BW - 30

GENERAL CORRESPONDENCE

YEAR(S):

2006 - Present

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, December 16, 2016 10:46 AM
To: 'Mike Anthony'
Subject: RE: BW-27 Cavern MIT Scheduling Eddy County

Mike:

Thank you.

From: Mike Anthony [mailto:manthony@cambrianmgmt.com]
Sent: Friday, December 16, 2016 8:28 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Subject: RE: BW-27 Cavern MIT Scheduling Eddy County

We will send a copy of the calibration sheet with the C-103
I have attached a copy for you also

Thanks,
Cambrian Management Ltd.
Mike Anthony
Field Operations Superintendant
2398 W. 44th St.
Odessa, Texas
Phone – 432- 550-5245
Fax – 432-550-5248
Cell – 432-631-4398
manthony@cambrianmgmt.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, December 15, 2016 12:11 PM
To: Mike Anthony
Subject: RE: BW-27 Cavern MIT Scheduling Eddy County

Mike:

If you could include a copy of the calibration sheet for the chart recorder with the C-103 that will work.

Thank you.

From: Mike Anthony [mailto:manthony@cambrianmgmt.com]
Sent: Thursday, December 15, 2016 10:07 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Subject: RE: BW-27 Cavern MIT Scheduling Eddy County

My phone number is 432-631-4398
Richard witnessed the tests yesterday and has the charts with him, we will file the c-103 forms today
Let me know if there is anything else we need to do
Thanks,

Cambrian Management Ltd.
Mike Anthony
Field Operations Superintendant
2398 W. 44th St.
Odessa, Texas
Phone – 432- 550-5245
Fax – 432-550-5248
Cell – 432-631-4398
manthony@cambrianmgmt.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, December 14, 2016 11:57 AM
To: Mike Anthony
Cc: Griswold, Jim, EMNRD
Subject: RE: BW-27 Cavern MIT Scheduling Eddy County

Mike:

Good morning! I attempted to contact you at the phone number (432) 691-4398, but a recording indicated the phone is out of service.

Has Cambrian Management contact Richard Inge (Artesia District Office) to schedule the MIT?

Thank you.

From: Chavez, Carl J, EMNRD
Sent: Tuesday, December 6, 2016 9:09 AM
To: 'MAnthony@CambrianMgmt.com' <MAnthony@CambrianMgmt.com>
Cc: Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Bayliss, Randolph, EMNRD <Randolph.Bayliss@state.nm.us>; Inge, Richard, EMNRD <richard.inge@state.nm.us>
Subject: BW-27 Cavern MIT Scheduling Eddy County

Mike:

Re MITs:

BW-27		A	Pyote	Dunaway #1	30-015-28083	F-23-22S-27E	1474
				Dunaway #2	30-015-28084	F-23-22S-27E	1443

Good morning! The New Mexico Oil Conservation Division (OCD) is writing to follow-up on our phone call this morning.

Cambrian Management (Cambrian) needs to contact Mr. Richard Inge of the Artesia District Office (see contact info. provided below) to witness the MIT. Cambrian is filling up the cavern today, and expects to have it filled to 300 psi by the end of today or tomorrow. Cambrian plans to run 4 hr. Cavern MITs on both wells.

District 2 - ARTESIA
811 S. First St.
Artesia, NM 88210
OFFICE: (575) 748-1283 FAX: (575) 748-9720

Business Hours:
7:00 AM - 12:00 PM and 1:00 PM - 4:00 PM
Monday through Friday

This office is responsible for OCD permitting, well data, inspection, and enforcement actions in Chaves, De Baca, Dona Ana, Eddy, Grant, Hidalgo, Lincoln, Luna, Otero, and Sierra Counties of New Mexico. Public access is available to OCD's computerized data.

Staff:

Richard Inge - Compliance Officer
Phone extension: 107
Mobile: (575) 626-0831

I have also attached some OCD Guidance on Casing and Cavern MITs with other relevant information you may find useful. Upon completion of the MIT, the C-103 Form, copy of calibration sheet for chart recorder (500 lb Spring), and original charts for each well shall be submitted to me at the address provided below.

Please contact Richard Inge or me if you have questions. Thank you.

Mr. Carl J. Chavez
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")**

Chavez, Carl J, EMNRD

From: Andy Rickard <arickard@cambrianmgmt.com>
Sent: Wednesday, November 30, 2016 10:48 AM
To: Billy Doucette; Chavez, Carl J, EMNRD
Cc: Griswold, Jim, EMNRD; Whitaker, Mark A, EMNRD; Alan Means
Subject: RE: BW-27 (Pyote Salado Dunaway Well No. 1 API# 30-015-28083 and Well No. 2 API# 30-015-28084): MIT Required

Thanks Billy, we will look into it

Andrew E Rickard
Project Manager
Cambrian MANAGEMENT, LTD.
415 West Wall St., Suite 900
Midland, TX 79701
Off: 432-620-9181
Cell: 432-553-2828

From: Billy Doucette [mailto:billy@pyotewatersystems.com]
Sent: Wednesday, November 30, 2016 9:39 AM
To: Chavez, Carl J, EMNRD
Cc: Griswold, Jim, EMNRD; Whitaker, Mark A, EMNRD; Alan Means; Andy Rickard
Subject: Re: BW-27 (Pyote Salado Dunaway Well No. 1 API# 30-015-28083 and Well No. 2 API# 30-015-28084): MIT Required

Carl,

Jerry Burton nor Pyote Well Service over see the wells for Pyote Water Solutions, LLC. You do have the correct email addresses for the new operator, Cambrian Management. Please direct any questions or concerns to them in the future.

Thanks in advance,

Billy Doucette
VP of Operations
Pyote Water Systems

Sent from my iPhone

On Nov 30, 2016, at 9:17 AM, Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us> wrote:

> <image001.gif>
> Jerry:

Good morning. OCD had requested that an EPA 5-Yr. Mechanical Integrity Test be performed on the above subject brine well on or before 11/30/16. The MIT schedule was apparently missed.

Please contact Mark Whitaker at the OCD Hobbs District Office within the next 3-days to schedule your MIT. His contact information is as follows:

Mark A. Whitaker - Petroleum Engineering Specialist
Phone extension: 120
Mobile: (575) 399-3202

- Field Inspections, Plug and Abandonment, Orphan Well Plugging, P&A Site Release

District 1
1625 N. French Drive
Hobbs, New Mexico 88240
OFFICE: (575) 393-6161 FAX: (575) 393-0720
EMERGENCY NUMBER - MOBILE: (575) 370-3186

Business Hours:
7:00 AM-12:00 PM and 1:00 - 4:00 PM

Monday through Friday
This office is responsible for OCD permitting, well data, inspection, and enforcement actions in Chaves, Curry, Lea, and Roosevelt Counties in the Permian Basin of New Mexico. Public access is available to OCD's computerized data.

Please contact me if you have questions. Thank you.

Mr. Carl J. Chavez
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
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MESQUITE SWD, INC.
P.O. Box 1479
Carlsbad, NM 88221

December 27, 2012

Pyote Well Service, LLC
Attn: H. H. Wommack, III
400 W. Illinois, Suite 950
Midland, TX 79701

RE: Transfer of Ownership of Facilities covered by Permit Nos. BW-27 and BW-30

Dear Mr. Wommack,

This letter constitutes notice that the following facilities to be transferred to Pyote Well Service, LLC ("Transferee") by Mesquite SWD, Inc. ("Transferor") are covered by the following New Mexico discharge permits:

Facility	New Mexico Permit
Hobbs State Brine	Permit No. BW-30
Carlsbad Brine Station (including the Dunaway No. 1 and Dunaway No. 2 brine wells)	Permit No. BW-27

Please indicate your receipt of this notice below.

Mesquite SWD, Inc.

Clay Wilson, President

Acknowledgement of receipt of Notice:
Pyote Well Service, LLC

H. H. Wommack, III, Chief Manager

Jim,
Please let me know if you need anything else for this brine permit transfer!
Thank you,
Jenni Usher
512-820-8772

RECEIVED OCD
2013 APR -9 A 10:44

Normal.dotm

OIL CONSERVATION DIVISION (OCD) CERTIFICATION:

Pyote Well Service, LLC (PWS) hereby accepts the terms and conditions of the attached Mesquite Swd, Inc. discharge permit (BW-30) and agrees to comply with the terms and conditions. PWS acknowledges that the Oil Conservation Division may change the terms and conditions for good cause shown as necessary to protect fresh water, human health and the environment. The undersigned also attest to the fact that he understands 19.15.5.11 NMAC which states "Any person who conducts any activity pursuant to a permit, administrative order or other written authorization or approval from the division shall comply with every term, condition and provision of such permit, administrative order, authorization or approval.

Accepted.

Pyote Well Service, LLC
400 W. Illinois Ave, Ste 950
Midland, TX 79701

Signature: _____

Title: Chief Manager

Date: 12/27/12

HOBBS ST BRINE 2011 (BW-30)

	FRESH	BRINE
January	35,281	31,544
February	33,863	32,715
March	32,751	28,280
April	38,815	36,255
May	34,590	32,499
June	31,170	28,700
July	35,236	32,465
August	31,141	29,251
September	33,606	29,614
October	55,812	52,807
November	43,602	40,441

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, November 22, 2016 10:05 AM
To: 'ameans@cambrianmgmt.com'
Cc: Griswold, Jim, EMNRD; 'arickard@cambrianmgmt.com'; Whitaker, Mark A, EMNRD
Subject: FW: New Mexico Oil Conservation Division (OCD) Pyote Brine Wells UIC Class III Wells (BWs 27 & 30) Lea County
Attachments: Pyote Brine Well Bankruptcies 11-10-2016.docx; BW-27 DP 2013.pdf; BW-30 DP 2013.pdf; EPA 5-Yr Casing MIT 10-12-2016 CJC.pdf; UIC Class III Cavern MIT Guidence 10-12-16CJC..pdf; UIC Well MSIP Calc 10-12-16.docx; Fluid Pressure Gradients.pdf

Mr. Alan D. Means:

Good morning. Mark A. Whitaker (OCD Hobbs District Office) recently informed me about your contact information.

The New Mexico Oil Conservation Division (OCD) has been in contact with Mr. Rickard (Cambrian Management, LTD) regarding the transfer of operations for the above subject brine wells in the e-mail message below (also see attached "Pyote Brine Well Bankruptcy" document) in New Mexico by the Court from Pyote to Cambrian.

OCD sent an e-mail to Mr. Rickard on November 10, 2016 (see msg. below) with the attached documents, which include OCD MIT Guidance for BW-27.

OCD recently sent out notices to brine well operators in New Mexico for certain brine wells requiring completion of Environmental Protection Agency (EPA) Mechanical Integrity Testing (MIT) on or before November 30, 2016.

Operators are required to submit C-103 Sundry Forms with details on their MITs to the OCD District Office for approval. Please contact Mr. Mark A. Whitaker of the OCD Hobbs District Office (see contact info. provided below) to schedule your MIT and for questions about the Sundry Notice.

District 1
1625 N. French Drive
Hobbs, New Mexico 88240
OFFICE: (575) 393-6161 FAX: (575) 393-0720
EMERGENCY NUMBER - MOBILE: (575) 370-3186
Business Hours:
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Staff:

Mark A. Whitaker - Petroleum Engineering Specialist
Phone extension: 120
Mobile: (575) 399-3202

- Field Inspections, Plug and Abandonment, Orphan Well Plugging, P&A Site Release

Please contact me or Mark Whitaker if you have questions.

Thank you.

From: Chavez, Carl J, EMNRD
Sent: Thursday, November 10, 2016 2:34 PM
To: 'arickard@cambrianmgmt.com' <arickard@cambrianmgmt.com>
Cc: Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>
Subject: New Mexico Oil Conservation Division (OCD) Pyote Brine Wells UIC Class III Wells (BWs 27 & 30)

Mr. Rickard:

Please find attached OCD's review of the discharge permits (see attachments) and well file status information.

I need to discuss with Jim for WQCC Permits (i.e., brine well UIC Class III) if OCD requires the WQCC Transfer of Operator form to be signed for both brine wells. If Cambrian does need to complete the WQCC Reg. form, I will send you a template to work from soon.

BW-27 requires an MIT to be completed on or before 11/30/2016 (please find attached two methods for satisfying the MIT requirements). Brine operators prefer the Cavern MIT because there are concerns about sloughing in the borehole and redrilling to re-emplace tubing to its original total depth when performing the Casing MIT.

Please contact me to communicate or if you have questions. Thank you.

Mr. Carl J. Chavez
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
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Chavez, Carl J, EMNRD

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Brine Well Permittee Bankruptcies & Status
By: Carl Chavez (11/10/2016)
Note: Google Earth™ images below are dated 2016

Carl, Jim and Daniel on 11/9 participated in a phone call with Andy Rickard at (432) 620-9181 or E-mail: arickard@cambrianmgmt.com regarding backruptcy of brine well ~ 2 weeks ago Pyote was relieved and **Cambrian** was ordered by a Fed. Judge to assume control of well. Carl is to provide Andy with any BW requirements, i.e., MITs, MW, fresh water and brine testing under the DP.

I. Basic Energy Services

- BW-27 **Pyote Salado Dunaway Well No. 1** API# 30-015-28083 (N 32.38138, W 104.16240) and Well No. 2 API# 30-015-28084 (N 32.3814621, W 104.163559): Status is active. Permit expires on 11/8/18. The deficiencies are as follows: wells last MIT'd on 2/18/2010; lacks annual reports; lacks Qtly. Monitor Rpts (last brine production report submitted for Sept. 2014); lack of a Surface Subsidence Monitoring Plan and no semiannual monitoring; lack of Solution Cavern Characterization Plan to characterize the size and shape of the solution cavern; lack of annual certifications; possible closure and PA plan may be required if closing the facility.

