

BW - 8

**PERMIT
MODIFICATIONS**

2022 - Present

From: [Ayarbe, John](#)
To: [Chavez, Carl J. EMNRD](#)
Subject: [EXTERNAL] RE: Key Energy BW-8 Admin. Record Review and Annual Report 2020: Solution Cavern Characterization Method Revised Requirement
Date: Tuesday, January 25, 2022 11:57:41 AM

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Thanks, Carl!

I received your email and will review the material you sent.

John P. Ayarbe
Senior Hydrogeologist

Daniel B. Stephens & Associates, Inc.
a Geo-Logic Company
Direct: (505) 353-9137
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From: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Sent: Tuesday, January 25, 2022 10:05 AM
To: Ayarbe, John <jayarbe@geo-logic.com>
Subject: Key Energy BW-8 Admin. Record Review and Annual Report 2020: Solution Cavern Characterization Method Revised Requirement

John,

Good morning!

I see on Pg. 7 Section 4 of the Annual Report (2020) the following:

“Condition 2.B.2 of DP BW-08 requires solution cavern characterization using geophysical methods to estimate the size and shape of the solution cavern. During a December 9, 2016 phone call between DBS&A (on behalf of PAB) and OCD (Jim Griswold and Carl Chavez), it was agreed that solution cavern characterization using geophysical methods would be conducted only if surface subsidence was detected during semiannual surveying of the monitoring points. Section 2.1 of this report presents an estimated size for the solution cavern.”

OCD has re-reviewed the discharge permit condition 2.B.2(a) (see below):

B. Solution Cavern Monitoring Program

2. Solution Cavern Characterization Program: The Permittee shall characterize the size and shape

of the solution cavern using a geophysical method approved by OCD at least once before the expiration date of the permit. The Permittee shall demonstrate that at least 90% of the calculated volume of salt removed based upon injection and production volumes has been accounted for by the approved geophysical method(s) for such testing to be considered truly representative.

a. The Permittee shall provide an estimate of the size and shape of the solution cavern at least annually in the Annual Report (Section 2.J), based on fluid injection and brine production data.

b. The Permit shall compare the ratio of the volume of injected fluids to the volume of produced brine monthly. If the average ratio of injected fluid to produced brine varies is less than 90% or greater than

110%, the Permittee shall report this to OCD and cease injection and production operations of its Class III well within 24 hours. The Permittee shall begin an investigation to determine the cause of this

abnormal ratio within 72 hours. The Permittee shall submit to OCD a report of its investigation within 15 days of cessation of injection and production operations of its Class III well for further instructions.

OCD hereby provides an attached example of an alternate approved method for satisfying permit condition 2.b.2.a above. OCD hereby requires the operator to revise its cavern characterization program to reflect this requirement for all future annual report submittals. If the operator prefers another geophysical or other method, please propose an alternative to the above attached diagram to help satisfy the OCD permit condition.

Please acknowledge receipt of this message and contact me if you have questions.

Thank you.

Carl J. Chavez • UIC Group

Engineering Bureau

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From: Ayarbe, John <jayarbe@geo-logic.com>

Sent: Monday, January 24, 2022 3:03 PM

To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>

Subject: [EXTERNAL] RE: BW-8 Admin. Record Review

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Hi Carl,

Attached is the information you requested: