

From: Kem Ramnath
Sent: Friday, January 21, 2022 11:07 AM
To: Brandon.powell@state.nm.us
Cc: Eileen Kosakowski <EKosakowski@advanceenergypartners.com>
Subject: Seismic Response Protocol

The Engineering Bureau Chief, Mr. Brandon Powell,

Dear Sir,

Many thanks for taking our call yesterday with respect to providing clarifications on data submission related to SWD injection, Seismicity Response Protocol. During the call, reference was made to our Hat Mesa Operations with particular emphasis on produced water injection being at a significantly reduced level during 2021. In response to your request for details the following is provided

In 2021, AEP implemented a highly active Development Program which resulted in its mainstay SWD injection well, Dagger SWD #1, 30-025-45818, being used at an **average monthly rate of 38% of its full capacity** for the first 11 months as the majority of base produced water volumes were recycled and consumed in completion activities, an integral component of our ESG commitment.

Attached provides information by month for 2021 leading up to the 3.2 Seismic event of Nov 13, on total volumes of water injected against total volumes produced. Additionally, it should be noted that during the **first 12 days of November**, total volume injected was 4,128 bbls against a total produced amount of 533,526 bbls.

In light of:

1. The low SWD utilization in the prior 11-month period at 38% of its rated capacity and
2. An average daily injection volume of 225 bwpd in November, i.e., 0.35 % of the daily rated SWD capacity

We seek your consideration for an injection cap to 48,750 bwpd which is representative of a 25% reduction of the SWD tested capacity.

Kindly call to discuss if required. We look forward to your review and feedback.

Regards,

Kem Ramnath

VP – Water Operations

Cell 281-755-8173

KRamnath@Advanceenergypartners.com

Month	Dagger SWD Injection Volumes, bbls	Monthly production volumes	% PW Injected	Average Daily injection, bbls	% of SWD Tested Capacity, 65,000 bwpd
Jan-21	1,348,725	2,377,884	57%	43,507	67%
Feb-21	500,829	1,536,989	33%	17,887	28%
Mar-21	811,962	1,752,431	46%	26,192	40%
Apr-21	1,087,982	1,976,674	55%	36,266	56%
May-21	910,259	1,678,120	54%	29,363	45%
Jun-21	165,567	1,444,742	11%	5,519	8%
Jul-21	178,971	1,439,561	12%	5,773	9%
Aug-21	1,524,849	1,993,109	77%	49,189	76%
Sep-21	1,321,076	1,476,342	89%	44,036	68%
Oct-21	363,230	1,251,399	29%	11,717	18%
November by day					
11/1/2021	-	41,979	0%	-	0%
11/2/2021	2,535	42,591	6%	2,535	4%
11/3/2021	8	46,120	0%	8	0%
11/4/2021	8	44,242	0%	8	0%
11/5/2021	7	45,045	0%	7	0%
11/6/2021	4	46,506	0%	4	0%
11/7/2021	-	44,538	0%	-	0%
11/8/2021	554	44,862	1%	554	1%
11/9/2021	0	46,657	0%	0	0%
11/10/2021	241	43,034	1%	241	0%
11/11/2021	-	44,074	0%	-	0%
11/12/2021	771	43,878	2%	771	1%
11/13/2021	-	43,242	0%	-	0%
11/14/2021	-	43,636	0%	-	0%
11/15/2021	531	41,510	1%	531	1%
11/16/2021	-	40,092	0%	-	0%
11/17/2021	-	34,231	0%	-	0%
11/18/2021	-	32,496	0%	-	0%
11/19/2021	-	31,073	0%	-	0%
11/20/2021	1,086	40,759	3%	1,086	2%
11/21/2021	-	41,257	0%	-	0%
11/22/2021	-	40,773	0%	-	0%
11/23/2021	-	41,079	0%	-	0%
11/24/2021	-	40,130	0%	-	0%
11/25/2021	-	39,416	0%	-	0%
11/26/2021	-	39,490	0%	-	0%
11/27/2021	1,004	38,835	3%	1,004	2%
11/28/2021	-	39,204	0%	-	0%
11/29/2021	-	38,730	0%	-	0%
11/30/2021	-	38,517	0%	-	0%

November Total	6,749	1,237,996	1%	225	0.35%
11 Month Total	8,220,199	18,165,247	45%		38%

AFE: NIM0038
 REGULATORY: NMOC
 API: 30-025-45815
 COUNTY: Lea
 RIG: H&P389
 KB: 3827.5' (25.5')
 GL: 3802'



DAGGER STATE SWD #1

ACTUAL SWD WELL

WELLHEAD:
 13-5/8" 5K MN-DS
 13-3/8" x 9-5/8" x 7"