- BW-30 **Pyote Hobbs State Well #10** API# 30-025-35915 (N 32.71864, W 103.17166): Status is active. Permit expires on 11/8/18. The deficiencies are as follows: wells last MIT'd on 8/31/2015; lacks annual reports; lacks Qtly. Monitor Rpts; lack of a Surface Subsidence Monitoring Plan and no semiannual monitoring; lack of Solution Cavern Characterization Plan to characterize the size and shape of the solution cavern; lack of annual certifications; possible closure and PA plan may be required if closing the facility.

Chavez, Carl J, EMNRD

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Subject: New Mexico Oil Conservation Division (OCD) Pyote Brine Wells UIC Class III Wells (BWs 27 & 30)
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Mr. Carl J. Chavez
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
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Brine Well Permittee Bankruptcies & Status
By: Carl Chavez (11/10/2016)
Note: Google Earth™ images below are dated 2016

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I. Basic Energy Services

- BW-27 **Pyote Salado Dunaway Well No. 1** API# 30-015-28083 (N 32.38138, W 104.16240) and Well No. 2 API# 30-015-28084 (N 32.3814621, W 104.163559): Status is active. Permit expires on 11/8/18. The deficiencies are as follows: wells last MIT'd on 2/18/2010; lacks annual reports; lacks Qtly. Monitor Rpts (last brine production report submitted for Sept. 2014); lack of a Surface Subsidence Monitoring Plan and no semiannual monitoring; lack of Solution Cavern Characterization Plan to characterize the size and shape of the solution cavern; lack of annual certifications; possible closure and PA plan may be required if closing the facility.

- BW-30 **Pyote Hobbs State Well #10** API# 30-025-35915 (N 32.71864, W 103.17166): Status is active. Permit expires on 11/8/18. The deficiencies are as follows: wells last MIT'd on 8/31/2015; lacks annual reports; lacks Qtly. Monitor Rpts; lack of a Surface Subsidence Monitoring Plan and no semiannual monitoring; lack of Solution Cavern Characterization Plan to characterize the size and shape of the solution cavern; lack of annual certifications; possible closure and PA plan may be required if closing the facility.

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

November 8, 2013

H. H. "Tripp" Wommack, III
Pyote Well Service, LLC
400 W. Illinois Ave., Suite 950
Midland, Texas 79701

RE: Renewal of Discharge Permit BW-27 for the Dunaway #1 and #2 Brine Wells in Unit F of Section 23, Township 22 South, Range 27 East NMPM; Eddy County, New Mexico

Dear Mr. Wommack,

Pursuant to all applicable parts of the Water Quality Control Commission regulations 20.6.2 NMAC and more specifically 20.6.2.3104 thru.3999 discharge permit, and 20.6.2.5000 thru .5299 Underground Injection Control, the Oil Conservation Division hereby renews the discharge permit and authorizes operation and injection for the Pyote Well Service, LL.. (owner/operator) brine wells associated with BW-27 (API# 30-015-28083 and 30-015-28084) at the location described above and under the conditions specified in the attached Discharge Permit Approval Conditions.

Be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, groundwater, or the environment. Nor does this permit relieve the owner/operator of any responsibility or consequences associated with subsidence or cavern failure. This permit does not relieve the owner/operator of its responsibility to comply with any other applicable governmental rules or regulations.

If you have any questions, please contact Jim Griswold of my staff at (505) 476-3465 or by email at *jim.griswold@state.nm.us*. On behalf of the Oil Conservation Division, I wish to thank you and your staff for your cooperation and patience during this renewal application review.

Respectfully,

Jami Bailey
Director

JB/JG/jg
Attachment – Discharge Permit Approval Conditions

DISCHARGE PERMIT BW-27

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-27 (Discharge Permit) to Pyote Well Service, LLC (Permittee) to operate its Underground Injection Control (UIC) Class III wells for the in situ extraction of salt (Dunaway #1 – API No. 30-015-28083 and Dunaway #2 - API No. 30-015-28084) both located within the SE/4 NW/4 (Unit Letter F) of Section 23, Township 22 South, Range 27 East, NMPM, Eddy County, New Mexico at its Brine Production Facility (Facility). The Facility is located approximately three miles east of Carlsbad, New Mexico to the east of NM 216 (Grandi Road) along the south side of Forni Road.

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 occurs at a depth of approximately 50 feet below ground surface and has a total dissolved solids concentration of approximately 4,000 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 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).

1.C. DISCHARGE PERMIT RENEWAL: 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 30 days from the date that the Permittee receives this discharge permit or until the permit is terminated or expires. This Discharge Permit will expire on **November 8, 2018.** 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 at least quarterly to yield data representative of their characteristics. The Permittee shall analyze the injected fluids for the following characteristics:

- pH;
- density;
- concentration of total dissolved solids; and,
- chloride concentration.

The Permittee shall also provide analysis of the produced brine on a quarterly basis. The Permittee shall analyze the produced brine for the following characteristics:

- pH;
- density;
- concentration of total dissolved solids;
- chloride concentration; and,
- sodium concentration.

2.B. SOLUTION CAVERN MONITORING PROGRAM:

1. Surface Subsidence Monitoring Plan: The Permittee shall submit a Surface Subsidence Monitoring Plan to OCD within 180 days of the effective data of this permit. 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 at least semiannually.

The Permittee shall survey each benchmark at least semiannually to monitor for possible surface subsidence and shall tie each survey to the nearest USGS benchmark. The Permittee shall employ a licensed professional surveyor to conduct the subsidence monitoring program. The Permittee shall submit the results of all subsidence surveys to OCD within 15 days of the survey. If the monitored surface subsidence at any measuring point reaches 0.10 feet compared to its baseline elevation, then the Permittee shall suspend operation of the Class III well . 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.

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 November 8, 2018. 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, 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.

3. Annual Certification: The Permittee shall certify annually 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 Renewal 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 Condition 2.D.

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;
- 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 by OCD.

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 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; and,
- Use the Permittee's monitoring systems and wells in order to collect 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. The Permittee shall ensure that all environmental samples are analyzed by an accredited "National Environmental Laboratory Accreditation Conference" (NELAC) Laboratory. The Permittee shall submit data summary tables, all raw analytical data, and laboratory QA/QC.

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 Condition 5.B, to cover potential costs associated with plugging and abandonment of the Class III well, surface restoration, and post-operational monitoring, as may be needed. OCD may require additional financial assurance to ensure adequate funding is available to plug and abandon the well and/or for any required 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 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;
- 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 reports;
- An Area of Review (AOR) update summary;
- A summary with interpretation of MITs, surface subsidence surveys, cavern volume and geometry measurements with conclusion(s) and recommendation(s);
- A summary of the ratio of the 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 Certification in accordance with Permit Condition 2.B.3.
- A summary of any new discoveries of ground water contamination with all leaks, spills and releases and corrective actions taken; 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. Injection will occur through the innermost tubing string and brine production through the annulus between the casing and tubing string to promote cavern development at depth. Injection and production flow can be reversed as required to achieve optimal cavern shaping, mine salt most efficiently, and to periodically clean the tubing and annulus. Injection must only occur in the intended solution mining interval.

2. 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.

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 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 300 psig measured at the surface.

The Permittee shall notify OCD's Environmental Bureau 5 days prior to conducting any MIT to allow OCD 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.K. 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.

BW-30

Pyote Well Service/Hobbs
Hobbs State #10

Permit Renewal
11/8/13

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

November 8, 2013

H. H. "Tripp" Wommack, III
Pyote Well Service, LLC
400 W. Illinois Ave., Suite 950
Midland, Texas 79701

RE: Renewal of Discharge Permit BW-30 for the Hobbs State #10 Brine Well in Unit F of Section 29, Township 18 South, Range 38 East NMPM; Lea County, New Mexico

Dear Mr. Wommack,

Pursuant to all applicable parts of the Water Quality Control Commission regulations 20.6.2 NMAC and more specifically 20.6.2.3104 thru.3999 discharge permit, and 20.6.2.5000 thru .5299 Underground Injection Control, the Oil Conservation Division hereby renews the discharge permit and authorizes operation and injection for the Pyote Well Service, LL.. (owner/operator) brine well associated with BW-30 (API# 30-025-35915) at the location described above and under the conditions specified in the attached Discharge Permit Approval Conditions.

Be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, groundwater, or the environment. Nor does this permit relieve the owner/operator of any responsibility or consequences associated with subsidence or cavern failure. This permit does not relieve the owner/operator of its responsibility to comply with any other applicable governmental rules or regulations.

If you have any questions, please contact Jim Griswold of my staff at (505) 476-3465 or by email at *jim.griswold@state.nm.us*. On behalf of the Oil Conservation Division, I wish to thank you and your staff for your cooperation and patience during this renewal application review.

Respectfully,

Jami Bailey
Director

JB/JG/jg
Attachment – Discharge Permit Approval Conditions

cc: Michael Mariano, State Land Office

DISCHARGE PERMIT BW-30

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-30 (Discharge Permit) to Pyote Well Service, LLC (Permittee) to operate its Underground Injection Control (UIC) Class III well for the in situ extraction of salt (Hobbs State #10 API No. 30-025-35915) located 2565 FNL and 2330 FWL (SE/4 NW/4, Unit Letter F) of Section 29, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico at its Brine Production Facility (Facility). The Facility is located within Hobbs approximately 0.2 miles east of the intersection of W Mahon Dr. and CR 66A (NW County Road).

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 occurs at a depth of approximately 50 feet below ground surface and has a total dissolved solids concentration of approximately 800 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 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).

1.C. DISCHARGE PERMIT RENEWAL: 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 30 days from the date that the Permittee receives this discharge permit or until the permit is terminated or expires. This Discharge Permit will expire on **November 8, 2018.** 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 at least quarterly to yield data representative of their characteristics. The Permittee shall analyze the injected fluids for the following characteristics:

- pH;
- density;
- concentration of total dissolved solids; and,
- chloride concentration.

The Permittee shall also provide analysis of the produced brine on a quarterly basis. The Permittee shall analyze the produced brine for the following characteristics:

- pH;
- density;
- concentration of total dissolved solids;
- chloride concentration; and,
- sodium concentration.

2.B. SOLUTION CAVERN MONITORING PROGRAM:

1. Surface Subsidence Monitoring Plan: The Permittee shall submit a Surface Subsidence Monitoring Plan to OCD within 180 days of the effective data of this permit. 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 at least semiannually.

The Permittee shall survey each benchmark at least semiannually to monitor for possible surface subsidence and shall tie each survey to the nearest USGS benchmark. The Permittee shall employ a licensed professional surveyor to conduct the subsidence monitoring program. The Permittee shall submit the results of all subsidence surveys to OCD within 15 days of the survey. If the monitored surface subsidence at any measuring point reaches 0.10 feet compared to its baseline elevation, then the Permittee shall suspend operation of the Class III well . 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.

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 November 8, 2018. 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, 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.

3. Annual Certification: The Permittee shall certify annually 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 Renewal 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 Condition 2.D.

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;
- 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 by OCD.

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 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; and,
- Use the Permittee's monitoring systems and wells in order to collect 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. The Permittee shall ensure that all environmental samples are analyzed by an accredited "National Environmental Laboratory Accreditation Conference" (NELAC) Laboratory. The Permittee shall submit data summary tables, all raw analytical data, and laboratory QA/QC.

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 Condition 5.B, to cover potential costs associated with plugging and abandonment of the Class III well, surface restoration, and post-operational monitoring, as may be needed. OCD may require additional financial assurance to ensure adequate funding is available to plug and abandon the well and/or for any required 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 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 1**st 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;
- 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 reports;
- An Area of Review (AOR) update summary;
- A summary with interpretation of MITs, surface subsidence surveys, cavern volume and geometry measurements with conclusion(s) and recommendation(s);
- A summary of the ratio of the 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 Certification in accordance with Permit Condition 2.B.3.
- A summary of any new discoveries of ground water contamination with all leaks, spills and releases and corrective actions taken; 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. Injection will occur through the innermost tubing string and brine production through the annulus between the casing and tubing string to promote cavern development at depth. Injection and production flow can be reversed as required to achieve optimal cavern shaping, mine salt most efficiently, and to periodically clean the tubing and annulus. Injection must only occur in the intended solution mining interval.

2. 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.

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 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 300 psig measured at the surface.

The Permittee shall notify OCD's Environmental Bureau 5 days prior to conducting any MIT to allow OCD 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.K. 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.L. 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.

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 Class III well, conduct ground water restoration if applicable, 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). The Permittee's cost estimate shall be based on third person estimates. After review, OCD will require the Permittee to submit a single well plugging bond based on the third person cost estimate.

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.

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.

UIC Program
Brine Well EPA 5-Yr. MIT Guidance

(30-minute hydrostatic well casing MIT closed to formation)

1) A work over rig must remove all tubing from the hole.

2) A packer or plug must be set within 20 feet of the casing shoe depth and piping must be filled, and pressured up from 300 to 500 psi. The casing/tubing annulus must be loaded with inert fluid at least 24 hours prior to testing.

2) Have manpower and equipment available for pressure test. Wellhead shall be prepared for test and all valves and gauges should be in good working order.

3) Pumps, tanks, external lines etc. must be isolated from the wellhead during test.

4) A continuous recording pressure device with a 1 **or 4-hour clock** shall be installed on the casing annulus. The pressure range shall not be greater than 500 psig. The operator must provide proof that the pressure-recording device has been calibrated within the past 6 months.

5) A minimum of one pressure gauge shall be installed on the casing/tubing annulus.

6) OCD must witness the beginning of test (putting chart on) and ending of test (removing chart). At the end of test operator may be required to bleed-off well pressure to demonstrate recorder and gauge response into an adequately sized containment vessel(s) for this purpose and to verify that there were no obstructions in the well during the test. Effluent from this vessel must be discharged back into the well at the completion of the test.

