



4. Facility Owner (R317-7-9.1(D)(4) and [40CFR144.31\(e\)\(4\)](#)):

Name: Millville City  
(Individual, Corporation or Other Legal Entity)

Address: PO Box 308  
(Permanent Mailing Address)

City: Millville State: UT Zip: 84326

Telephone Number: 435-750-0924

5. Facility status: Federal \_\_\_\_\_ State \_\_\_\_\_  
Private \_\_\_\_\_ Public  Other \_\_\_\_\_  
(R317-7-9.1(D)(4); [40CFR144.31\(e\)\(4\)](#)) (Indicate)

6. List those persons or firms authorized to act for the applicant during the processing of the permit application. Include a complete mailing address and telephone number:

7. List all activities conducted at this facility that require an environmental permit under federal, state, or local statutes, rules or ordinances.  
(R317-7-9.1(D)(1) and [40CFR144.31\(e\)\(1\)](#)):

8. List all environmental permits or construction approvals received or applied for relevant to this facility or this location under federal, state, or local statutes, rules or ordinances.  
(R317-7-9.1(D)(6) and [40CFR144.31\(e\)\(6\)](#))

9. Provide a brief description of the aquifer storage and recovery or aquifer recharge project(s) (include appropriate North American Industry Classification System (NAICS) Codes).  
(R317-7-9.1(D)(3) and [40CFR144.31\(e\)\(3\)](#) and [\(8\)](#))

10. Location of Proposed ASR or AR Project (R317-7-9.1(D)(2) and [\(40CFR144.31\(e\)\(2\)\)](#)):

Facility name: Millville City

Facility mailing address: PO Box 308 Millville, UT 84326

Facility location description: Glenridge Well

Street address: 350 N. 200 E.

City: Millville

County: Cache Lease: \_\_\_\_\_

No. of Wells\* : 1

For each well provide the following:

Township; Range; Section; and 1/4, 1/4 Section: \_\_\_\_\_

UTM Northing (NAD 83 UTM 12, Meters): \_\_\_\_\_

UTM Easting (NAD 83 UTM 12, Meters): \_\_\_\_\_

\* Location(s) of injection well(s) should be identified on all maps included in the Technical Report.

11. Are the proposed injection well(s) located on Indian land?  Yes  No  
(R317-7-9.1(D)(5) and [40CFR144.31\(e\)\(5\)](#))

12. Submit the Technical Report with Application

Note: All applications for a Utah UIC permit, including any required Technical Report including technical information necessary for the adequate evaluation of any permit application, or any permit renewal applications and associated Technical Reports that are significantly different from the original permit application, must be prepared by or under the direction, and bear the seal, of a professional geologist or professional engineer. (R317-7-6.9).



See attached

13. Certification of information submitted on application form and in the Technical Report (R317-7-9.3 and [40CFR144.32](#)).

Corey Twedt

(Name of Company Official: Type or Print Legibly)

City Recorder

(Title)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Date: 2/26/18

SUBSCRIBED AND SWORN to before me this 26 day of February, 20 18.

My commission expires on the 01 day of Nov, 20 21.

Nikole Lopez

Notary Public in and for

Cache County, Utah

(SEAL)



6) Persons or Firms Authorized to Act for the Applicant

Name	Title	Organization
Gary Larsen	Public Works Director	Millville City
Chad Kendrick	Public Works	Millville City
Corey Twedt	Recorder	Millville City
Zan Murray	Engineer	J-U-B Engineering

7) List of Activities Conducted at this Facility

Underground Injection Control

8) List of Environmental Permits or Construction Approvals

9/15/2014 - Approval for extension of pilot ASR Project (attached)

12/4/2014 - received plan approval for Glenridge Well Modification and ASR Pilot Study Phase 2 (attached)

9) Description of ASR Project with NAICS Codes

NAICS Code: 237110

Description: Millville would like to inject water from Garr Spring into the Glenridge Well from October to March of each year, store the water in Cache Valley's principal basin fill aquifer until late June and then extract the injected water from June to September when public demand for the water is greatest and when the water is needed. Initially, Millville plans to only and store the water.

This small scale ASR program would provide Millville with an option to store Garr Spring water during the winter months while demand is low and Millville's water rights for the spring are active. During the pilot program injections, it was also found that this would decrease the nitrate concentrations in the Glenridge Well.