NAD 83
 Lat: 32.449929
 Long: -103.607422

SHL: Sec. 30, T-21S, R-33E; 2,625' FNL & 1,325' FEL
 BHL: Sec. 30, T-21S, R-33E; 2,625' FNL & 1,325' FEL

HOLE SIZE	MD TD	FORMATION Conductor	CSG SET				MUD	CASING	CEMENT	SPECIAL INSTRUCTIONS
30"	1,650	SURF CSG PT	1,606				SPUD MW 8.4 ppg FRESH TD MW 10.0 ppg	26" ID: 24.5" 202.4# X56 XLF 12 Bowsprings 1 joint shoe track	LEAD: 12.8 ppg/1275 SKS Top of Lead: Surface 50% OH excess TAIL: 14.8 ppg/460 SKS Top of Tail: 1320' 20% excess	123 bbls cmt circulated to surface
24"	3,568	INTRM 1 CSG PT	3,558				DRLOUT MW 10.0 ppg BRINE TD MW 10.5 ppg	20" ID: 18.73" 133# K-55 BTC 17 Bowsprings 1 joint shoe track	LEAD: 12.8 ppg/2500 sks Top of Lead: Surface 50% OH excess TAIL: 14.8 ppg/685 sks Top of Tail: 2854' 20% excess	191 bbls cmt circulated to surface
17-1/2"	5,250	INTRM 2 CSG PT	5,250				DRLOUT MW 9.5 ppg BRINE / CUT BRINE TD MW 10.5 ppg	13-3/8" ID: 12.415" 68# HCL-80 BTC 18 Bowsprings	LEAD: 11 ppg/1370 sks Top of Lead: Surface 50% OH excess TAIL: 14.8 ppg/685 sks Top of Tail: 4200' 20% excess	220 bbls cmt circulated to surface
12-1/4"	11,760	TOP OF LINER	11,760				DRLOUT MW 9.0 ppg CUT BRINE TD MW 9.2 ppg	9-5/8" ID: 8.835" 40# HCP-110 LTC Special Drift - 8.75" 46 Bowsprings 1 joint shoe track	LEAD: 10.5 ppg/1170 sks Top of Lead: Surface 50% excess (OH only) TAIL: 14.5 ppg/760 sks Top of Tail: 9675' 20% excess	192 bbls cmt circulated to surface
8-3/4"	16,350	PERM PACKER	16,350				DRLOUT MW 11.5 ppg OBM TD MW 12.6 ppg	DRILLING LINER 7-5/8" ID: 6.625 39# HCP-110 LTC 25 Bowsprings 1 joint shoe track	TAIL: 14.2 ppg/470 sks Top of Tail: TOL 20% excess 30-80% Partial Returns while cementing	Temp Log - 11.725' TOC Tested TOL @ 1500 psi Allamon 7-5/8" 39# x 9-5/8" 40# Hydraulic-Set Liner Hanger
6-1/2"	16,425	Devonian	16,425				DRLOUT MW 8.4 ppg FRESH TD MW 8.4 ppg	INJECTION STRING 264 jts - 7"29# P110 Surface - 11,306' 7" x 5.5" XO at 11306 111 jt - 5.5" 20# P110 11,306' - 16,350'	PACKER FLUID	OPEN HOLE COMPLETION 7.625" Baker Perm Nickel plated packer Injection string internally coated.

Est BHT = 250* F

DIRECTIONS TO LOCAITON:

From the intersection of Hwy 180 & Hwy 176 - travel southeast on Hwy 176 and travel 6.8 miles. Turn right (south) and travel 2.3 miles. Turn left and travel for 0.85 miles. Turn left, drive up and over Hat Mesa then down the fence line road for 1.8 miles. Turn left and travel 0.25. Stay right and travel ~0.5 miles to location, passing the Dagger State 506H and 508H location on the right.

Drilling Engineer: Braden Harris (406) 600-3310
 Last Updated By: Boone Bajgier (713) 416-4816

Date: 11/30/2020



11490 Westheimer Road, Suite 950, Houston, Texas 77077 • Phone 832-672-4700 • Fax 832-672-4609

January 26, 2022

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
Mr. Brandon Powell
Engineering Bureau Chief
1220 South St., Francis Drive
3rd Floor, Santa Fe, NM 87505
Brandon.Powell@state.nm.us

Re: Seismicity Response Protocol for Hat Mesa Seismic Response Area

Dear Sir,

Advance Energy Partners Hat Mesa LLC ("Advance") is in receipt of the OCD's letter dated January 7, 2022 requesting compliance with OCD's Seismicity Response Protocol for the Hat Mesa Seismic Response Area (the "Response Area"). Advance is the operator of two SWD wells injecting within the Response Area: the Dagger State SWD #1 (30-025-45815) and the Tomahawk #001 (20-025-33069). The Dagger State SWD #1 falls within Categories 1 and 2 protocols as it is permitted for injection into the Devonian formation, and the Tomahawk #001 falls within Category 1 protocols.