7) The Operator shall supply the following information on the pressure chart:

   A. Company Name, Well Name, API #, Legal Location.

B. Test Procedure (1) Casing + Formation (2) Casing Test Only (3) Both (4) Other
C. Testing Media: Water, Gas, Oil, Etc.
D. Date, time started and ending.
E. Name (printed) and signature of company representative and OCD Inspector

8) **TEST ACCEPTANCE:** The OCD will use the following criteria in determining if a well has passed the Mechanical Integrity Test:

A. **Passes** if Zero Bleed-Off during the test.
B. **Passes** if Final Test Pressure is within ± 10% of Starting Pressure, if approved by the OCD inspector.
C. **Fails** if any Final Test Pressure is greater than ± 10% of Starting Pressure. Operators must investigate for leaks and demonstrate that mechanical integrity of the well(s) by ensuring there are no leaks in the casing, or packer, and injected/produced fluids are confined within the piping and injection zones. Wells shall not resume operations until approved by OCD.

Note: OCD recognizes that different operations, well designs, formation characteristics and field conditions may cause variations in the above procedures. If operator wishes to make or anticipate changes, please notify the OCD for approval. All operators are responsible to notify OCD of any procedure that may cause harm to the well system or formation. Please be advised that OCD approval does not relieve any operator of liability should operations result in pollution of surface water, groundwater, or the environment.

Also note: This document is intended to provide technical guidance to operators on technical means to achieve compliance with the rules and regulations of the Oil Conservation Division and the Oil and Gas Act. The test procedures set forth are not regulations or policies and therefore other methods may exist to achieve compliance with the rules and regulations and the Oil and Gas Act.

NMOCD recommends that a licensed professional engineer or licensed geologist, or a licensed professional engineer or licensed geologist designee supervise all test procedures and associated field activity.

OCD UIC Program
Draft Brine Well Cavern MIT Guidance (4-hour hydrostatic well test open to the salt formation)

1) The cavern and all piping must be filled, pressured up and stabilized for a period of at least 24 hours prior to testing. If this test requires a packer then casing/tubing annulus must be loaded with inert fluid 24 hours prior to testing.

2) Have manpower and equipment available for pressure test. Wellhead shall be prepared for test and all valves and gauges should be in good working order.

3) Pumps, tanks, external lines etc. must be isolated from the wellhead during test.

4) A continuous recording pressure device with an **8 or 12-hour clock** shall be installed on the casing/tubing annulus. The pressure range shall not be greater than 500 psig. The operator must provide proof that the pressure-recording device has been calibrated within the past 6 months. **Note: Wells with packer installed: If this test requires both the casing/tubing annulus and cavern to be tested then two recording devices must be supplied or one recording device with two pins.**

5) A minimum of one pressure gauge shall be installed on the casing/tubing annulus.

6) OCD must witness the beginning of test (putting chart on) and ending of test (removing chart). Ensure that fluids from the well are not spilled onto the ground.

7) The Operator shall supply the following information on the pressure chart:

   A. Company Name, Well Name, API #, Legal Location.
   B. Test Procedure (1) Casing + Formation (2) Casing Test Only (3) Both (4) Other
   C. Testing Media: Water, Gas, Oil, Etc.
   D. Date, time started and ending.
   E. Name (printed) and signature of company representative and OCD

Inspector

8) **TEST ACCEPTANCE:** The OCD will use the following criteria in determining if a well has passed the Mechanical Integrity Test:

A. **Passes** if Zero Bleed-Off during the test.

B. **Passes** if Final Test Pressure is within ± 1% of Starting Pressure, if approved by the OCD inspector.

C. **Fails** if any Final Test Pressure is greater than ± 1% of Starting Pressure. Operators must investigate for leaks and demonstrate that mechanical integrity of the well(s) by ensuring there are no leaks in the tubing, casing, or packer, and injected/produced fluids are confined within the piping and injection zones. Wells shall not resume operations until approved by OCD. Caution is urged to reduce pressure appropriately as a function of depth to the salt cavern to prevent fracturing during testing.

Note: OCD recognizes that different operations, well designs, formation characteristics and field conditions may cause variations in the above procedures. If operator wishes to make or anticipate changes please notify the OCD for approval. All operators are responsible to notify OCD of any procedure that may cause harm to the well system or formation. Please be advised that OCD approval does not relieve any operator of liability should operations result in pollution of surface water, groundwater, or the environment.

Also note: This document is intended to provide technical guidance to operators on technical means to achieve compliance with the rules and regulations of the Oil Conservation Division and the Oil and Gas Act. The test procedures set forth are not regulations or policies and therefore other methods may exist to achieve compliance with the rules and regulations and the Oil and Gas Act.

OCD recommends that a licensed professional engineer or licensed geologist, or a licensed professional engineer or licensed geologist designee supervise all test procedures and associated field activity.

Formation Water Type	Salinity Chloride mg/litre	ppm NaCl	Normal Pressure Gradient (psi/ft)	Equivalent Mudweight (lb/gal)
Fresh Water	0	0	0.433	8.34
Brackish Water	6,098	10,062	0.435	8.37
	12,287	20,273	0.438	8.43
	24,921	41,120	0.444	8.55
Seawater	33,000	54,450	0.448	8.63
Saltwater	37,912	62,554	0.451	8.67
	51,296	84,638	0.457	8.80
	64,987	107,228	0.464	8.92
Typical Offshore Gradient	65,287	107,709	0.465	8.96
	79,065	130,457	0.470	9.04
	93,507	154,286	0.477	9.17
	108,373	178,815	0.484	9.30
	123,604	203,946	0.490	9.43
	139,320	229,878	0.497	9.56
	155,440	256,476	0.504	9.71
	171,905	283,643	0.511	9.83
	188,895	311,676	0.518	9.97
Saturated Saltwater	191,600	316,140	0.519	9.99

Figure 3-2. Variation of hydrostatic pressure with formation water salinity

For example, if the normal pore pressure gradient is 8.34 lb/gal, then the pore pressure at 5000 feet is

$$5000 * 8.34 * 0.0519 = 2164 \text{ psi}$$

OCD UIC Program
Maximum Injection Pressure Calculation (10-12-16)

UIC Class I Well

MSIP= 0.2 * (DTP)

Max. Surface Injection Pressure= MSIP (dimensionless)
Depth to Top Perforation= DTP (Ft.)

UIC Class II Well

MSIP= 0.2 * (DTP)

Max. Surface Injection Pressure= MSIP (psig)
Depth to Top Perforation= DTP (Ft.)

UIC Class III Well

MSIP= MBHIP - FPIC

MBHIP[#]= 0.75 * (DTCS)
H (height of fluid in casing-ft)
DTCS (depth to casing shoe- ft)
FPIC (fluid pressure in casing- psi) ~ H * 0.433 psi/ft
MBHIP (max. bottom hole injection pressure- psi)
MSIP (max. surface injection pressure- psig)

[#] **Notes:** *DTCS may be multiplied by a lower fracture gradient value than 0.75 to reflect shallow salt cavern conditions. OCD is concerned about over-pressuring and fracturing the salt cavern during MIT formation testing. OCD has recommended the use of N_2 gas during Formation MITs in order to eliminate additional hydrostatic casing fluid pressure on the cavern during testing when lower pressures are required to prevent fracturing of the salt cavern. OCD's standard MSIP allowed is 300 psig for a cavern MIT. OCD is currently developing siting criteria that may eliminate shallow salt cavern brine wells in the future.*

UIC Class V Well

MSIP is typically not an issue

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, July 20, 2016 3:26 PM
To: 'David.Alvarado@basicenergyservices.com'; 'gandy2@leaco.net'; 'james@pabservicesinc.com'; 'Jerry@Pyotewatersystems.com'; 'tboone@keyenergy.com'; 'Garymschubert@gmail.com'; 'tony@waternex.com'
Cc: Griswold, Jim, EMNRD; Whitaker, Mark A, EMNRD; Inge, Richard, EMNRD
Subject: New Mexico UIC Class Ill Brine Well MIT Scheduling with Completion by December 30, 2016

Ladies and Gentlemen:

UIC Class III Brine Wells:

Basic Energy Services: BW-002 (Last MIT: 8/28/2012)
Gandy Corporation: BW-004 (Last MIT: 10/18/2011) & BW-022 (Last MIT: 10/18/2011)
Key Energy Services, LLC: BW-028 (Last MIT: 9/10/2010)
Pyote: BW-027 (MITs on 2-Well System Last MIT: 2/25/2010) & BW-030 (Last MIT: 12/28/2010)
Standard Energy: BW-008 (Last MIT: 11/16/2010)
HRC: BW-031 (Last MIT: 8/13/2009)

Good afternoon. It is that time of year again to remind operators that their MITs for this season must be completed by 12/30/2016. The list of permittee names w/ associated brine wells are provided above and as in the past, the OCD District Offices (see information provided below) attempt to schedule MITs logistically based on their busy schedules. You must submit a signed C-103 Form describing your MIT for OCD District Office approval.

Please contact your OCD District Office (see contact info. below) to schedule your MITs based on the County that your wells reside.

Mark Whitaker (Hobbs District Office)
Richard Inge (Artesia District Office)

Operators are aware of the annual formation MIT (4-hr @ 300 psig or less depending on historical pressure and TD of well) and every 5-yrs. or after well workover. EPA MIT (30 min. @ 500 psig). Operators need to review well MIT records for the type of MIT it will run this year and inform the OCD District Office of any issues or concerns associated with this season's MIT.

Also, Permittees should review your Discharge Permits for expiration. If your permit has expired or will soon expire, please contact me to discuss your situation(s).

You may access your well information on OCD Online either by API# and/or Permit Number at:

http://ocdimage.emnrd.state.nm.us/imaging/AEOrderCriteria.aspx and
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting//Data/Wells.aspx.

For information on New Mexico's UIC Program and training information, please go to:
http://www.emnrd.state.nm.us/OCD/publications.html.

Please contact me if you have questions. Thank you in advance for your cooperation in this matter.

Carl J. Chavez, CHMM

Environmental Engineer
Oil Conservation Division- Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
Phone: (505) 476-3490
Main Phone: (505) 476-3440
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: www.emnrd.state.nm.us/ocd
Why not prevent pollution, minimize waste, reduce operation costs, and move forward with the rest of the Nation? To see how, go to “Publications” and “Pollution Prevention” on the OCD Website.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, January 22, 2010 2:04 PM
To: 'Clay Wilson'; Griswold, Jim, EMNRD
Subject: RE: Hobbs State # 10

Clay:

Re:

# Permits	Order No.	Amd #	Applicant	Facility	Permit ID	API #	GPS	Location	County	
11	30	0	LIQUID RESOURCE SERVICES, LLC	HOBBS STATE #10	BW-30	30-025-35915	N 32.7186187515337 W - 103.171627900737	(UL-F)29-18S-38E	Lea	0

Good afternoon. The table above reflects some information on the brine production well. I only note that there are annual reporting requirements coming due. Also, you need to evaluate the OCD's Rules "Transfer" regulations to ensure that you have received and/or reviewed a facility documents and have undertaken due diligence to understand the conditions of the well, facility, etc. The OCD has OCD Online search engine (search for BW-30) at http://ocdimage.emnrd.state.nm.us/imaging/AEOrderCriteria.aspx and Well Information search (API# needed) at http://www.emnrd.state.nm.us/OCD/OCDPermitting/Data/Wells.aspx. You will notice regulatory language in the OCD

regulations that deal with well transfer, in example a certificate signed by seller and buyer acknowledging that the buyer understands are conditions and accepts responsibility for the well, facility, etc.

Give me a call if you have questions. You should be able to view past MIT information from the well. I'm not aware of any violations. Please contact me if you have questions. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Clay Wilson [mailto:claylwilson@pccnm.com]
Sent: Friday, January 22, 2010 1:43 PM
To: Griswold, Jim, EMNRD
Cc: Chavez, Carl J, EMNRD
Subject: Hobbs State # 10

Jim & Carl, Good afternoon.

I'm in the process of buying Liquid Resources brine well from them could you tell me if they are current on all reports that state needs Sec 29 T 29S 38E Hobbs State # 10 and their are no volitions that need to be address.

Thanks

Clay

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, March 07, 2008 9:03 AM
To: 'david@ewtitle.com'
Subject: Hobbs State #10 Brine Well (BW-30) Water Well Water Quality Analysis March 4, 2008

Mr. Pyeatt:

The OCD is in receipt of the above water quality information for the water well nearby BW-30. Mr. George Parchman has suggested using sample monitoring results from the water well to assist with the passing of the EPA 5-Yr. MIT. He also suggested that Liquid Resources Services, LLC is considering the use of a cup packer or some other device in the coated 5 inch ID tubing in order to pass (+/- 10%) the EPA 5-Yr. MIT (30 min. casing test @ 300 psig) in 2009. The OCD does not discourage you from attempting to pass the MIT this way. However, in a discussion with my Supervisor, Wayne Price, in the event the test fails, the use of the water well analytical data results to pass the EPA 5-Yr. MIT will not be considered a viable alternative source for passing the MIT in 2009.

Wayne recommended that you contact him at (505) 476-3490 to discuss the details in advance of the 2009 EPA 5-Yr. MIT and maybe find a solution? We are in the office today until 5 p.m. As you are aware, we are conducting the annual formation MIT this year using the nitrogen interface MIT method on March 20, 2008. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

PO Box 610
6210 Lovington Hwy.
Hobbs NM 88241

Office: (505) 392-1547
Fax: (505) 392-8788 or (505) 433-1547

Date: 3/5/08

To: Carl Chavez

From: Liquid Resource (George)

Page(s) 1 ***of*** 2

Comments: Water Sample from Monitor well at Hobbs State #10 Brine Well.

George Parchman

HALLIBURTON

PERMAIN BASIN OPERATIONS LABORATORY
WATER ANALYSIS REPORT
HOBBS, NEW MEXICO

COMPANY	Liquid Resources	REPORT	W08-032
	PO Box 5790	DATE	March 4, 2008
	Hobbs, NM 88241	DISTRICT	Hobbs
	Monitor Well at Hobbs St. #10 Brine Well		

SUBMITTED BY

WELL	Monitor Well	DEPTH		FORMATION	
COUNTY		FIELD		SOURCE	
TANK					
SAMPLE					
Sample Temp.	68 °F		°F		°F		°F
RESISTIVITY	0.094						
SPECIFIC GR.	1.061						
pH	6.73						
CALCIUM	850 mpl		mpl		mpl		mpl
MAGNESIUM	480 mpl		mpl		mpl		mpl
CHLORIDE	309 mpl		mpl		mpl		mpl
SULFATES	Light mpl		mpl		mpl		mpl
BICARBONATES	262 mpl		mpl		mpl		mpl
SOLUBLE IRON	0 mpl		mpl		mpl		mpl
KCL	N						
Sodium	mpl		mpl		mpl		mpl
TDS	mpl		mpl		mpl		mpl
OIL GRAVITY	@ °F		@ °F		@ °F		@ °F

REMARKS

MPL = Milligrams per litter
Resitivity measured in: Ohm/m2/m

ANALYST: MB/MA/JH

BW-30

BJ Services Company

REMIT TO: P.O. Box4346-Dept.393
Houston, TX 77210-4346

INVOICE NO.	OUR RECEIPT NO.	DATE
PROFORMA SP 00110	1001296454	03/20/2008

CUSTOMER NO.	COST CENTER	YOUR ORDER NO.
20007034	3168	

Liquid Resource Services
P.O.BOX 5790
Hobbs New Mexico 88240

SERVICES FROM OUR STATION AT	BJ REPRESENTATIVE	SIGNED FOR YOU BY
Odessa Coiled Tubing	Terry Gage	

FOR SERVICE WELL NAME / LOCATION	COUNTY/PARISH	STATE
Brine ST Well	Lea	New Mexico

PRODUCT CODE	DESCRIPTION	UNIT OF MEASURE	QUANTITY	LIST PRICE UNIT	GROSS AMOUNT	% DISC.	NET AMOUNT
100225	Nitrogen	c-scf	356.29	4.300	1,532.05	55%	689.42**
CT011	Employee Incentive Bonus - Low pressure	day	1	142.000	142.00	40%	85.20**
CT101	Tractor/Trailer, (Under 80,000 GVW)	miles	180	7.300	1,314.00	40%	788.40**
CT103	Crew Truck	miles	180	4.380	788.40	40%	473.04**
CT300	Nitrogen Pump, Coil Tubing, 0-6 K psi	8hrs	1	2,365.000	2,365.00	55%	1,064.25**
	SUB TOTAL				6,141.45		3,100.31
	New Mexico State Sales Tax 5%						155.02
	Lea County Sales Tax .375%						11.63

PHONE: (713) 462-4239

TERMS: NET 30 DAYS

PAY THIS AMOUNT → USD 3,266.96

J7304

FIELD RECEIPT NO. 1001296469

BJ Services Company

CUSTOMER (COMPANY NAME) Liquid Resource Services		CREDIT APPROVAL NO. 000000	PURCHASE ORDER NO.	CUSTOMER NUMBER 20007034 - 00235427		INVOICE NUMBER
MAIL INVOICE TO	STREET OR BOX NUMBER P.O.BOX 5790		CITY Hobbs	STATE New Mexico	ZIP CODE 88240	
DATE WORK COMPLETED: MO. 03 DAY 20 YEAR 2008	BJ REPRESENTATIVE DOUGLAS W TULL	WELL API NO		WELL TYPE : Old Well		
BJ SERVICES DISTRICT Odessa Coiled Tubing		JOB DEPTH (ft) 2,000		WELL CLASS : Water		
WELL NAME AND NUMBER Brine ST Well		TD WELL DEPTH (ft) 2,000		GAS USED ON JOB : Nitrogen		
WELL	LEGAL DESCRIPTION	COUNTY/PARISH Lea	STATE New Mexico	JOB TYPE CODE : Nitrogen		

PRODUCT CODE	DESCRIPTION	UNIT OF MEASURE	QUANTITY	LIST PRICE UNIT	GROSS AMOUNT	% DISC.	NET AMOUNT
100225	Nitrogen	c-scf	356.29	4.300	1,532.05	55%	689.42
	SUB-TOTAL FOR Product Material				1,532.05	55.00%	689.42
CT011	Employee Incentive Bonus - Low pressure	day	1	142.000	142.00	40%	85.20
	SUB-TOTAL FOR Service Charges				142.00	40%	85.20
CT101	Tractor/Trailer, (Under 80,000 GVW)	miles	180	7.300	1,314.00	40%	788.40
CT103	Crew Truck	miles	180	4.380	788.40	40%	473.04
CT300	Nitrogen Pump, Coil Tubing, 0-6 K psi	8hrs	1	2,365.000	2,365.00	55%	1,064.25
	SUB-TOTAL FOR Equipment				4,467.40	47.94%	2,325.69
	FIELD ESTIMATE				6,141.45	49.52%	3,100.31

ARRIVE LOCATION :	MO.	DAY	YEAR	TIME
	03	20	2008	08:00

CUSTOMER REP. Sid Parchman

SEE LAST PAGE FOR GENERAL TERMS AND CONDITIONS

SERVICE ORDER: I AUTHORIZE WORK TO BEGIN PER SERVICE INSTRUCTIONS IN ACCORDANCE WITH THE TERMS AND CONDITIONS PRINTED ON THE LAST PAGE OF THIS FORM AND REPRESENT THAT I HAVE AUTHORITY TO ACCEPT AND SIGN THIS ORDER.

X CUSTOMER AUTHORIZED AGENT

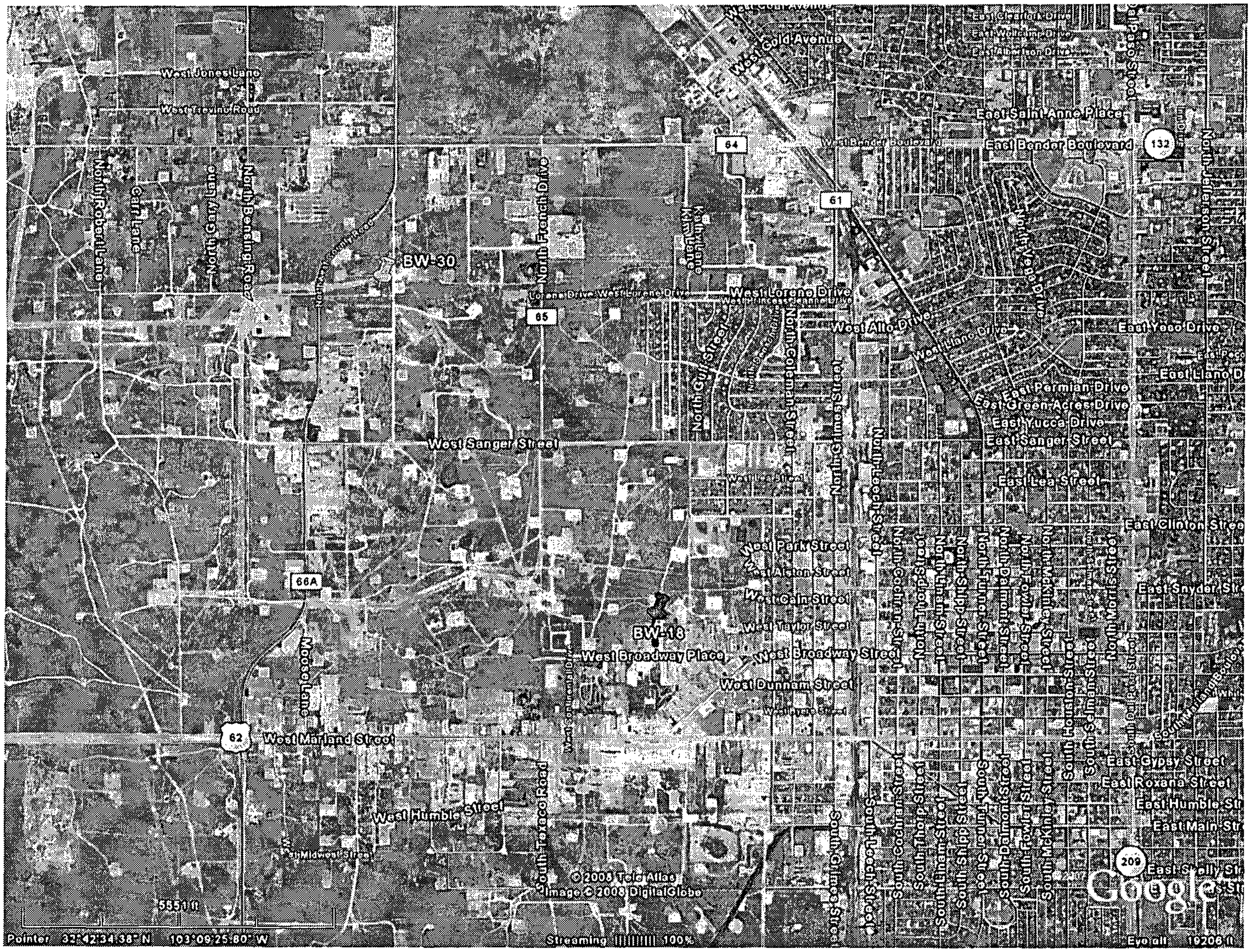
SERVICE RECEIPT: I CERTIFY THAT THE MATERIALS AND SERVICES LISTED WERE RECEIVED AND ALL SERVICES PERFORMED IN A WORKMANLIKE MANNER.

X CUSTOMER AUTHORIZED AGENT

BJ SERVICES APPROVED

Report Printed on: March 20, 2008 10:44 AM

J7302


West Gold Avenue
East Saint Anne Place
East Bender Boulevard
132
64
61
West Jones Lane
West Trevino Road
North Robert Lane
Gari Lane
North Gary Lane
North Bening Road
BW-30
North French Drive
Kathy Lane
Kim Lane
West Lorene Drive
65
West Alto Drive
West Llano Drive
East Yeso Drive
East Llano Drive
East Permian Drive
East Green Acres Drive
East Yucca Drive
East Sanger Street
West Sanger Street
North Coleman Street
North Leech Street
East Lea Street
East Clinton Street
West Park Street
West Alston Street
West Cain Street
West Taylor Street
66A
BW-18
West Broadway Place
West Broadway Street
East Snyder Street
West Dunnam Street
Moose Lane
62
West Marland Street
East Gypsy Street
East Roxana Street
East Humble Street
East Main Street
West Humble Street
South Texaco Road
South Leech Street
209
© 2008 Tele Atlas
Image © 2008 DigitalGlobe
Google
5551 ft
Pointer 32°42'34.38" N 103°09'25.80" W
Streaming |||||||||| 100%
Eye alt 19208 ft

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, December 19, 2007 12:55 PM
To: 'David Pyeatt'
Cc: Price, Wayne, EMNRD
Subject: FW: BW-30 Hobbs State #10 (API # 30-025-35915) MIT Reschedule

David:

Wayne Price wanted me to be sure to tell you that you should not exceed a surface injection pressure of 400 psi or we may risk fracturing the brine cavern. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Price, Wayne, EMNRD
Sent: Wednesday, December 19, 2007 12:49 PM
To: Chavez, Carl J, EMNRD
Subject: RE: BW-30 Hobbs State #10 (API # 30-025-35915) MIT Reschedule

Carl, I think you should make sure that they don't exceed a certain surface pressure such as 300 psig or they are going to interpret it as 1184 psi. Been there done that.

From: Chavez, Carl J, EMNRD
Sent: Wednesday, December 19, 2007 10:18 AM
To: David Pyeatt
Cc: Price, Wayne, EMNRD
Subject: BW-30 Hobbs State #10 (API # 30-025-35915) MIT Reschedule

Mr. Pyeatt:

Mr. Wayne Price (OCD- Environmental Bureau Chief) has approved the Formation MIT w/ nitrogen gas this year to allow Liquid Resources, LLC. to fix the casing problem for next year's EPA 5-Yr. MIT.(500 psi for 30 min.) casing test.

Apparently, based on our recent conversations, the 7" intermediate casing with a protective elastic liner that reduced the inner diameter of the casing to about 5 ½ ". The elastic liner presents a packer-seal problem for conducting the EPA 5-Yr. MIT, which requires tubing to be pulled and a packer to be set above the casing shoe (pressure up on casing to 500 psi for 30 minutes) against the elastic liner due to the smaller inner diameter and the seal problem against the coating or liner.

The formation MIT will require Liquid Resources, LLC. to inject at least 51 bbls of nitrogen gas down the 5 1/2" ID intermediate casing at near formation temperature at about 1 to 2 bbl./minute to displaced the water interface below the casing shoe of the well into the formation. The test should be conducted at a not to exceed maximum injection pressure of 0.8 x 1700 ft. (depth to the casing shoe) or 1360 psi for 4 hours with a max. +/- 1% pressure differential to pass the MIT test.

This generally requires an estimated empty casing volume to inject to exceed in order to displace the water interface below the casing shoe.

Calculations:

Assumptions: r- 2.75 inches or o.2292 ft. (r2= 0.0525 ft2); h= 1700 ft.

Vol. Casing ~ 3.14(r2)h= 280 ft3 or 280 ft3 x 7.64 gal/ft3= 2139 gal. or 51 bbls (33,150 SCF N2 Gas)

Max. allowable injection pressure to prevent fracture = 1700 ft. x 0.8= 1360 psi
Operating bottom of casing pressure= 1700 ft. x 0.52 psi/ft= 884 psi + 300 psi (well head pressure)~ 1184 psi

The depth of fluid in the well is unknown to OCD and since Liquid Resources, LLC. will be using nitrogen gas to push the interface down below the casing shoe and into the formation, we should not run the risk of fracturing the formation.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")