10) Proposed ASR Location

Station Name	Garr Spring	Glenridge Well
Station Type	Source Spring	Injection Well
Station ID	414024111481101	414115111490301
Elev. (ft)	4848	4682
Lat.	41.673	41.6877
Long.	-111.8039	-111.8181
UTM Northing (NAD 83 UTM 12, Meters)	4,613,782.9630	4,615,426.140
UTM Easting (NAD 83 UTM 12, Meters)	433,082.889	431,916.360
PLSS Location	N 690 ft W 2650 ft SE Cor Sec 15 T11N R1E SLB&M	N 790 ft W 1260 ft SE Cor Sec 15 T11N R1E SLB&M



State of Utah

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Governor

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Lieutenant Governor

Department of  
Environmental Quality

Amanda Smith  
Executive Director

DIVISION OF WATER QUALITY  
Walter L. Baker, P.E.  
Director

**SEP 15 2014**

Mr. Gary Larsen  
Millville City Public Works Director  
P.O. Box 308  
Millville, Utah 84326

Dear Mr. Larsen:

Subject: Conditional Approval to Extend Authorization-by-Rule Status of Millville City Aquifer Storage and Recovery (ASR) Pilot Project; Underground Injection Control (UIC) Facility Number: UTU-05F-1F9788C9

On Tuesday, August 19, 2014 representatives of the Divisions of Water Quality (Division), Drinking Water, Water Resources, and Cache County, met with representatives of Millville City, JUB Engineers, Inc. and the Utah Geological Survey (UGS) to discuss progress on the subject pilot project. The initial, week-long injection study produced favorable results that did not reveal immediate negative geochemical or physical impacts on the aquifer. Consequently, Millville and the UGS have requested a one year extension of the UIC authorization-by-rule (ABR) status for the pilot project to conduct further characterization of the ASR system while operating at the injection rate and duration expected for the full scale implementation of the project (Phase II of the pilot project).

DWQ agrees to extend the ABR period to September 30, 2015; however, based on information presented at the August 19, 2014 meeting and in a preliminary draft report entitled *Cache Valley Aquifer Storage and Recovery: Site Assessment for Millville City, Cache County, Utah* (report) by the UGS, the Division has the following concerns and conditions for the ASR project.

Concerns

1. Maps included in the report indicate a strong, positive correlation between high septic tank density and high nitrate concentrations.
2. Maps included in the report indicate animal feeding operations may also be contributing to the increasing nitrate concentrations.
3. The area around Millville and the documented possible sources of nitrate contamination are in the recharge area of the Cache Valley aquifer.
4. DWQ's records show that Millville is the second highest populated, un-sewered community in the State.

5. Continuation of the Glenridge Well ASR may only be treating the symptom rather than addressing the source(s) of high nitrate concentrations.

#### Conditions

1. Phase II shall include continued investigations to determine the sources of the nitrate contamination (for example, septic systems, cesspools, animal feeding operations, fields with fertilizer application) in the Glenridge Well. This may require a coordinated effort by Millville, surrounding municipalities and Cache County.
2. Phase II shall include public education regarding, and plans for implementing, best management practices (BMPs) for anthropogenic sources of nitrate contamination, including the construction of a new, or connection to an existing, sanitary sewer.
3. Phase II shall include periodic sampling of recovered water from the Glenridge Well for field parameters, stable isotopes, and nitrate, the principle constituent of concern. Additionally, after 95 – 100% of the volume injected is recovered from the Glenridge Well, samples will be collected from the Glenridge and adjacent wells for general chemistry, stable isotopes, and nutrient analysis. Details of the sampling and analysis of these wells shall be included in the final scope of work for Phase II.
4. No additional extensions to the ABR status of the pilot project will be granted.
5. No later than May 1, 2015 Millville shall submit a UIC Class V ASR permit application to the DWQ.
6. No injection into the Glenridge Well will occur after September 30, 2015 until a UIC Class V ASR permit is issued to Millville City.

If you have any questions, please contact Candace Cady at 801.536.4352 or [ccady@utah.gov](mailto:ccady@utah.gov).

