BW - ___002___

COMPLIANCE REVIEW

2018

From:	Cory Walk
To:	Chavez, Carl J, EMNRD
Cc:	Hull, Jason; Pritchett, Gary; Griswold, Jim, EMNRD
Subject:	[EXT] Re: BW-2 Basic Energy Services Eunice BW #1 (API# 30-025-26884): Response to OCD Letter of December 26, 2019 and OCD Review of Permit Sections 2.B.1 and 2.B.2
Date:	Friday, March 13, 2020 4:55:49 PM
Attachments:	Eunice 1 - Salt Cavern Characterization.pdf

Good Afternoon Carl,

Please see the attached cavern characterization sheet. The attached document includes a diagram of the cavern, estimated volume and dimensions, and an explanation of how it was calculated using estimates of brine production for years where data was missing, as per Jim's direction. Please let me know if you have any questions or need any additional information.

Thank you,

On Thu, Feb 13, 2020 at 11:39 AM Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us> wrote:

> The New Mexico Oil Conservation Division (OCD) is in receipt of Basic Energy Services, LLC's (Basic) response of January 31, 2020 to the OCD Letter of December 26, 2019. OCD has inserted most of the text related to the information provided in Basic's January submittal.
>
> OCD has completed its review of Discharge Permit Sections 2.B.1 and 2.B.2 have been deemed unacceptable in the current form. OCD provides review conclusions and conditions for approval below to be received by specified dates.
>
> **A. Section 2.B.1: Surface Subsidence Monitoring Plan**
>
> Basic Energy Services L.P. had plans to install survey monuments around the well for surface subsidence monitoring. Unfortunately, this was never completed. BES has discussed a new subsidence monitor program with Jim Griswold at the NMOCD in which Harcrow Surveying, out of Artesia, will use drones to measure elevations and report any subsidence. The drone will measure the precise elevation in a 250' x 175' grid surrounding the Eunice Brine well in 25' increments. Harcrow Surveying performed the baseline survey in April 2019. Please see a copy of their survey at the end of this report. Additional surveys will be conducted at least semiannually throughout the life of the well. If the monitored surface ever reaches 0.10 ft compared to its baseline elevation, BES will notify OCD immediately for further instructions.
>
> **OCD Conclusions and Conditions of Approval:**

1. The accuracy of the monument location elevation survey must be to an accuracy of 0.01 ft. or 1/100th of a foot.
2. The details of a formal survey plan were not provided, i.e., monuments, construction, equipment model and specifications information, surveyor certification of survey accuracy. The notification within 24 hours of having knowledge of an elevation differential of 0.1 ft. or 1/10th of a foot is ok.
3. The State Geodetic survey marker location and information used to start the survey elevation traverse is required with map relative to survey points. The details of survey closure to assess accuracy of each survey is required, i.e., start point elevation with return to start point with recorded elevation and differential. If the elevation difference of traverse closure is greater than 0.01 ft. the survey may be considered inaccurate and another survey traverse must be implemented to ensure survey instrumentation accuracy at the time of survey.
4. Surveys must be signed by a Certified Surveyor indicating the survey is accurate.
5. Harcrow must submit a formal “Surface Subsidence Monitoring Plan” for OCD review within 60-days or by April 13, 2020 from the date of this e-mail message to the OCD.

B. Section 2.B.2: Solution Cavern Characterization Program

Using the cavern characterization chart given by OCD the cavern size is as follows.

From January 1, 2018 until December 31, 2018 a total of 170,020 bbl. of brine was produced. Please see Figure 2 for recorded totals. I have included the full sheet for review at the end of this report. Please accept it for record.

Depicted below is the amount of material used to produce the 170,020 bbl. of brine in 2018 for your review.

170,020 bbl of brine x 122.136 lbs/bbl= 20,765,562.72 lbs of Salado Fm

20,765,562.72 lbs of Salado Fm x ft3/80 lbs- 259,569.53 ft3

A total of 259,570 cubic feet (9,614 cubic yards) of material was mined out of marker bed 9 in 2018. If we perform the same calculations using records posted on the OCD website

starting when monthly volumes were first recorded in 2006 to 2019, we get 2,318,826 bbls of brine and a mined volume of 3,540,152 cubic feet (131,117 cubic yards). Using all available records posted on the OCD website for the Eunice #1 brine well (assuming they are accurate) there has been a total of 5,107,239 bbls of brine produced and a mined volume of 7,797,222 cubic feet (288,786 cubic yards) from 1980 to 2019.

The ratio of volumes of brine water produced to fresh water injected was below the 90% threshold for 14 out of the 24 months from January 2017 to January 2019 (see Figure 2). Basic Energy explains this shortage of brine water produced as inaccurate readings from a faulty meter. In September 2018, Basic Energy replaced the meter and all readings since have returned to the expected levels.

Figure not transferrable to this document.

Figure: 2 Fresh water injection and brine production volumes in 2017-2018

OCD Conclusions and Conditions of Approval:

1. The information does not satisfactorily reflect an estimate acceptable to OCD. Please find attached an example calculation of an accepted OCD Method of addressing this requirement. The operator may also opt to perform a Sonar on the well cavern, which could require an extension of the submittal date.
2. Cummulative brine well production values derived from historical records must be provided as the basis of the estimated cavern configuration.
3. Please submit the current cavern configuration within 30-days or by March 14, 2020 from date of this e-mail message to the OCD.

OCD has marked its calendar for receipt of the above.

Please contact me if you have questions.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)

New Mexico Oil Conservation Division

Energy Minerals and Natural Resources Department

1220 South St Francis Drive

Santa Fe, New Mexico 87505

Ph. (505) 476-3490

E-mail: CarlJ.Chavez@state.nm.us

“Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?” (To see how, go to: http://www.emnrd.state.nm.us/OCD **and see “Publications”)**

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Cory Walk
Natural Resources Specialist/Geologist
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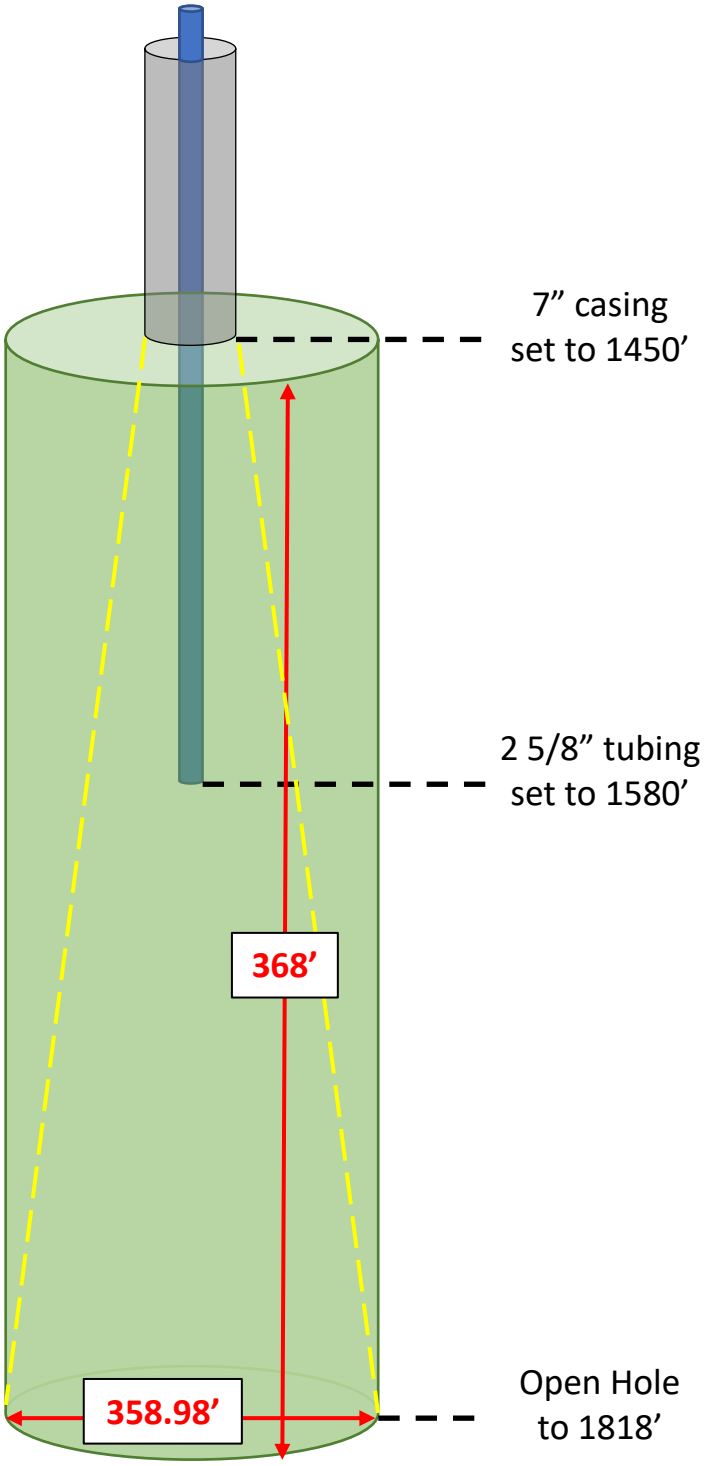
37 Verano Loop
Santa Fe, NM 87508

Office: 505-466-8120
Mobile: 760-445-4409

SALT CAVERN CHARACTERIZATION

Eunice Brine #001 (BW-2)
Basic Energy Services L.P.
API: 30-025-26884
Sec. 34, T. 21S, R. 37E
Lat: 32.42983 Long: -103.15015

The Eunice Brine well has been producing brine since it was spudded in July 1980. Unfortunately, there are several gaps in Basic Energy's brine production records. Specifically, there are no records from October 1982 - December 1987, July 1989 - December 1996, and April 2006 – July 2006. All brine production data are in NMOCD's online records. Under Jim Griswold's (NMOCD) direction, estimates were used for the times when data was missing. An average of the brine production from the 12 months before the gap and 12 months after the gap was used to give an estimate of each month's brine production within the missing timeframes. Also, Basic Energy does not have well logs that go beneath the casing shoe. Therefore, a height from the casing shoe to the TD of the open hole was used in the radius calculation. See below for the calculated salt cavern volume and dimensions based on brine production data (and estimates) from July 1980 to December 2018.



Total Brine = 8,132,009 bbl.
122.136 lbs/bbl = 993,211,051 lbs halite
V= (993,211,051 lbs) / (80 lbs/ft^3) = **12,415,138 ft^3**

$V = \pi r^2 h / 3$
12,415,138 ft^3 = (3.14159 x r^2) x (368') / 3
r = 179.49'

Est. cavern height = 368'
Est. cavern floor diameter = 358.98'

From:	Chavez, Carl J, EMNRD
To:	"Cory Walk"; Hull, Jason; Pritchett, Gary
Cc:	Griswold, Jim, EMNRD
Bcc:	Wade, Gabriel, EMNRD; Ames, Eric, EMNRD
Subject:	BW-2 Basic Energy Services Eunice BW #1 (API# 30-025-26884): Response to OCD Letter of December 26, 2019 and OCD Review of Permit Sections 2.B.1 and 2.B.2
Date:	Thursday, February 13, 2020 11:38:00 AM
Attachments:	CAVREN SIZE.pdf

The New Mexico Oil Conservation Division (OCD) is in receipt of Basic Energy Services, LLC's (Basic) response of January 31, 2020 to the OCD Letter of December 26, 2019. OCD has inserted most of the text related to the information provided in Basic's January submittal.

