDS: 44879 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): DES MOINES Porosity: 4
 Formation TDS: 40693 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): COUNCIL GROVE Porosity: 7
 Formation TDS: 12846 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): ATOKA Porosity: 8
 Formation TDS: 40693 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): AMAZON Porosity: 5
 Formation TDS: 12846 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

PROPOSED INJECTION FORMATIONS

FORMATION (Name): ADMIRE Porosity: 4
 Formation TDS: 36142 Frac Gradient: 0.683 psi/ft Permeability: 7
 Proposed Stimulation Program: Acid Frac Treatment None

Anticipated Project Operating Conditions

Under normal operating conditions, estimated fluid injection rates and pressures:

FOR WATER: A minimum of 10000 bbls/day @ 2200 psi to A maximum of 19440 bbls/day @ 2250 psi

FOR GAS: A minimum of _____ mcf/day @ _____ psi to A maximum of _____ mcf/day @ _____ psi

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

Print Name: Paul Gottlob Signed: _____

Title: Reg & Engineering Tech Date: 12/11/2014 12:00:00 AM

OGCC Approved:  Title: _____ Date: 05/01/2015

Order No: _____

UIC FACILITY NO: 159967

CONDITIONS OF APPROVAL, IF ANY:

COA Type

Description

	The maximum injected fluid volume limitation is 18,925,705 bbl from the date of this approval. The maximum authorized surface injection pressure is 2,250 psig, based on a measured fracture gradient of 0.68 psig/ft. The initial maximum authorized daily injection rate shall be 10,000 bbls/day. NGL must confer with COGCC if in the future it wishes to increase the daily injection rate above 10,000 bbls/day.
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Attachment Check List

Att Doc Num

Name

2092857	SURFACE AGRMT/SURETY
2092858	MAP O&G/WATER WELLS 1/4-MILE
2092859	LIST OF SURFACE OWNERS 1/4-MILE
2092860	MAP OF SURF. OWNERS 1/4 MILE
2092861	LIST OF MIN. OWNERS 1/4 MILE
2092862	MAP OF MIN. OWNERS 1/4 MILE
2092863	WELLBORE DIAGRAM
2493970	FORM 31 SUBMITTED
2493971	NOTICE TO SURFACE & MINERAL OWNERS
2493973	LIST OF O&G/WATER WELLS 1/2-MILE
2618335	CORRESPONDENCE-INJECTION PROGRAM
2618336	CORRESPONDENCE-AREA OF OP STATEMENT
2618386	PROOF OF PUBLICATION
2618390	INJECTION VOLUME CALCULATION
2618391	FRACTURE GRADIENT CALCULATION
2618392	MAXIMUM INJECTION PRESSURE CALC
2618393	HYDROLOGY INFO REQUEST
2618394	SEISMIC EVALUATION REQUEST
2618506	AREA OF REVIEW SPREADSHEET
400826703	MECHANICAL INTEGRITY TEST

Total Attach: 20 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
UIC	NGL shall submit a Form 4 Sundry Notice notifying the COGCC of the date of initial injection within thirty (30) days of initial injection.	5/1/2015 12:07:54 PM
UIC	NGL is required to monitor for seismic activity in the NGL C6A area. Currently a seismometer installed at or near the NGL-NGL C3A well site provides adequate coverage that includes the NGL C6B location. NGL is responsible for maintenance of this seismometer. If the NGL C3A Facility is closed the seismometer must be retained and maintained for continuing monitoring of any NGL wells that have not been plugged and abandoned within a 20 kilometer (12.4 mile) radius. Data gathered by the seismometer will be made available to one or more third parties (such as the USGS, CU-Boulder, CSM, or CSU) for analysis.	5/1/2015 12:05:04 PM
UIC	Robert Koehler at COGCC performed Area of Review as test of system.	5/1/2015 11:47:34 AM
UIC	Updated Form 31 porosities using 4/14/2015 Form 31 submission.	4/17/2015 12:16:54 PM

Total: 4 comment(s)