Sincerely,



Walter L. Baker, P.E.  
Director

WLB/DH/CCC:pe

cc: Mr. Paul Inkenbrandt, Utah Geological Survey (via email)  
Mr. Mike Lowe, Utah Geological Survey (via email)  
Mr. Bob Fotheringham, Water Manager, Cache County (via email)  
Mr. Mark Jensen, Utah Division of Drinking Water (via email)  
Mr. Ken Short, Utah Division of Water Resources (via email)  
Mr. Zan Murray, JUB Engineering (via email)  
Mr. Grant Koford, Bear River Health Department (via email)

DWQ-2014-001543



State of Utah

GARY R. HERBERT  
Governor

SPENCER J. COX  
Lieutenant Governor

Department of  
Environmental Quality

Amanda Smith  
Executive Director

DIVISION OF DRINKING WATER  
Kenneth H. Bousfield, P.E.  
Director

December 4, 2014

Gary Larsen  
Public Works Director  
Millville City  
P.O. Box 308  
Millville, Utah 84326

Dear Mr. Larsen:

Subject: **Plan Approval**, Glenridge Well Modification and Phase 2 ASR Study (WS004),  
System #03012, File #9870

On November 1, the Division of Drinking Water (the Division) received the plans and specifications for the Glenridge Well Modification and Phase 2 Aquifer Storage & Recovery (ASR) Study project from your consultant Zan Murray, P.E. with JUB Engineers. The Division previously issued an approval for the ASR pilot study on November 20, 2013. The purpose of the ASR pilot study (File #9479) and the Phase 2 ASR study (File #9870) is to explore the possibility of mitigating the high nitrate level of Glenridge Well (identified as WS004 in the Division's inventory database) by injecting low-nitrate water from Garr Spring (WS001).

Our understanding of the project is the permanent modification of the well head discharge piping of Glenridge Well (WS004) to allow the injection of Garr Spring water. The well modification will be used for Phase 2 of the ASR study. The Phase 2 study will include injecting 125 gpm down the Glenridge Well from October 1 to March 31, 2015. During the injection, well water levels, specific conductance, and water quality will be measured in the well. At the beginning of July 2015, Millville will pump water from the Glenridge Well in to Millville city's distribution system and continuously measure water levels, specific conductance, and water quality.

We have completed our review of the plans and specifications, stamped and signed by Zan Murray, P.E. and dated October 31, 2014, and find they basically comply with the applicable portions of Utah's Administrative Rules for Public Drinking Water Systems in R309. On this basis, **the plans for the Glenridge Well Modification and Phase 2 ASR Study are hereby approved.**

195 North 1950 West • Salt Lake City, UT  
Mailing Address: P.O. Box 144830 • Salt Lake City, UT 84114-4830  
Telephone (801) 536-4200 • Fax (801) 536-4211 • T.D.D. (801) 536-4414

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Mr. Larsen  
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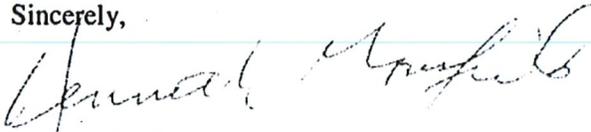
This approval pertains to construction only. **An operating permit must be obtained from the Director before the Glenridge Well may be put in service.** A checklist outlining the items required for operating permit issuance is enclosed for your information.

Approvals or permits by local authority or county may be necessary before beginning construction of this project. As the project proceeds, notice of any changes in the approved design, as well as any change affecting the quantity or quality of the delivered water, must be submitted to the Division. We may also conduct interim and final inspections of this project. Please notify us when actual construction begins so that these inspections can be scheduled.

This approval must be renewed if construction has not begun or if substantial equipment has not been ordered within one year of the date of this letter.

If you have any questions regarding this letter, please contact Gary Kobzeff, of this office, at (801) 536-0099, or Ying-Ying Macauley, Engineering Section Manager, of this office, at (801) 536-4188.

Sincerely,



Kenneth H. Bousfield, P.E.  
Director

GK

Enclosure — Operating Permit Checklist

cc: Grant Koford, Environmental Health Director, Bear River Health Department, [gkoford@brhd.org](mailto:gkoford@brhd.org)  
Gary Larsen, Millville City Public Works Director, [glarsen@rwau.net](mailto:glarsen@rwau.net)  
Zan Murray P.E., JUB Engineers, [zpm@jub.com](mailto:zpm@jub.com)  
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Gary Kobzeff, Division of Drinking Water, [gkobzeff@utah.gov](mailto:gkobzeff@utah.gov)  
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