OCD has completed its review of Discharge Permit Sections 2.B.1 and 2.B.2 have been deemed unacceptable in the current form. OCD provides review conclusions and conditions for approval below to be received by specified dates.

A. Section 2.B.1: Surface Subsidence Monitoring Plan

Basic Energy Services L.P. had plans to install survey monuments around the well for surface subsidence monitoring. Unfortunately, this was never completed. BES has discussed a new subsidence monitor program with Jim Griswold at the NMOCD in which Harcrow Surveying, out of Artesia, will use drones to measure elevations and report any subsidence. The drone will measure the precise elevation in a 250' x 175' grid surrounding the Eunice Brine well in 25' increments. Harcrow Surveying performed the baseline survey in April 2019. Please see a copy of their survey at the end of this report. Additional surveys will be conducted at least semiannually throughout the life of the well. If the monitored surface ever reaches 0.10 ft compared to its baseline elevation, BES will notify OCD immediately for further instructions.

OCD Conclusions and Conditions of Approval:

1. The accuracy of the monument location elevation survey must be to an accuracy of 0.01 ft. or $1/100^{th}$ of a foot.
2. The details of a formal survey plan were not provided, i.e., monuments, construction, equipment model and specifications information, surveyor certification of survey accuracy. The notification within 24 hours of having knowledge of an elevation differential of 0.1 ft. or $1/10^{th}$ of a foot is ok.
3. The State Geodetic survey marker location and information used to start the survey elevation traverse is required with map relative to survey points. The details of survey closure to assess accuracy of each survey is required, i.e., start point elevation with return to start point with recorded elevation and differential. If the elevation difference of traverse closure is greater than 0.01 ft. the survey may be considered inaccurate and another survey traverse must be implemented to ensure survey instrumentation accuracy at the time of survey.
4. Surveys must be signed by a Certified Surveyor indicating the survey is accurate.
5. Harcrow must submit a formal "Surface Subsidence Monitoring Plan" for OCD review within 60-days or by April 13, 2020 from the date of this e-mail message to the OCD.

B. Section 2.B.2: Solution Cavern Characterization Program

Using the cavern characterization chart given by OCD the cavern size is as follows.

From January 1, 2018 until December 31, 2018 a total of 170,020 bbl. of brine was produced. Please see Figure 2 for recorded totals. I have included the full sheet for review at the end of this report. Please accept it for record.

Depicted below is the amount of material used to produce the 170,020 bbl. of brine in 2018 for your review.

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Figure not transferrable to this document.

Figure: 2 Fresh water injection and brine production volumes in 2017-2018

OCD Conclusions and Conditions of Approval:

1. The information does not satisfactorily reflect an estimate acceptable to OCD. Please find attached an example calculation of an accepted OCD Method of addressing this requirement. The operator may also opt to perform a Sonar on the well cavern, which could require an extension of the submittal date.
2. Cummulative brine well production values derived from historical records must be provided as the basis of the estimated cavern configuration.
3. Please submit the current cavern configuration within 30-days or by March 14, 2020 from date of this e-mail message to the OCD.

OCD has marked its calendar for receipt of the above.

Please contact me if you have questions.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)

New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
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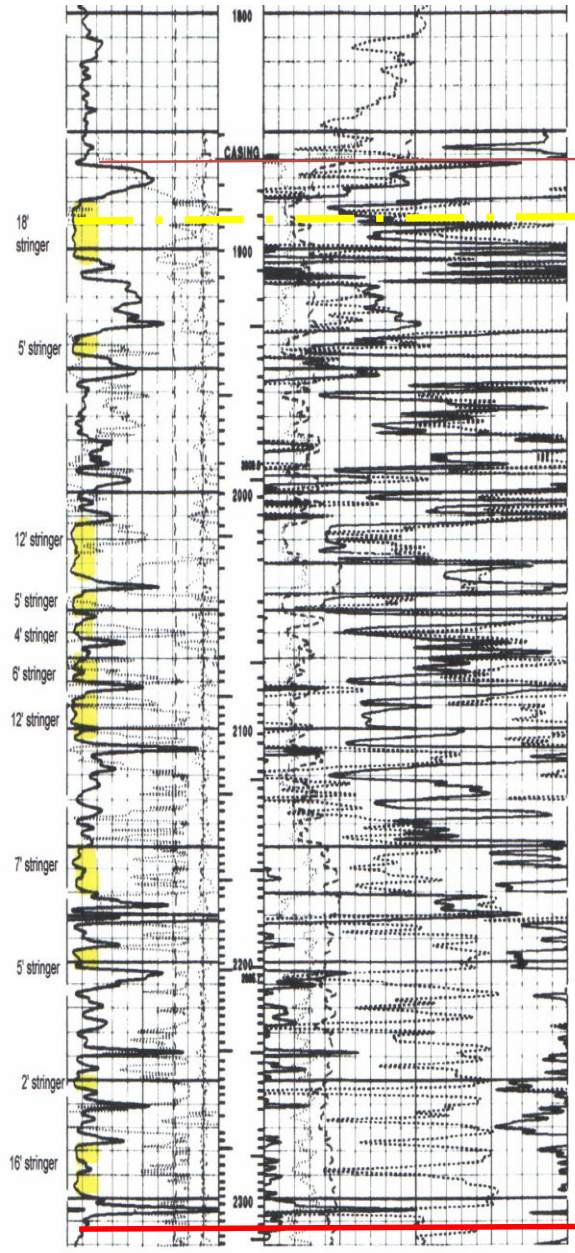
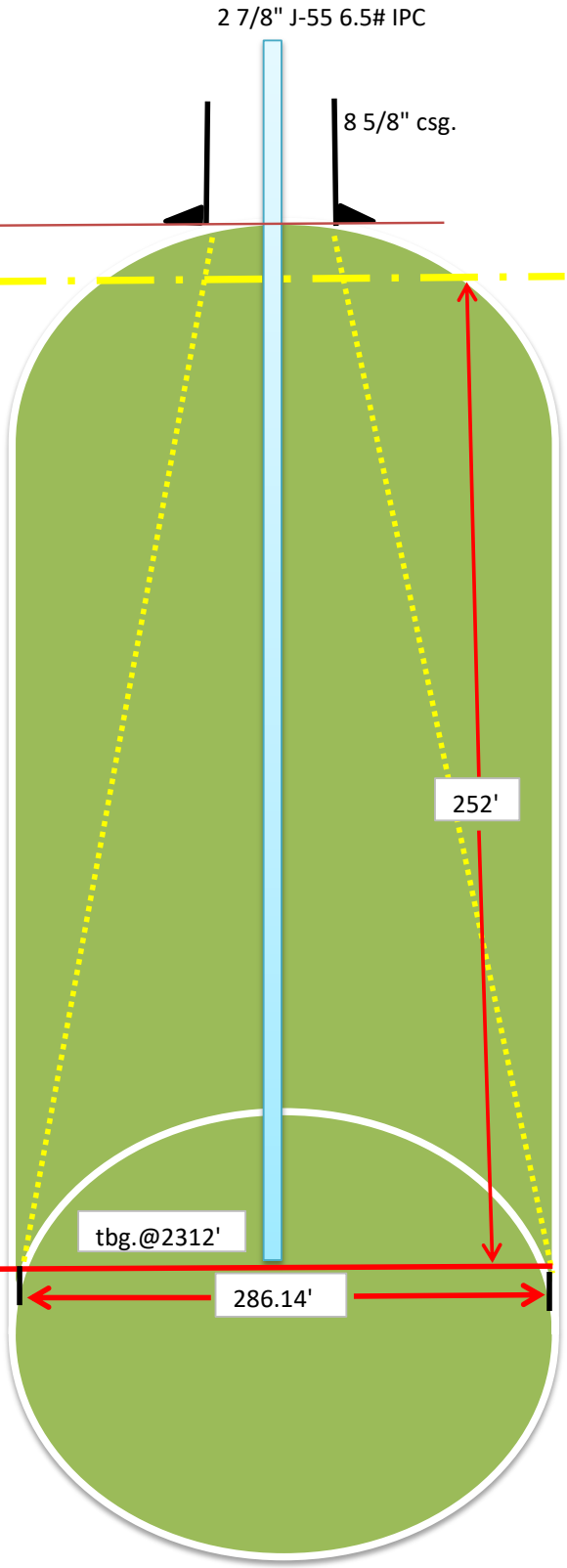
http://www.emnrd.state.nm.us/OCD **and see "Publications")**

EXAMPLE SALT CAVERN CHARACTERIZATION

John Doe Well No6
API 30-015-#####
SEC36 T18S R38E LAT: 32.##### LONG:-103.#####





PPG 9.97 brine
PPG 8.34 fresh
SG 1.1951
2006 to 2017 Total Brine bbl. 3,538,154
122.136 LBS / BBL = 432,135,977 LBS HALITE
(432,135,977 LBS) / (80BLS per ft³) = 5,401,700 ft³

$V = \prod R^2 h / 3$
$V = (3.14159 * 143.07^2) * (252') / 3$
$V = 5,401,648.6\ ft.^3$

Est. hight is 252'
Est. cavern floor diameter is 286.14'

From:	Chavez, Carl J, EMNRD
To:	"Cory Walk"; Hull, Jason; Pritchett, Gary
Cc:	Griswold, Jim, EMNRD; Wade, Gabriel, EMNRD; Ames, Eric, EMNRD
Subject:	BW-2 Eunice Brine Well No. 1 (API# 30-025-26884: OCD Letter of December 26, 2019: Responses to Operator Questions, Comments, and Clarification on Deadline Requirements
Date:	Monday, February 10, 2020 12:42:00 PM

Mr. Walk, et al.:

The New Mexico Oil Conservation Division (OCD) is in receipt of Basic Energy Services, LLC's (Basic) e-mail communications of January 13th and 31st below (see comments below) pertaining to the OCD letter of December 26, 2019. In addition, OCD expands with required deadline dates for deliverables based on the OCD letter.

A. OCD's current requirements based on questions and submittals by Basic to the OCD letter of December 26, 2019 are:

1. Basic shall submit the Closure Plan to OCD by February 25, 2020;
2. Basic shall submit the "New" WQCC UIC Class III Brine Well Application to OCD by February 25, 2020;
3. Basic shall no later than February 25, 2020, unless stated otherwise, submit the following:
    a. Condition 2.A.1 and 2.H.3: Submit schedule to install Monitor Well or an Agreement with Chevron to allow Basic to sample the Chevron Groundwater Monitoring Well (OSE: CP-01358-POD7) installed a 95ft deep on the pad approximately 150ft southeast of the brine well;
    b. Condition 2.B.1: Plan was submitted to OCD on January 31, 2020 and OCD is currently reviewing it separately;
    c. Condition 2.B.2 and 5.D: Program was submitted to OCD on January 31, 2020 and OCD is currently reviewing it separately;

B. OCD response comments on the January 13, 2020 e-mail from Basic (see communication provided below) are:

1. OCD requires the Closure Plan as stated above.
2. OCD requires a "New" WQCC UIC Class III Brine Well Application for an OCD Discharge Permit as stated above.