The previous 6-month daily average injection rate for active injection days (for the 6 months preceding November 2021) at the Dagger State SWD #1 was approximately 36,000 barrels of water per day ("bwpd"). Accordingly, Advance has temporarily reduced the injection rate at the Dagger State SWD #1 to an average injection rate of 18,000 bwpd.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kem R.", is positioned above a horizontal dashed line.

Kem Ramnath
Vice President of Water Operations

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

DEFINITIONS

Action 72239

DEFINITIONS

Operator: ADVANCE ENERGY PARTNERS HAT MESA, LLC 11490 Westheimer Rd., Ste 950 Houston, TX 77077	OGRID: 372417
	Action Number: 72239
	Action Type: [UF-SA] Seismicity Response Protocol Information (UF-SA-SRPI)

DEFINITIONS

For the sake of brevity and completeness, please allow for the following in all groups of questions and for the rest of this application: <ul style="list-style-type: none">this application's operator, hereinafter "this operator".
This form must be completed as part of OCD's Seismicity Response Protocol and updated after any qualifying event thereafter.
Applicability: This form must be completed for each well classified as an Underground Injection Control (UIC) Class II disposal well or Class II enhanced recovery injection well with active injection authority (wells). "Active injection authority" means a well that is authorized to inject pursuant to an administrative permit or hearing order. This includes wells that have an approved Application for Permit to Drill and have an approved injection permit but have not yet been drilled or commenced injection.

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QUESTIONS

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QUESTIONS

Prerequisites	
Well	[30-025-45815] DAGGER STATE SWD #001

Seismic Event Information*The source and reference ID is required, if you would like to submit information of a new seismic event.*

Source of information (i.e., USGS, NMTSO, TexNet, other)	USGS
Reference ID from source of information	us7000ftrh
Magnitude	3.2
Latitude	32.41320
Longitude	-103.59230
Date of occurrence	11/13/2021
Depth of occurrence (kilometers)	5.00

Injection Order*Please indicate the latest (current) injection order permitting injection for this well.*

Admin Order (SWD-#)	SWD-1787-0 [pMAM1826057837]
Hearing Order (R-#)	Not answered.

Well Information*The following information is required for each well permitted within a 10-mile proximity of the epicenter.*

Distance from epicenter (miles)	3
Top perforated and/or open-hole interval (vertical depth in feet)	17,695
Bottom perforated and/or open-hole interval (vertical depth in feet)	17,695
Formation(s) completed	DEVONIAN-SILURIAN

Well Information Prior to Injection Volume Reduction*Daily rates and pressures are based on the active injection days during the prior 6-month period.*

Average daily injection rate (BBLS per day), prior to reduction	36,000
Average injection daily pressure (PSI), prior to reduction	2,000
Well Type (i.e., Commercial, Lease Only, Single Operator)	Salt Water Disposal

Well Information After Injection Volume Reduction*The following information is required for each well permitted within a 10-mile proximity of the epicenter.*

Required injection rate reduction percentage (0%, 25%, 50%, Shut-in)	50%
Average daily injection rate (BBLS per day) limit, post reduction	18,000
Average injection daily pressure (PSI) limit, post reduction	800
Reduction start date	01/07/2022
Reduction achieved date	01/07/2022

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ACKNOWLEDGMENTS

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ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	This operator acknowledges that it must take the appropriate following action(s) as part of its seismic response protocol:
<input checked="" type="checkbox"/>	This operator shall report the daily injection volumes and pressures for each well on a weekly basis on the form prescribed by the OCD. The report is due on the Wednesday the week following the weekly monitoring interval.
<input checked="" type="checkbox"/>	This operator shall start or continue to digitally measure injection volumes and pressures for each well at a minimum of an hourly basis, and shall archive the data and make it available to OCD upon receipt of a written request.
<input checked="" type="checkbox"/>	This operator shall monitor seismicity events with magnitudes equal to or greater than M2.5 within a radius of 10 miles around each well using USGS / NMTSO data, and shall archive the data and make it available to OCD upon receipt of a written request.
<input checked="" type="checkbox"/>	This operator shall notify OCD and provide updated pertinent well information within 24 hours of an event greater than M 2.5 within a radius of 10 miles around each well using this OCD form.
<input checked="" type="checkbox"/>	After each event greater than M 2.5 within a radius of 10 miles around each well, this operator shall inspect well head and well equipment of each well to ensure proper working order. As part of this inspection, Operator should evaluate whether a Bradenhead test or MIT is warranted to ensure wellbore integrity.
<input checked="" type="checkbox"/>	I certify that, after reasonable inquiry and based on the available information at the time of submittal, this Seismic Information Form is true and correct to the best of my knowledge, and I acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

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CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
aschaefer	Accepted for record	1/6/2023