C. OCD response comments on the January 31, 2020 e-mail with attached "Annual Class III Well Report dated January 23, 2020" from Basic (see communication provided below) are:

1. See A.3.b and A.3.c above.
2. Basic is liable for not reporting on Conditions 2.A; 2.B.3; 3.F; 2.J and 5.A. Furthermore, it appears Basic can't comply as this point in time.

OCD Conclusions:

1. If Basic can comply with A.2 and A.3.a above, OCD may extend the deadline for A.1 if Basic feels it needs more time to comply.
2. OCD is currently reviewing the "Annual Class III Well Report dated January 23, 2020"

for compliance with the OCD letter of December 26, 2019 and/or responses based on the submittal.

3. Basic shall not operate the well without a valid permit issued by the OCD.

Please contact me to discuss the OCD December 26, 2019 letter with requirements and deadline clarifications for operator responses.

Thank you.

****

From: Cory Walk
To: Chavez, Carl J, EMNRD; Hull, Jason; Pritchett, Gary
Subject: [EXT] BW-002 Eunice Brine Well Compliance
Date: Friday, January 31, 2020 5:20:18 PM
Attachments: ANNUAL BRINE WELL REPORT JAN 2020.pdf

Good Afternoon Carl,
Attached you will find an annual report for 2018-2019. This report addresses all sections and subsections in which Basic Energy has failed to comply in regards to the Eunice Brine Well (BW-002). Please accept this report for record and let me know if you have any questions.
Thank you,

--
Cory Walk
Natural Resources Specialist/Geologist
Permits West 37
Verano Loop
Santa Fe, NM 87508

Office: 505-466-

8120

Mobile: 760-445-4409

****

From: Cory Walk <cory@permitswest.com>
Sent: Monday, January 13, 2020 9:33 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>; Hull, Jason <jason.hull@basicenergyservices.com>
Subject: [EXT] BW-002 Eunice Brine

Good Morning Carl,

I understand that NMOCD has requested Basic Energy Services to submit a closure plan and a plugging and abandonment plan for their Eunice Brine well (BW-002). Basic is still intending on permitting this well and have been making the necessary steps to comply with previous orders. Subsidence surveys have been completed, they have been gathering documents and working on annual reports, etc. They are currently hung up on getting a monitoring well installed. As this is land owned by Chevron, Basic has been struggling to get an agreement from Chevron to allow them to drill a monitoring well.

As Basic does not desire to presently plug and abandon this well, does the OCD still require the submittal of these plans? Or can Basic proceed in gathering the necessary documents for compliance and submit them ASAP, along with a renewal application? Please advise.
Thank you,
--
Cory Walk

Mr. Carl J. Chavez, CHMM (#13099)
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Thank you,

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Cory Walk
Natural Resources Specialist/Geologist
Permits West
37 Verano Loop
Santa Fe, NM 87508

Office: 505-466-8120
Mobile: 760-445-4409

ANNUAL CLASS III WELL REPORT

BASIC ENERGY SERVICES L.P.

BW – 002

API # 3002526884

EUNICE BRINE WELL # 001

January 23, 2020

Cory Walk

Permits West Inc.

(permitting agent on behalf of Basic Energy Service, L.P.)

2018 SUMMARY OF CLASS III BW-002

In 2018 the Eunice BW-002 experienced an increase in sales from an est. average of 11,000 bbl. per month to est. 14,000 bbl. per month. This is an annual increase of 37,000 bbl (28%) from 2017 to 2018. The total brine in solution produced in 2018 was recorded at 170,020 bbl. Total Fresh water from the City of Eunice is still being used and totaled 206,401 bbl in 2018. No remedial or major work has been done on the well in 2018.

David Alvarado, representative for Basic Energy Services (BES) and the primary contact with respect to all things related to the Eunice BW-002, recently left in 2018. With his departure came a rough transition period and steep learning curve for various other Basic Energy Services employees now in charge of this well. Hence, annual reports were not submitted, chemical analyses were not performed, the discharge permit expired on January 6, 2019 and the well was shut-in January 11, 2019. A new discharge permit application is currently in process and will be submitted this year.

COMPLIANCE REVIEW

Prior to the expired permit, Jim Griswold of the NMOCD submitted a compliance review on February 16, 2018 to David Alvarado of Basic Energy Services. The compliance review included missing documents and reports over the previous 5 years, specifically: 2.A Quarterly analysis of injected fluids and brine, 2.A.1 Monitor well, 2.B.1 Surface Subsidence Monitoring Plan information, 2.B.2 Solution Cavern Characterization Program, 2.B.3 Annual Certification, 2.H.3.a Monitor well shall be installed and sampled, 2.J Annual Report, 3.C Continuous Monitoring Devices, and 3.F Fluids Injection and Brine Production Volumes and Pressures submittal of monthly reports. See below for information regarding these individual subsections.

Section 2.A: Quarterly Monitoring Requirements for Class III wells

BES does not have any data regarding the analysis of fluids beyond the 2016 dataset available in ***Figure 1*** below. Lab analyses were submitted with the 2016 annual report. BES commits to do better and comply with the analysis of fluids procedure in the future. BES has contacted Cardinal Laboratories and they will be collecting and analyzing injected fresh water and produced brine water at least quarterly for the following characteristics: pH, density, TDS, chlorides, and sodium concentration.

Eunice Brine Well BW-002

Fresh and Brine History Comparison Analysts October 2015 - June 2016

Fresh Water Tank

Date	PH	Density	TDS	Chlorides mg/L	Sodium and/or Potassium
10/29/2015	8.2	8.369	450	60	51
12/2/2015	7.7	8.369	104,748	63,900	37,301
1/6/2016	7.7	8.366	1,932	880	555
1/27/2016	7.8	8.379	457	60	51
2/25/2016	8.3	8.369	483	91	61
3/31/2016	7.8	8.369	443	62	47
5/2/2016	8.4	8.369	392	57	27
6/6/2016	8	8.369	424	57	43

Brine at Csg. Well Head Valve

Date	PH	Density	TDS	Chlorides mg/L	Sodium and/or Potassium
10/29/2015	7.1	9.868	316,468	190,331	116,722
12/2/2015	6.8	9.968	325,828	195,960	120,095
1/6/2016	7.5	9.326	188,530	113,600	69,735
1/27/2016	6.9	9.66	227,021	136,356	83,060
2/25/2016	7	10	321003	193,172	118,016
3/31/2016	6.6	9.948	323,188	194,540	118,617
5/2/2016	6.6	9.977	330,158	198,800	120,865
6/6/2016	6.6	9.994	306,674	184,649	111,695

Figure: 1 **Fresh and Brine History Comparison**

Section 2.A.1: Monitor Well

BES has yet to install a monitor well screened within the water table. The pad and required location of the monitoring well is on private land owned by Chevron USA. BES has been attempting to get approval from Chevron in order to drill and install a monitoring well on their land; however, this process has taken much longer than expected. As soon as BES obtains permission from Chevron, they will submit an application to NMOSE requesting permission to drill a monitoring well <50ft downgradient of the brine well location (proposed monitoring well coordinates = Lat: 32.429830, Long: -103.149880). This well will be drilled and completed immediately upon approval from the NMOSE. Once the well is complete, water samples will be taken and analyzed by Cardinal Laboratories and reports will be submitted to OCD.

Section 2.B.1: Surface Subsidence Monitoring Plan

Basic Energy Services L.P. had plans to install survey monuments around the well for surface subsidence monitoring. Unfortunately, this was never completed. BES has discussed a new subsidence monitor program

with Jim Griswold at the NMOCD in which Harcrow Surveying, out of Artesia, will use drones to measure elevations and report any subsidence. The drone will measure the precise elevation in a 250' x 175' grid surrounding the Eunice Brine well in 25' increments. Harcrow Surveying performed the baseline survey in April 2019. Please see a copy of their survey at the end of this report. Additional surveys will be conducted at least semiannually throughout the life of the well. If the monitored surface ever reaches 0.10 ft compared to its baseline elevation, BES will notify OCD immediately for further instructions.

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$$170{,}020\ bbl\ of\ brine \times \frac{122.136\ lbs}{bbl} = 20{,}765{,}562.72\ lbs\ of\ Salado\ Fm$$

$$20{,}765{,}562.72\ lbs\ of\ Salado\ Fm \times \frac{ft^3}{80\ lbs} = 259{,}569.53\ ft^3$$

A total of 259,570 cubic feet (9,614 cubic yards) of material was mined out of marker bed 9 in 2018. If we perform the same calculations using records posted on the OCD website starting when monthly volumes were first recorded in 2006 to 2019, we get 2,318,826 bbls of brine and a mined volume of 3,540,152 cubic feet (131,117 cubic yards). Using all available records posted on the OCD website for the Eunice #1 brine well (assuming they are accurate) there has been a total of 5,107,239 bbls of brine produced and a mined volume of 7,797,222 cubic feet (288,786 cubic yards) from 1980 to 2019.

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Lease		BES Asset #	API		FOOTAGE		UNIT	SEC	TOWNSHIP	RANGE	County
Eunice Brine #1		18476	30-025-26884		630 FSL	2427 FEL	O	34	21S	37E	LEA
BES	2017		Brine	400	Max PSI		Fresh		Well Monthly capability 81,840 bbl.		
Month	Start	End	Total	PSI	F/W Start	F/W End	Total	% F/W to Brine	Year throughput capability 982,080 Bbl.		
Jan	0	10,699	**10,699**	250	0	11,292	**11,292**	94.7	1/1/16 reset brine and fresh meter to 0 ending 57813, 60448		
Feb	10,699	22,098	**11,399**	250	11,292	23,095	**11,803**	96.6			
Mar	22,098	38,679	**16,581**	250	23,095	41,237	**18,142**	91.4			
Apr	38,679	55,749	**17,070**	250	41,237	58,812	**17,575**	97.1			
May	0	12,049	**12,049**	250	0	15,007	**15,007**	80.3	re set to zero		
Jun	12,049	15,259	**3,210**	250	15,007	18,797	**3,790**	84.7			
July	0	8,211	**8,211**	250	0	9,182	**9,182**	89.4	re set 0		
August	8,211	15,177	**6,966**	250	9,182	17,242	**8,060**	86.4			
Sep	15,177	40,317	**25,140**	250	17,242	44,359	**27,117**	92.7			
Oct	40,317	47,106	**6,789**	250	44,359	53,898	**9,539**	71.2			
Nov	0	5,688	**5,688**	250	0	7,866	**7,866**	72.3	re set F/w and B/w meters		
Dec	5,688	14,937	**9,249**	250	7,866	23,800	15,934	58.0			
Year total			**133,051**				**155,307**	85.7			
					ENDING TOTAL FOR 2017						

Lease		BES Asset #	API		FOOTAGE		UNIT	SEC	TOWNSHIP	RANGE	County
Eunice Brine #1		18476	30-025-26884		630 FSL	2427 FEL	O	34	21S	37E	LEA
BES			Brine	400	Max PSI		Fresh		Well Monthly capability 81,840 bbl.		
Month	Start	End	Total	PSI	F/W Start	F/W End	Total	% F/W to Brine	Year throughput capability 982,080 Bbl.		
Jan	0	13,917	**13,917**	250	0	21,072	**21,072**	66.0			
Feb	13,917	22,180	**8,263**	250	21,072	33,585	**12,513**	66.0			
Mar	0	6,319	**6,319**	250	0	9,451	**9,451**	66.9	Reset meters to 0 3.1.18		
Apr	6,319	28,216	**21,897**	250	9,451	32,886	**23,435**	93.4	Reset meters to 0 4.30.18		
May	0	20,777	**20,777**	250	0	26,844	**26,844**	77.4			
Jun	20,777	28,755	**7,978**	250	26,844	40,141	**13,297**	60.0			
July	28,755	40,817	**12,062**	250	40,141	55,627	**15,486**	77.9			
August	40,817	50,664	**9,847**		55,677	67,734	**12,057**	81.7			
Sep	0	17,366	**17,366**		0	18,780	**18,780**	92.5	New Meter 9.1.18		
Oct	17,366	34,263	**16,897**		18,780	36,872	**18,092**	93.4			
Nov	34,263	56,488	**22,225**		36,872	59,534	**22,662**	98.1			
Dec	0	12,472	**12,472**		0	12,712	**12,712**	98.1	Reset meters to 0		
Year total			**170,020**				**206,401**	82.4			
					ENDING TOTAL FOR 2018						

Lease		BES Asset #	API		FOOTAGE		UNIT	SEC	TOWNSHIP	RANGE	County
Eunice Brine #1		18476	30-025-26884		630 FSL	2427 FEL	O	34	21S	37E	LEA
BES			Brine	400	Max PSI		Fresh		Well Monthly capability 81,840 bbl.		
Month	Start	End	Total	PSI	F/W Start	F/W End	Total	% F/W to Brine	Year throughput capability 982,080 Bbl.		
Jan	12,472	12,472	**0**	250	12,712	12,712	**0**	N/A	Shut in well 1.11.19		
Feb			**0**				**0**				
Mar			**0**				**0**				
Apr			**0**				**0**				
May			**0**				**0**				
Jun			**0**				**0**				
July			**0**				**0**				
August			**0**				**0**				
Sep			**0**				**0**				
Oct			**0**				**0**				
Nov			**0**				**0**				
Dec			**0**				0				
Year total			**0**				**0**				
					RUNNING TOTALS FOR 2019						

Figure: 2 Fresh water injection and brine production volumes in 2017-2018

Section 2.B.3: Annual Certification

Basic Energy Services L.P. has reviewed the BW-002 CBL and shows good continuity between the outer most casing and the borehole wall. A 5.5" liner was run to the shoe of the 8.625" and cemented in place to surface assuring that the Rustler and upper water is protected.
Basic Energy Services L.P. placement of the mining area is in marker bed 9 and is continuing to mine in this Halite bed by water induction thru inter most tubular and extracting thru the 5.5" liner. BW-002 is monitored and operates with 250 psi at surface down the tubing.

Section 2.H.3.a: Monitor Well

See above section 2.A.1.

Section 3.C: Continuous Monitoring Devices
Basic Energy Services confirms that continuous monitoring devices are in place and have been recording injection pressure, flow rate, flow volume, and pressure on the annulus between the tubing and the long string of casing.

Section 3.F: Fluid Injection and Brine production Volumes and Pressures
See **Figure 2** above for fluid injection and brine production volumes and pressures for 2017-2019. A larger version of Figure 2 is attached to the end of this report.

MECHANICAL INTEGRITY TEST
Basic Energy Services successfully completed the five-year MIT requirement by passing the test on August 9th, 2016. The four hour test started at 8am and finished at 12:10pm and was witnessed by Mark Whitaker. Please see copy of mechanical test chart and C-103 at the end of this report.

DEVIATIONS OF OPERATIONS
No production deviations occurred in 2018 at the BW-002 Brine well. However, in January 2019 operations were shut down and the brine well was shut in.

LEAKS AND SPILLS CORRECTIVE ACTION
In January 2019, a small leak was found on the loading line at the Eunice #1 site. Basic Energy Services adjusted the electronic actuator valve which repaired the leak. Basic Energy Services is currently taking bids to construct a concrete offload pad that will stop future spills coming from the load line. All storage tanks have been emptied until a new discharge permit is issued.

In the future, Basic Energy Services L.P. will report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan that may exceed the standard specified at 20.6.2.3103 NMAC. The OCD's Environmental Bureau will then be notified with a report.

AREA OF REVIEW (AOR)
Chevron's Mark Owen #006H (30-025-07005), located just 300ft east of the Eunice #1 brine well, was plugged in June 2016 and the site was released January 2019. In 2016, Chevron also installed a 95ft deep monitoring well (CP-01358-POD7) on the pad approximately 150ft southeast of the Eunice #1 brine well. No new wells penetrating the Salado Formation have been installed within the area of review (1 mile radius) in the past 2 years.

SUMMARY OF SURVEYS
Basic Energy Services L.P. is still looking in on what the best practice will be for gathering data needed to have a good account of the size and shape of the cavern. The past has shown that the Sonar Survey did not depict a true assessment. Perhaps some other type of electric resistivity survey might be used.

Harcrow Surveying will be using drones to survey and monitor any surface subsidence at the well site. The initial baseline survey was completed in April 2019 (see above section 2.B.1).

FACILITY ACTIVITIES OR EVENTS
In January 2019, the Eunice #1 brine well (BW-002) was shut in due to an expired discharge permit. All storage tanks were emptied and will remain empty until a new discharge permit is acquired.

Certification

Basic Energy services LP (Owner / Operator) by the Officer, whose signature appears, below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here.
Basic Energy Services L.P. will continue to monitor all placed guides lines to insure a safe and environmental operation to the public and its surrounding. Basic Energy Services LP further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, Safety and the environment, change the conditions and requirements of this permit administratively.

Conditions Accepted By:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my information those individuals immediately responsible for obtaining the information, I believe that the information in true accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

Basic Energy Services LP
Company Name – Print name above

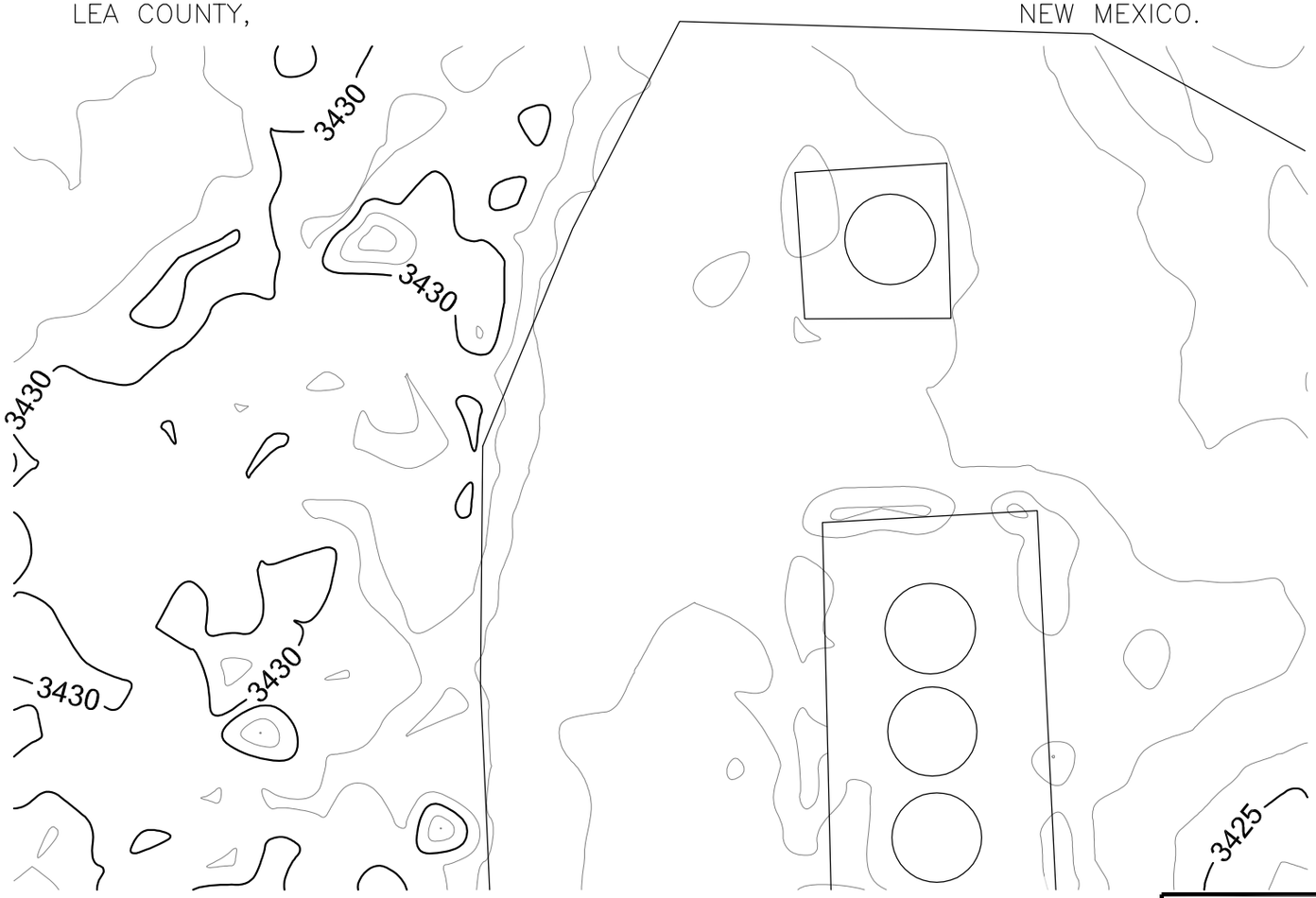
Cory Walk
Company Representative (Authorized Agent) – print name

Cory Walk
_____
Company Representative Signature

Title: Permitting Agent (Permits West Inc.)

Date: 1/23/2020

TOPOGRAPHIC PLAT
BASIC ENERGY SERVICES
A TOPOGRAPHIC SURVEY OF A SITE IN
SECTION 34, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



CONTOUR INTERVALS – MINOR INTERVAL IS 1 FOOT AND MAJOR INTERVAL IS 5 FOOT.

150 0 150 300 FEET
SCALE: 1"=150'

HARCROW SURVEYING, LLC
2314 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

BASIC ENERGY SERVICES

A TOPOGRAPHIC SURVEY OF A SITE LOCATED IN SECTION 34, TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM, LEA COUNTY, NEW MEXICO

SURVEY DATE: APRIL 19, 2018		
DRAFTING DATE: MAY 15, 2018		PAGE 1 OF 2
APPROVED BY: CH	DRAWN BY: RS	FILE: 19-605

TOPOGRAPHIC PLAT
BASIC ENERGY SERVICES
AN AERIAL IMAGE OF A SITE IN
SECTION 34, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

HARCROW SURVEYING, LLC
2314 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

40 0 40 80
SCALE: 1"=40'

BASIC ENERGY SERVICES

AN ELEVATION SURVEY OF A SITE LOCATED IN SECTION 34, TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM, LEA COUNTY, NEW MEXICO

SURVEY DATE: APRIL 19, 2018		
DRAFTING DATE: MAY 15, 2018		PAGE 2 OF 2
APPROVED BY: CH	DRAWN BY: RS	FILE: 19-605

Monthly Fluids Injected and Brine Production Volumes (bbls) and Pressures (PSI) 2017 – 2019

Lease	BES Asset #	API		FOOTAGE		UNIT	SEC	TOWNSHIP	RANGE	County
Eunice Brine #1	18476	30-025-26884		630 FSL	2427 FEL	O	34	21S	37E	LEA
BES	2017		Brine	400	Max PSI		Fresh		Well Monthly capability 81,840 bbl.	
Month	Start	End	Total	PSI	F/W Start	F/W End	Total	% F/w to Brine	Year throughput capability 982,080 Bbl.	
Jan	0	10,699	**10,699**	250	0	11,292	**11,292**	94.7	1/1/16 reset brine and fresh meter to 0 ending 57813, 60448	
Feb	10,699	22,098	**11,399**	250	11,292	23,095	**11,803**	96.6		
Mar	22,098	38,679	**16,581**	250	23,095	41,237	**18,142**	91.4		
Apr	38,679	55,749	**17,070**	250	41,237	58,812	**17,575**	97.1		
May	0	12,049	**12,049**	250	0	15,007	**15,007**	80.3	re set to zero	
Jun	12,049	15,259	**3,210**	250	15,007	18,797	**3,790**	84.7		
July	0	8,211	**8,211**	250	0	9,182	**9,182**	89.4	re set 0	
August	8,211	15,177	**6,966**	250	9,182	17,242	**8,060**	86.4		
Sep	15,177	40,317	**25,140**	250	17,242	44,359	**27,117**	92.7		
Oct	40,317	47,106	**6,789**	250	44,359	53,898	**9,539**	71.2		
Nov	0	5,688	**5,688**	250	0	7,866	**7,866**	72.3	re set F/w and B/w meters	
Dec	5,688	14,937	**9,249**	250	7,866	23,800	15,934	58.0		
Year total			**133,051**				**155,307**	85.7		
					ENDING TOTAL FOR 2017					

Lease	BES Asset #	API		FOOTAGE		UNIT	SEC	TOWNSHIP	RANGE	County
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Month	Start	End	Total	PSI	F/W Start	F/W End	Total	% F/w to Brine	Year throughput capability 982,080 Bbl.	
Jan	0	13,917	**13,917**	250	0	21,072	**21,072**	66.0		
Feb	13,917	22,180	**8,263**	250	21,072	33,585	**12,513**	66.0		
Mar	0	6,319	**6,319**	250	0	9,451	**9,451**	66.9	Reset meters to 0 3.1.18	
Apr	6,319	28,216	**21,897**	250	9,451	32,886	**23,435**	93.4	Reset meters to 0 4.30.18	
May	0	20,777	**20,777**	250	0	26,844	**26,844**	77.4		
Jun	20,777	28,755	**7,978**	250	26,844	40,141	**13,297**	60.0		
July	28,755	40,817	**12,062**	250	40,141	55,627	**15,486**	77.9		
August	40,817	50,664	**9,847**		55,677	67,734	**12,057**	81.7		
Sep	0	17,366	**17,366**		0	18,780	**18,780**	92.5	New Meter 9.1.18	
Oct	17,366	34,263	**16,897**		18,780	36,872	**18,092**	93.4		
Nov	34,263	56,488	**22,225**		36,872	59,534	**22,662**	98.1		
Dec	0	12,472	**12,472**		0	12,712	**12,712**	98.1	Reset meters to 0	
Year total			**170,020**				**206,401**	82.4		
					ENDING TOTAL FOR 2018					

Lease	BES Asset #	API		FOOTAGE		UNIT	SEC	TOWNSHIP	RANGE	County
Eunice Brine #1	18476	30-025-26884		630 FSL	2427 FEL	O	34	21S	37E	LEA
BES			Brine	400	Max PSI		Fresh		Well Monthly capability 81,840 bbl.	
Month	Start	End	Total	PSI	F/W Start	F/W End	Total	% F/w to Brine	Year throughput capability 982,080 Bbl.	
Jan	12,472	12,472	**0**	250	12,712	12,712	**0**	N/A	Shut in well 1.11.19	
Feb			**0**				**0**			
Mar			**0**				**0**			
Apr			**0**				**0**			
May			**0**				**0**			
Jun			**0**				**0**			
July			**0**				**0**			
August			**0**				**0**			
Sep			**0**				**0**			
Oct			**0**				**0**			
Nov			**0**				**0**			
Dec			**0**				0			
Year total			**0**				**0**			
					RUNNING TOTALS FOR 2019					

Submit 1 Copy To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
October 13, 2009

WELL API NO.
30-025-26884

5. Indicate Type of Lease
STATE ☐ FEE xx ■

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
Eunice No # 001 BW - 002

1. Type of Well: Oil Well ☐ Gas Well ■ Other Brine

8. Well Number
1

2. Name of Operator
BASiC Energy Services L.P.

9. OGRID Number

3. Address of Operator 801 Cherry Street Ft Worth, TX 76102

10. Pool name or Wildcat
Salado

4. Well Location
Unit Letter O : 630 feet from the South line and 2427 feet from the East line
Section 34 Township 21 S Range 37 E NMPM County Lea

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	■	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
OTHER:	☐			OTHER: Salado Formation Test	■		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Basic Energy Services L.P. has successfully completed the five year MIT requirement.

Please accept our chart with this C-103 of the event that took place on 8/9/16 Starting time at 8:00 am and Finishing at 12:10 pm 8/9/16.

Mark Whitaker was witness to the event.

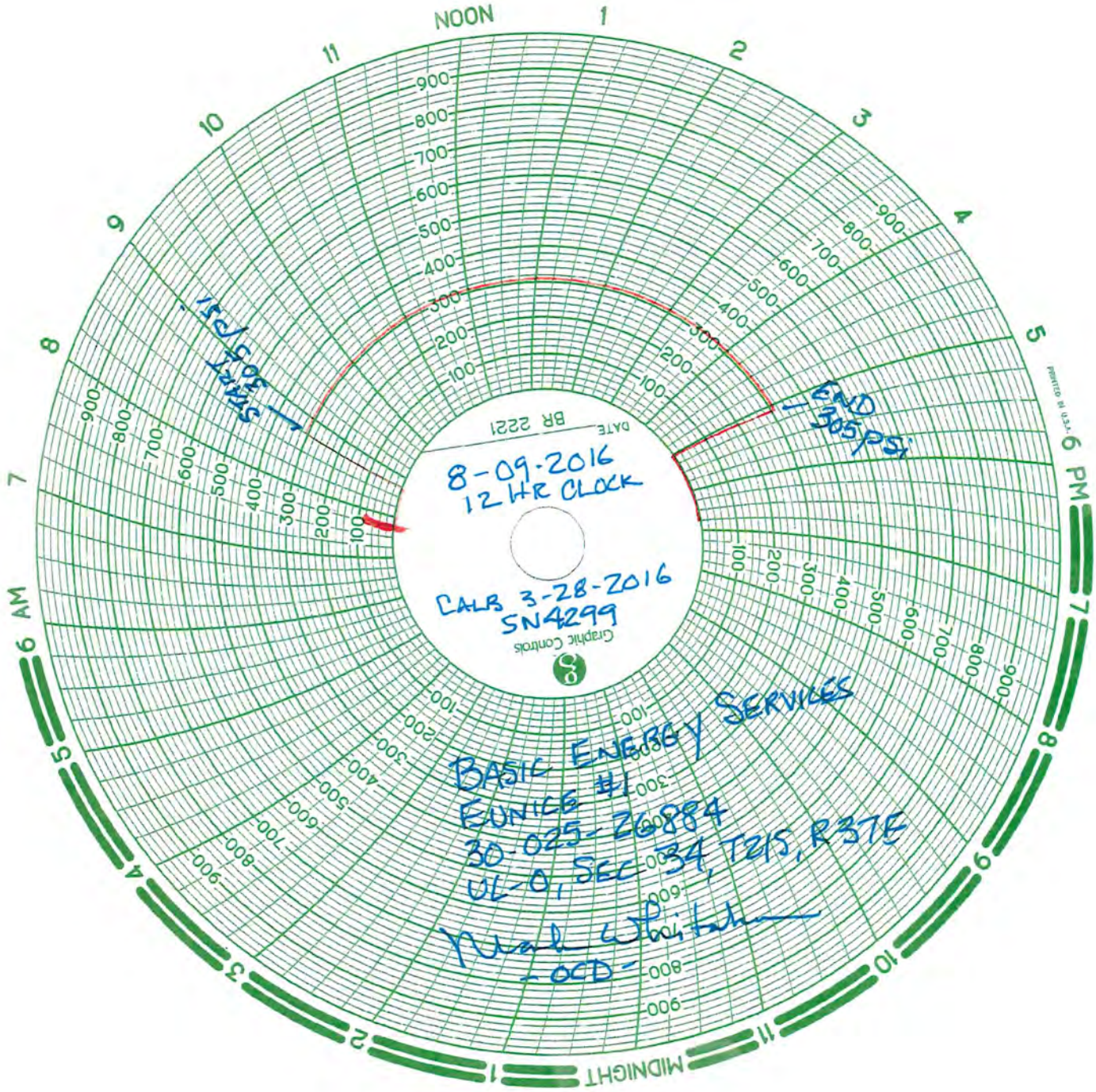
Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE TITLE SENM Fluid Sales MGR. DATE 8/9/14
Type or print name DAVID ALVARADO E-mail address: david.alvarado @basicenergyservices.com PHONE: 575.746 2072

For State Use Only

APPROVED BY: TITLE DATE
Conditions of Approval (if any):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DATE
BR 2221
Graphic Controls
8-09-2016
12 HR CLOCK
CALB 3-28-2016
SN4299
START 550 PSI
END 305 PSI
BASIC ENERGY SERVICES
EUNICE #1
30-025-26884
UL-O, SEC 34, T21S, R37E
Mark Whitaker
OCD

From: Chavez, Carl J, EMNRD
To: "Cory Walk"; Hull, Jason
Subject: RE: [EXT] BW-002 Eunice Brine
Date: Tuesday, January 14, 2020 3:53:00 PM

Cory, et al.:

OCD is in receipt of your msg. below and will respond soon.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us
"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to:
http://www.emnrd.state.nm.us/OCD **and see "Publications")**

From: Cory Walk <cory@permitswest.com>
Sent: Monday, January 13, 2020 9:33 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>; Hull, Jason <jason.hull@basicenergyservices.com>
Subject: [EXT] BW-002 Eunice Brine

Good Morning Carl,

I understand that NMOCD has requested Basic Energy Services to submit a closure plan and a plugging and abandonment plan for their Eunice Brine well (BW-002). Basic is still intending on permitting this well and have been making the necessary steps to comply with previous orders. Subsidence surveys have been completed, they have been gathering documents and working on annual reports, etc. They are currently hung up on getting a monitoring well installed. As this is land owned by Chevron, Basic has been struggling to get an agreement from Chevron to allow them to drill a monitoring well.

As Basic does not desire to presently plug and abandon this well, does the OCD still require the submittal of these plans? Or can Basic proceed in gathering the necessary documents for compliance and submit them ASAP, along with a renewal application? Please advise.

Thank you,

--
Cory Walk

Natural Resources Specialist/Geologist
Permits West
37 Verano Loop
Santa Fe, NM 87508

Office: 505-466-8120
Mobile: 760-445-4409

From:	Griswold, Jim, EMNRD
To:	Chavez, Carl J, EMNRD; Ames, Eric, EMNRD; Bratcher, Mike, EMNRD
Subject:	Compliance letter to Basic Energy regarding brine well BW-2 in Eunice
Date:	Thursday, December 26, 2019 4:19:52 PM
Attachments:	Basic Energy BW-2 compliance ltr of 12-26-19.pdf

See attached. Original sent to Mr. Pritchett with Basic Energy via snailmail today. Carl, would you please be sure this gets into the administrative record. Thanks.

Jim Griswold
Environmental Bureau Chief
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505.476.3465
email: jim.griswold@state.nm.us

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval
Director, Oil Conservation Division

CERTIFIED MAIL – RETURN RECEIPT REQUESTED
No. 7018 0040 0000 3405 6949

December 26, 2019

Mr. Gary Pritchett
Basic Energy Services, LP
801 Cherry, Suite 2100
Ft. Worth, Texas 76102

Re: WQCC Discharge Permit (BW-002)
Eunice Brine Well No. 1, API No. 30-025-26884

Mr. Pritchett,

The Energy, Minerals and Natural Resources Department, New Mexico Oil Conservation Division ("OCD") requests that Basic Energy Service, LP ("Basic") submit a closure plan and a plugging and abandonment plan no later than thirty (30) days after receipt of this letter.

The WQCC Discharge Permit (BW-002) expired on January 6, 2019. On January 2, 2019, OCD ordered the well to be shut-in on or before January 6, 2019. On January 11, 2019, Basic informed OCD that the brine well had been shut-in.

OCD has identified violations of the discharge permit, including:

Condition 1.F (operation after expiration of the permit)
Condition 2.A (failure to submit 8 quarterly analyses of injected fluids and brine)
Condition 2.A(1) (failure to monitor the well)
Condition 2.B(1) (failure to comply with Surface Subsidence Monitoring Plan)
Conditions 2(B)(2) & 5.D (failure to submit Solution Cavern Characterization Program)
Condition 2.B(3) (failure to submit annual certification)
Condition 2.H(3)(a) (failure to install a groundwater monitoring well)
Conditions 2.J & 5.A (failure to submit two annual reports)
Condition 3.F (failure to submit monthly reports since August 2018)

OCD reserves the right to enforce these violations.

Please contact Mr. Carl Chavez of my staff at your earliest convenience to arrange for the submittal of the requested plans. Mr. Chavez can be reached at (505) 476-3490. Your failure to submit approvable plans within thirty (30) days of receipt of this letter may result in the filing of an enforcement action.

Sincerely,

Adrienne Sandoval
OCD Director

cc: Carl Chavez, OCD Environmental Bureau
OCD Hobbs District Office
Office of General Counsel, EMNRD

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Heather Riley, Division Director
Oil Conservation Division

FEBRUARY 16, 2018

Mr. David Alvarado
Basic Energy Services, LLC
801 Cherry, Suite 2100
Ft. Worth, Texas 76102

Re: Discharge Permit (BW-2) Basic Energy Services, LLC, UIC Class III Brine Well Eunice Brine Well No. 1 API No. 30-025-26884 UL: O Section 34 Township 21 South, Range 37 East, NMPM, Lea County, New Mexico

Mr. Alvarado,

The Oil Conservation Division (OCD) notices Basic's discharge permit will expire on January 6, 2019. The OCD requests Basic review the submittal deadlines for documents over the past 5-years which are required under the permit, i.e.,

- Section 2.A Quarterly analysis of injected fluids and brine
- Section 2.A.1 Monitor Well; Section 2.B.1 Surface Subsidence Monitoring Plan information
- Section 2.B.2 Solution Cavern Characterization Program
- Section 2.B.3 Annual Certification
- Section 2.H.3.a Monitor well shall be installed and sampled
- Section 2.J Annual Report (note list of items to be included) due by June 1st of each year
- Section 3.C Continuous Monitoring Devices, and
- Section 3.F Fluids Injection and Brine Production Volumes and Pressures submittal of monthly reports of injection and production volumes on or before the 10th day of the following month.

The OCD has some of these submittals, but other required information appears to be absent. Therefore, the OCD is requesting Basic review the OCD administrative record (BW-2) on "OCD Online" and submit all required and/or missing information no later than May 4, 2018. The OCD will then complete its review of the records to determine the scope of any actions, if any, it may take to bring the discharge permit into compliance.

If you have any questions, please contact Carl Chavez at (505) 476-3490 or by email at Carl J.Chavez@state.nm.us.

Sincerely,

Carl Chavez for Jim Griswold

Jim Griswold
Environmental Bureau Chief

JG/cc

Enclosure: Discharge Permit BW-2

cc: Hobbs District Office

DISCHARGE PERMIT APPROVAL CONDITIONS

All discharge permits are subject to Water Quality Control Commission regulations.

1. GENERAL PROVISIONS:

1.A. PERMITTEE AND PERMITTED FACILITY: The Director of the Oil Conservation Division (OCD) of the Energy, Minerals and Natural Resources Department renews Discharge Permit BW-2 (Discharge Permit) to Basic Energy Services, L.P. (Permittee) to operate an Underground Injection Control (UIC) Class III Well for the solution mining of salt (Eunice Brine Well No. 1 API No. 30-025-26884) located 630 FSL and 2,427 FEL, Unit Letter O (SW/4 SE/4) of Section 34, Township 21 South, Range 37 East, Lat. N 32.42983°, Long. W 103.15015°, NMPM, Lea County, New Mexico. The brine extraction well is located approximately ¾ mile east on Texas Street and ½ mile south on Fourth Street from the town of Eunice, New Mexico.

The Permittee is permitted to inject water into the subsurface salt layers and produce brine for use in the oil and gas industry. Ground water that may be affected by a spill, leak, or accidental discharge of brine occurs at a depth of approximately 55 feet below ground surface and has a total dissolved solids (TDS) concentration of approximately 430 mg/L.

1.B. SCOPE OF PERMIT: OCD has been granted the authority by statute and by delegation from the Water Quality Control Commission (WQCC) to administer the Water Quality Act (Chapter 74, Article 6 NMSA 1978) as it applies to Class III wells associated with the oil and gas industry (See Section 74-6-4, 74-6-5 NMSA 1978).

The Water Quality Act and the rules promulgated pursuant to the Act protect ground water and surface water of the State of New Mexico by providing that, unless otherwise allowed by 20.6.2 NMAC, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless such discharge is pursuant to an approved discharge plan (See 20.6.2.3104 NMAC, 20.6.2.3106 NMAC, and 20.6.2.5000 through 20.6.2.5299 NMAC).

This Discharge Permit for a Class III Brine Well is issued pursuant to the Water Quality Act and WQCC rules, 20.6.2 NMAC. This Discharge Permit does not authorize any treatment of, or on-site disposal of, any materials, product, by-product, or oil-field waste.

Pursuant to 20.6.2.5004A NMAC, the following underground injection activities are prohibited:

1. The injection of fluids into a motor vehicle waste disposal well is prohibited.
2. The injection of fluids into a large capacity cesspool is prohibited.
3. The injection of any hazardous or radioactive waste into a well is prohibited except as provided by 20.6.2.5004A(3) NMAC.
4. Class IV wells are prohibited, except for wells re-injecting treated ground water into the same formation from which it was drawn as part of a removal or remedial action.
5. Barrier wells, drainage wells, recharge wells, return flow wells, and motor vehicle waste disposal wells are prohibited.

This Discharge Permit does not convey any property rights of any sort nor any exclusive privilege, and does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state, federal, or local laws, rules or regulations.

The Permittee shall operate in accordance with the terms and conditions specified in this Discharge Permit to comply with the Water Quality Act and the rules issued pursuant to that Act, so that neither a hazard to public health nor undue risk to property will result (see 20.6.2.3109C NMAC); so that no discharge will cause or may cause any stream standard to be violated (see 20.6.2.3109H(2) NMAC); so that no discharge of any water contaminant will result in a hazard to public health, (see 20.6.2.3109H(3) NMAC); so that the numerical standards specified of 20.6.2.3103 NMAC are not exceeded; and, so that the technical criteria and performance standards (see 20.6.2.5000 through 20.6.2.5299 NMAC) for Class III wells are met. Pursuant to 20.6.2.5003B NMAC, the Permittee shall comply with 20.6.2.1 through 20.6.2.5299 NMAC.

The Permittee shall not allow or cause water pollution, discharge, or release of any water contaminant that exceeds the Water Quality Control Commission (WQCC) standards specified at 20.6.2.3101 NMAC and 20.6.2.3103 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams). Pursuant to 20.6.2.5101A NMAC, the Permittee shall not inject non-hazardous fluids into ground water having 10,000 mg/l or less total dissolved solids (TDS).

The issuance of this permit does not relieve the Permittee from the responsibility of complying with the provisions of the Water Quality Act, any applicable regulations or water quality standards of the WQCC, or any applicable federal laws, regulations or standards (See Section 74-6-5 NMSA 1978). The Permittee shall abide by all commitments submitted in its discharge permit application including any attachments and/or amendments along with these approval conditions. Applications which reference previously approved plans on file with the OCD shall be incorporated into this permit and the Permittee shall abide by all commitments of such plans.

1.C. DISCHARGE PERMIT: This Discharge Permit is a permit renewal that replaces the permit being renewed. Replacement of a prior permit does not relieve the Permittee of its responsibility to comply with the terms of that prior permit while that permit was in effect.

1.D. DEFINITIONS: Terms not specifically defined in this Discharge Permit shall have the same meanings as those in the Water Quality Act or the rules adopted pursuant to the Act, as the context requires.

1.E. FILING FEES AND PERMIT FEES: Pursuant to 20.6.2.3114 NMAC, every facility that submits a Discharge Permit application for initial approval or renewal shall pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has already received the required $100.00 filing fee. The Permittee is now required to submit the $1,700.00 permit fee for a Class III well. Please remit payment made payable to the "Water Quality Management Fund" in care of OCD at 1220 South St. Francis Drive in Santa Fe, New Mexico 87505.

1.F. EFFECTIVE DATE, EXPIRATION, RENEWAL CONDITIONS, AND PENALTIES FOR OPERATING WITHOUT A DISCHARGE PERMIT: This Discharge Permit becomes effective immediately from the date that the Permittee receives this discharge permit or until the permit is terminated or expires. This Discharge Permit will **expire on January 6, 2019**. The Permittee shall submit an application for renewal no later than 120 days before that expiration date, pursuant to 20.6.2.5101F NMAC. If a Permittee submits a renewal application at least 120 days before the Discharge Permit expires and is in compliance with the approved Discharge Permit, then the existing Discharge Permit will not expire until OCD has approved or disapproved the renewal application. A discharge permit continued under this provision remains fully effective and enforceable. Operating with an expired Discharge Permit may subject the Permittee to civil and/or criminal penalties (See Section 74-6-10.1 NMSA 1978 and Section 74-6-10.2 NMSA 1978).

1.G. MODIFICATIONS AND TERMINATIONS: The Permittee shall notify the OCD Director and OCD's Environmental Bureau of any Facility expansion or process modification (See 20.6.2.3107C NMAC). The OCD Director may require the Permittee to submit a Discharge Permit modification application pursuant to 20.6.2.3109E NMAC and may modify or terminate a Discharge Permit pursuant to Sections 74-6-5(M) through (N) NMSA 1978.

1. If data submitted pursuant to any monitoring requirements specified in this Discharge Permit or other information available to the OCD Director indicate that 20.6.2 NMAC is being or may be violated, then the OCD Director may require modification or, if it is determined by the OCD Director that the modification may not be adequate, may terminate this Discharge Permit for a Class III well that was approved pursuant to the requirements of 20.6.2.5000 through 20.6.2.5299 NMAC for the following causes:

    a. Noncompliance by Permittee with any condition of this Discharge Permit; or,
    b. The Permittee's failure in the discharge permit application or during the discharge permit review process to disclose fully all relevant facts, or Permittee's misrepresentation of any relevant facts at any time; or,
    c. A determination that the permitted activity may cause a hazard to public health or undue risk to property and can only be regulated to acceptable levels by discharge permit modification or termination (See Section 75-6-6 NMSA 1978; 20.6.2.5101I NMAC; and, 20.6.2.3109E NMAC).

2. This Discharge Permit may also be modified or terminated for any of the following causes:

   a. Violation of any provisions of the Water Quality Act or any applicable regulations, standard of performance or water quality standards;
   b. Violation of any applicable state or federal effluent regulations or limitations; or
   c. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge (See Section 75-6-5M NMSA 1978).

1.H. TRANSFER OF CLASS III WELL DISCHARGE PERMIT:

1. The transfer provisions of 20.6.2.3111 NMAC do not apply to a discharge permit for a Class III well.

2. Pursuant to 20.6.2.5101H NMAC, the Permittee may request to transfer its Class III well discharge permit if:

   a. The OCD Director receives written notice 30 days prior to the transfer date; and
   b. The OCD Director does not object prior to the proposed transfer date. OCD may require modifications to the discharge permit as a condition of transfer, and may require demonstration of adequate financial responsibility.

3. The written notice required in accordance with Permit Condition 1.H.2.a shall:

   a. Have been signed by the Permittee and the succeeding Permittee, and shall include an acknowledgement that the succeeding Permittee shall be responsible for compliance with the Class III well discharge permit upon taking possession of the facility; and
   b. Set a specific date for transfer of the discharge permit responsibility, coverage and liability; and
   c. Include information relating to the succeeding Permittee's financial responsibility required by 20.6.2.5210B(17) NMAC.

1.I. COMPLIANCE AND ENFORCEMENT: If the Permittee violates or is violating a condition of this Discharge Permit, OCD may issue a compliance order that requires compliance immediately or within a specified time period, or assess a civil penalty, or both (See Section 74-6-10 NMSA 1978). The compliance order may also include a suspension or termination of this Discharge Permit. OCD may also commence a civil action in district court for appropriate relief, including injunctive relief (See Section 74-6-10(A)(2) NMSA 1978). The Permittee may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a discharge permit; making any false material statement, representation, certification or omission of material fact in a renewal application, record, report, plan or other document filed, submitted or required to be maintained under the Water Quality Act; falsifying, tampering with or rendering inaccurate any monitoring device, method or record required to be maintained under the Water Quality Act; or failing to monitor, sample or report as required by a Discharge Permit issued pursuant to a state or federal law or regulation (See Section 74-6-10.2 NMSA 1978).

2. GENERAL FACILITY OPERATIONS:

2.A. QUARTERLY MONITORING REQUIREMENTS FOR CLASS III WELLS: The Permittee may use either or both fresh water or water from otherwise non-potable sources. Pursuant to 20.6.2.5207C, the Permittee shall provide analysis of the injected fluids and brine at least quarterly to yield data representative of their characteristics. The Permittee shall analyze both the injected fluids and brine for the following characteristics: pH; density, concentration of total dissolved solids (TDS); chloride concentration; and sodium concentration (for brine only).

1. **Monitor Well:** The Permittee shall verify that a downgradient monitor well screened into the water table aquifer exists within 250 ft. of the brine well within 6 months of permit renewal and collect a background groundwater sample for general chemistry and WQCC 20.6.2.3103 NMAC groundwater constituents. Groundwater quality data shall comply with EPA Quality Assurance/Quality Control (QA/QC) and Data Quality Objectives (DQOs) and be **submitted to OCD for approval within 7 months of permit renewal**. The monitor well construction shall comply with EPA Standards and be required to be sampled and monitored **annually** thereafter for the following characteristics:

- pH (Method 9040);
- Eh;
- Specific conductance;
- Specific gravity;
- Temperature; and
- General ground water quality parameters (general chemistry/cations and anions, including: fluoride, calcium, potassium, magnesium, sodium bicarbonate, carbonate, chloride, sulfate, total dissolved solids, cation/anion balance, pH, and bromide using the methods specified in Method 6010C).

The environmental data results shall be reported in the Annual Report (Section 2.J).

2.B. SOLUTION CAVERN MONITORING PROGRAM:

1. **Surface Subsidence Monitoring Plan:** The Permittee has submitted a Surface Subsidence Monitoring Plan to OCD. The Surface Subsidence Monitoring Plan shall specify that the Permittee will install at least three survey monuments and shall include a proposal to monitor the elevation of the monuments and top of well casing at least semiannually.

   The Permittee shall survey each survey monument and top of well casing at least semiannually to monitor for possible surface subsidence and shall tie each survey to the nearest USGS geodetic benchmark. The Permittee shall employ a licensed professional surveyor to conduct the subsidence monitoring program with proper instrument accuracy assessment at the conclusion of each survey. The Permittee shall submit the results of all subsidence surveys with summary of results and any recommendations to OCD within 15 days of survey completion. If the monitored surface subsidence survey at any measuring point reaches 0.10 ft. compared to its baseline elevation, then the Permittee shall notify OCD immediately for further instructions. If the Permittee cannot demonstrate the integrity of the cavern and well to the satisfaction of OCD, then it shall cease all brine production and submit a corrective action plan to mitigate the subsidence. The Permittee shall include the above information in the Annual Report (Section 2.J).

2. **Solution Cavern Characterization Program:** The Permittee shall submit a Solution Cavern Characterization Plan to characterize the size and shape of the solution cavern using geophysical methods within 180 days of the effective date of this permit. The Permittee shall characterize the size and shape of the solution cavern using a geophysical methods 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.

3. **Annual Certification:** The Permittee shall certify annually in the Annual Report (Section 2.J) that continued salt solution mining will not cause cavern collapse, surface subsidence, property damage, or otherwise threaten public health and the environment, based on geologic and engineering data.

   If the solution cavern is determined by either OCD or the Permittee to be potentially unstable by either direct or indirect means, then the Permittee shall cease all fluid injection and brine production within 24 hours. If the Permittee ceases operations because it or OCD has determined that the solution cavern is unstable, then it shall submit a plan to stabilize the solution cavern within 30 days. OCD may require the Permittee to implement additional subsidence monitoring and to conduct additional corrective action.

2.C. CONTINGENCY PLANS: The Permittee shall implement its proposed contingency plan(s) included in its Permit Application to cope with failure of a system(s) in the Discharge Permit.

2.D. CLOSURE: Prior to closure of the facility, the Permittee shall submit for OCD's approval, a closure plan including a completed form C-103 for plugging and abandonment of the Class III well. The Permittee shall plug and abandon its well pursuant to 20.6.2.5209 NMAC and as specified in Permit Conditions 2.I and 5.B to address: well plug and abandonment, land surface restoration; environmental groundwater monitoring (if applicable); and five years of surface subsidence monitoring.

1. **Pre-Closure Notification:** Pursuant to 20.6.2.5005A NMAC, the Permittee shall submit a pre-closure notification to OCD's Environmental Bureau at least 30 days prior to the date that it proposes to close or to discontinue operation of its Class III well. Pursuant to 20.6.2.5005B NMAC, OCD's Environmental Bureau must approve all proposed well closure activities before Permittee may implement its proposed closure plan.

2. **Required Information:** The Permittee shall provide OCD's Environmental Bureau with the following information:

- Name of facility;
- Address of facility;
- Name of Permittee (and owner or operator, if appropriate);
- Address of Permittee (and owner or operator, if appropriate);
- Contact person;
- Phone number;
- Number and type of well(s);
- Year of well construction;
- Well construction details;
- Type of discharge;
- Average flow (gallons per day);
- Proposed well closure activities (e.g., sample fluids/sediment, appropriate disposal of remaining fluids/sediments, remove well and any contaminated soil, clean out well, install permanent plug, conversion to other type of well, ground water and vadose zone investigation, other);
- Proposed date of well closure;
- Proposed method and date of surface restoration;
- Name of preparer; and
- Date.

2.E. PLUGGING AND ABANDONMENT PLAN: Pursuant to 20.6.2.5209A NMAC, when the Permittee proposes to plug and abandon its Class III well, it shall submit to OCD a plugging and abandonment plan that meets the requirements of 20.6.2.3109C NMAC, 20.6.2.5101C NMAC, and 20.6.2.5005 NMAC for protection of ground water. If requested by OCD, Permittee shall submit for approval prior to closure, a revised or updated plugging and abandonment plan. The obligation to implement the plugging and abandonment plan as well as the requirements of the plan survives the termination or expiration of this Discharge Permit. The Permittee shall comply with 20.6.2.5209 NMAC.

2.F RECORD KEEPING: The Permittee shall maintain records of all inspections, surveys, investigations, etc., required by this Discharge Permit at its Facility office for a minimum of five years and shall make those records available for inspection at the request of an OCD Representative.

2.G. RELEASE REPORTING: The Permittee shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, if it determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Permittee shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Permittee determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a release to OCD's Environmental Bureau.

1. **Oral Notification:** As soon as possible after learning of such a discharge, but in no event, more than twenty-four (24) hours thereafter, the Permittee shall notify OCD's Environmental Bureau. The Permittee shall provide the following:

   - The name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner and/or operator of the facility;
   - The name and location of the facility;
   - The date, time, location, and duration of the discharge;
   - The source and cause of discharge;
   - A description of the discharge, including its chemical composition;
   - The estimated volume of the discharge; and,
   - Any corrective or abatement actions taken to mitigate immediate damage from the discharge.

2. **Written Notification:** Within one week after the Permittee has discovered a discharge, the Permittee shall send written notification (may use form C-141 with attachments) to OCD's Environmental Bureau verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

   The Permittee shall provide subsequent corrective actions and written reports as required by OCD's Environmental Bureau.

2.H. OTHER REQUIREMENTS:

1. **Inspection and Entry:** Pursuant to Section 74-6-9 NMSA 1978 and 20.6.2.3107A NMAC, the Permittee shall allow any authorized representative of the OCD Director, to:

   - Upon the presentation of proper credentials, enter the premises at reasonable times;
   - Inspect and copy records required by this Discharge Permit;
   - Inspect any treatment works, monitoring, and analytical equipment;
   - Sample any injection fluid or produced brine;
   - Conduct various types environmental media sampling, and
   - Use the Permittee's monitoring systems and wells in order to collect groundwater samples.

2. **Advance Notice:** The Permittee shall provide OCD's Environmental Bureau and Hobbs District Office with at least five (5) working days advance notice of any environmental sampling to be performed pursuant to this Discharge Permit, or any well plugging, abandonment or decommissioning of any equipment associated with its Class III well.

3. **Environmental Monitoring:** The Permittee shall ensure that any environmental sampling and analytical laboratory data collected meets the standards specified in 20.6.2.3107B NMAC or EPA QA/QC Standards. The Permittee shall ensure that all environmental samples are analyzed by an accredited "National Environmental Laboratory Accreditation Conference" (NELAC) Laboratory. The Permittee shall submit environmental sampling data summary tables, all raw analytical data, and laboratory QA/QC.

   a. A monitor well shall be installed hydrogeologically downgradient from the Brine Well and sampled in accordance with Section 2.A.1.

2.I. BONDING OR FINANCIAL ASSURANCE: Pursuant to 20.6.2.5210B(17) NMAC, the Permittee shall maintain at a minimum, a single well plugging bond in the amount that it shall determine, in accordance with Permit Conditions 2.D and 5.B, to cover potential costs associated with plugging and abandonment of the Class III well, surface restoration, environmental ground water monitoring (if applicable), along with five years of surface subsidence monitoring thereafter. OCD may require additional financial assurance to ensure adequate funding is available to plug and abandon the well and/or for any required environmental related corrective actions.

Methods by which the Permittee shall demonstrate the ability to undertake these measures shall include submission of a surety bond or other adequate assurances, such as financial statements or other materials acceptable to the OCD Director, such as: (1) a surety bond; (2) a trust fund with a New Mexico bank in the name of the State of New Mexico, with the State as Beneficiary; (3) a non-renewable letter of credit made out to the State of New Mexico; (4) liability insurance specifically covering the contingencies listed in this paragraph; or (5) a performance bond, generally in conjunction with another type of financial assurance. If an adequate bond is posted by the Permittee to a federal or another state agency, and this bond covers all of the measures specified above, the OCD Director shall consider this bond as satisfying the bonding requirements of Sections 20.6.2.5000 NMAC through 20.6.2.5299 NMAC wholly or in part, depending upon the extent to which such bond is adequate to ensure that the Permittee will fully perform the measures required hereinabove.

2.J. ANNUAL REPORT: The Permittee shall submit its annual report pursuant to 20.6.2.3107 NMAC to OCD's Environmental Bureau by June 1st of the following year. The annual report shall include the following:

- Cover sheet marked as "Annual Class III Well Report, Name of Permittee, Discharge Permit Number, API number of well(s), date of report, and person submitting report;
- Summary of Class III well operations for the year including a description and reason for any remedial or major work on the well with a copy of form C-103;
- Monthly fluid injection and brine production volume, including the cumulative total carried over each year;
- Annual monitor well analytical data results;
- Injection pressure data;
- A copy of the quarterly chemical analyses shall be included with data summary and all QA/QC information;
- Copy of any mechanical integrity test chart, including the type of test, i.e., duration, gauge pressure, etc.;
- Brief explanation describing deviations from the normal operations;
- Results of any leaks and spill corrective action reports;
- An Area of Review (AOR) update summary;
- A summary with interpretation of MITs, surface subsidence surveys, estimated cavern size and shape, cavern volume and geometry measurements with conclusion(s) and recommendation(s);
- A summary of the ratio of the monthly volume of injected fluids to the volume of produced brine;
- A summary of all major Facility activities or events, which occurred during the year with any conclusions and recommendations;
- Annual Surface Subsidence Monitoring Plan data results in accordance with Permit Condition 2.B.1;
- Annual Solution Cavern Characterization data results in accordance with Permit Condition 2.B.2; and
- The Permittee shall file its Annual Report in an electronic format with a hard copy submittal to OCD's Environmental Bureau.

3. CLASS III WELL OPERATIONS:

3.A. OPERATING REQUIREMENTS: The Permittee shall comply with the operating requirements specified in 20.6.2.5206A NMAC and 20.6.2.5206A NMAC to ensure that:

1. **Brine Production Method:** During the cavern development process and daily brine production, a reverse flow configuration consisting of fresh water injection through the annulus between the casing and tubing string with brine production through the tubing string to surface. Injection and production flow may temporarily be reversed as required periodically to clean the tubing and annulus. However, injection must only occur in the intended solution mining interval.

2. **Injection Out of Zone:** Injection between the outermost casing and the well bore is prohibited in a zone other than the authorized injection zone. If the Permittee determines that its Class III well is discharging or suspects that it is discharging fluids into a zone or zones other than the permitted injection zone specified in Permit Condition 3.B.1., then the Permittee shall within 24 hours notify OCD's Environmental Bureau and Hobbs District Office of the circumstances and action(s) taken. The Permittee shall cease operations until proper repairs are made and it has received approval from OCD to re-start injection operations.

3.B. INJECTION OPERATIONS:

1. **Well Injection Pressure Limit:** The Permittee shall ensure that the maximum wellhead or surface injection pressure on its Class III well shall not exceed the fracture pressure of the injection salt formation and will not cause new fractures or propagate any existing fractures of cause damage to the system or underground source of drinking water.

2. **Pressure Limiting Device:** The Permittee shall equip and operate its Class III well or system with a pressure limiting device which shall, at all times, limit surface injection pressure to the maximum allowable pressure for its Class III well. The Permittee shall monitor the pressure-limiting device daily and shall report all pressure exceedances within 24 hours of detecting an exceedance to OCD's Environmental Bureau.

   The Permittee shall take all steps necessary to ensure that the injected fluids enter only the proposed injection interval and is not permitted to escape to other formations, fresh water zones, or onto the ground surface. The Permittee shall report to OCD's Environmental Bureau within 24 hours of discovery any indication that new fractures or existing fractures have been propagated, or that damage to the well, the injection zone, or formation has occurred.

3.C. CONTINUOUS MONITORING DEVICES: The Permittee shall use continuous monitoring devices to provide a record of injection pressure, flow rate, flow volume, and pressure on the annulus between the tubing and the long string of casing.

3.D. MECHANICAL INTEGRITY FOR CLASS III WELLS:

1. Pursuant to 20.6.2.5204 NMAC, the Permittee shall demonstrate mechanical integrity for its Class III well at least once every five years or more frequently as the OCD Director may require for good cause during the life of the well. The Permittee shall demonstrate mechanical integrity for its Class III well every time it performs a well workover, including when it pulls the tubing. A Class III well has mechanical integrity if there is no detectable leak in the casing or tubing which OCD considers to be significant at maximum operating temperature and pressure; and no detectable conduit for fluid movement out of the injection zone through the well bore or vertical channels adjacent to the well bore which the OCD Director considers to be significant. The Permittee shall conduct a casing Mechanical Integrity Test (MIT) from the surface to the approved injection depth to assess casing integrity. The MIT shall consist of a 30-minute test at a minimum pressure of 500 psig measured at the surface.

   The Permittee shall notify OCD's Environmental Bureau and Hobbs District Office at least 5 days prior to conducting any MIT to allow OCD Hobbs the opportunity to witness the MIT.

2. The following criteria will determine if the Class III well has passed the MIT:

   a. Passes MIT if zero bleed-off during the test;
   b. Passes MIT if final test pressure is within +/- 10% of starting pressure, if approved by OCD;
   c. When the MIT is not witnessed by OCD and fails, the Permittee shall notify OCD within 24 hours of the failure of the MIT.

3. Pursuant to 20.6.2.5204C NMAC, the OCD Director may consider the use by the Permittee of equivalent alternative test methods to determine mechanical integrity. The Permittee shall submit information on the proposed test and all technical data supporting its use. The OCD Director may approve the Permittee's request if it will reliably demonstrate the mechanical integrity of the well for which its use is proposed.

4. Pursuant to 20.6.2.5204D NMAC, when conducting and evaluating the MIT(s), the Permittee shall apply methods and standards generally accepted in the oil and gas industry. When the Permittee reports the results of all MIT(s) to the OCD Director, it shall include a description of the test(s), the method(s) used, and the test results.

3.E. WELL WORKOVER OPERATIONS: Pursuant to 20.6.2.5205A(5) NMAC, the Permittee shall provide notice to and shall obtain approval from OCD's District Office in Hobbs and the Environmental Bureau in Santa Fe prior to commencement of any remedial work or any other workover operations to allow OCD the opportunity to witness the operation. The Permittee shall request approval using form C-103 (Sundry Notices and Reports on Wells) with copies sent to OCD's Environmental Bureau and Hobbs District Office. Properly completed Forms C-103 and/or C-105 must be filed with OCD upon completion of workover activities and copies included in that year's Annual Report.

3.F. FLUIDS INJECTION AND BRINE PRODUCTION VOLUMES AND PRESSURES: The Permittee shall continuously monitor the volumes of water injected and brine production. The Permittee shall submit monthly reports of its injection and production volumes on or before the 10th day of the following month. The Permittee shall suspend injection if the monthly injection volume is less than 110% or greater than 120% of associated brine production. If such an event occurs, the Permittee shall notify OCD within 24 hours.

3.G. AREA OF REVIEW (AOR): The Permittee shall report within 72 hours of discovery any new wells, conduits, or any other device that penetrates or may penetrate the injection zone within a 1-mile radius from its Class III well. OCD shall be notified within 24 hours of having knowledge of any wells lacking cement within the cavern interval within a ½-mile radius from the Class III well.

4. CLASS V WELLS: Pursuant to 20.6.2.5002B NMAC, leach fields and other waste fluids disposal systems that inject non-hazardous fluid into or above an underground source of drinking water are UIC Class V injection wells. This Discharge Permit does not authorize the use of a Class V injection well for the disposal of industrial waste. Pursuant to 20.6.2.5005 NMAC, the Permittee shall close any Class V industrial waste injection well that injects non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes (e.g., septic systems, leach fields, dry wells, etc.) within 90 calendar days of the issuance of this Discharge Permit. The Permittee shall document the closure of any Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated ground water in its Annual Report. Other Class V wells, including wells used only for the injection of domestic wastes, shall be permitted by the New Mexico Environment Department.

5. SCHEDULE OF COMPLIANCE:

5.A. ANNUAL REPORT: The Permittee shall submit its annual report to OCD by June 1st of each year.

5.B. BONDING OR FINANCIAL ASSURANCE: The Permittee shall submit an estimate of the minimum cost to properly close, plug and abandon its UIC Class III well, conduct ground water restoration if applicable, surface restoration, and any post-operational monitoring as may be needed (see 20.6.2.5210B(17) NMAC) within 90 days of permit issuance (See 20.6.2.5210B(17) NMAC), and/or the Closure Plan addresses this requirement and is approved by OCD. The Permittee's cost estimate shall be based on third person estimates and included in the Closure Plan with the application. OCD will require the Permittee to submit a single well plugging bond based on the approved third person cost estimate for OCD approval before OCD may issue approval to drill and construct the well (also see Permit Conditions 2.D and 2.I).

5.C. SURFACE SUBSIDENCE MONITORING PLAN: The Permittee shall submit the Surface Subsidence Monitoring Plan required in accordance with Permit Condition 2.B.1 within 180 days of permit issuance for OCD approval.

5.D. SOLUTION CAVERN CHARACTERIZATION PLAN: The Permittee shall submit the Solution Cavern Characterization Plan required in accordance with Permit Condition 2.B.2 within 180 days of permit issuance for OCD approval.