

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTOCD Hobbs  
HOBBS OCDFORM APPROVED  
OMB NO 1004-0135  
Expires July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

JUL 11 2011

**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1 Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5 Lease Serial No NMNM14794
2 Name of Operator CIMAREX ENERGY CO. OF COLORADO		6 If Indian, Allottee or Tribe Name
3a Address 600 N. MARIENFELD ST., STE. 600 MIDLAND, TX 79701		7 If Unit or CA/Agreement, Name and/or No.
3b Phone No. (include area code) Ph: 432-620-1936 Fx: 432-620-1940		8 Well Name and No MADURO UNIT 007
4 Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 29 T19S R33E Mer NMP NESW 1860FSL 1800FWL		9 API Well No 30-025-38237
		10 Field and Pool, or Exploratory CRAZY HORSE; DELAWARE
		11 County or Parish, and State LEA COUNTY, NM

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture-Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input checked="" type="checkbox"/> Water Disposal	

13 Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Cimarex Energy Co. of Colorado respectfully requests to dispose of water from the well above per the attached disposal information.

**WATER PRODUCTION & DISPOSAL INFORMATION**

1. Name(s) of all formation(s) producing water on this lease.  
Geronimo; Delaware

2. Amount of water produced from all formations in barrels per day.  
34.05 bpd

3. Attach a current water analysis of produced water from all zones showing at least the total dissolved solids, pH, and the concentrations of chlorides and sulfates.

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

14 I hereby certify that the foregoing is true and correct <b>Electronic Submission #111406 verified by the BLM Well Information System For CIMAREX ENERGY CO. OF COLORADO, sent to the Hobbs</b>	
Name (Printed/Typed) NATALIE E KRUEGER	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 06/24/2011

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By <i>J. D. 2 Hittler</i>	Title <i>LPE7</i>	Date <i>7/6/11</i>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office <i>CFD</i>

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\***

JUL 11 2011

**Additional data for EC transaction #111406 that would not fit on the form**

**32. Additional remarks, continued**

4. How water is stored on the lease.

1 300 bbl fiberglass tank

5. How water is moved to the disposal facility.

Trucked

6. Identify the disposal facility by:

A. Facility Operator's Name: P&W Resources, LLC

B. Name of facility or well name and number: Kaiser State No. 9

C. Type of facility or well (WDW, WIW), etc.: SWD

D. Location by ? ?, Section, Township, and Range: SWNW 13-21S-34E

E. Facility Operator's Name: Subsurface Water Disposal, Inc.

F. Name of facility or well name and number: Gevernment E No. 1

G. Type of facility or well (WDW, WIW), etc.: SWD

H. Location by ? ?, Section, Township, and Range: SESW 25-19S-34E

7. Attach a copy of the state-issued permit for the Disposal Facility.

HOBBS OCD

Analytical Laboratory Report for:  
**CIMAREX ENERGY  
COMPANY**

Account Representative:  
Lavell Hanson

JUL 11 2011

RECEIVED



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## Production Water Analysis

Listed below please find water analysis report from: Maduro Unit, 7

Lab Test Number	Sample Date
2011114990	05/19/2011

[<br>]

Specific Gravity: 1.151

TDS: 232186  
pH: 5.90

Cations:	mg/L	as:
Calcium	7610	(Ca <sup>++</sup> )
Magnesium	7355	(Mg <sup>++</sup> )
Sodium	54540	(Na <sup>+</sup> )
Iron	8.60	(Fe <sup>++</sup> )
Potassium	1187.0	(K <sup>+</sup> )
Barium	0.53	(Ba <sup>++</sup> )
Strontium	460.00	(Sr <sup>++</sup> )
Manganese	1.72	(Mn <sup>++</sup> )
Anions:	mg/L	as:
Bicarbonate	73	(HCO <sub>3</sub> <sup>-</sup> )
Sulfate	650	(SO <sub>4</sub> <sup>=</sup> )
Chloride	160300	(Cl <sup>-</sup> )
Gases:		
Carbon Dioxide	160	(CO <sub>2</sub> )
Hydrogen Sulfide	0.0	(H <sub>2</sub> S)

Analytical Laboratory Report for:  
**CIMAREX ENERGY  
COMPANY**

Account Representative:  
Lavell Hanson



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**DownHole SAT<sup>TM</sup> Scale Prediction @ 100 deg. F**

[<br>]

Lab Test Number	Sample Date	Location
2011114990	05/19/2011	7
Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO <sub>3</sub> )	0.09	-0.02
Strontianite (SrCO <sub>3</sub> )	0.00	-1.32
Anhydrite (CaSO <sub>4</sub> )	0.18	-388.26
Gypsum (CaSO <sub>4</sub> *2H <sub>2</sub> O)	0.18	-426.58
Barite (BaSO <sub>4</sub> )	0.07	-10.91
Celestite (SrSO <sub>4</sub> )	0.06	-890.51
Siderite (FeCO <sub>3</sub> )	0.04	-0.05
Halite (NaCl)	0.28	-188096.45
Iron sulfide (FeS)	0.00	-3.02

**Interpretation of DHSat Results:**

The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) to positive (precipitating) values. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

*ADMINISTRATIVE ORDER SWD-559*

***APPLICATION OF SUBSURFACE WATER DISPOSAL, INC. FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.***

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Rule 701(B), Subsurface Water Disposal, Inc. made application to the New Mexico Oil Conservation Division on March 1, 1994, for permission to complete for salt water disposal its Government "E" Well No. 1 located 610 feet from the South line and 1880 feet from the West line (Unit N) of Section 25, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

- (1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;
- (2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;
- (3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met; and
- (4) No objections have been received within the waiting period prescribed by said rule.

**IT IS THEREFORE ORDERED THAT:**

The applicant herein, Subsurface Water Disposal, Inc. is hereby authorized to complete its Government "E" Well No. 1 located 610 feet from the South line and 1880 feet from the West line (Unit N) of Section 25, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico, in such manner as to permit the injection of salt water for disposal purposes into the Bone Springs formation at approximately 9716 feet to 10,240 feet through 2 7/8-inch plastic-lined tubing set in a packer located at approximately 9700 feet.

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 1943 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Bone Springs formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Hobbs district office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

**PROVIDED FURTHER THAT,** jurisdiction of this cause is hereby retained by the Division for the entry of such further order or orders as may be deemed necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

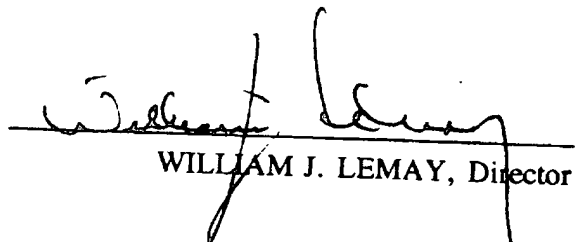
The operator shall submit monthly reports of the disposal operations in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

*Administrative Order SWD-559*  
*Subsurface Water Disposal, Inc.*  
*May 19, 1994*  
*Page 3*

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The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Approved at Santa Fe, New Mexico, on this 19th day of May, 1994.

  
WILLIAM J. LEMAY, Director

WJL/BES/amg

xc: Oil Conservation Division - Hobbs  
US Bureau of Land Management - Carlsbad



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**  
Governor

**Joanna Prukop**  
Cabinet Secretary  
Acting Director  
Oil Conservation Division

*ADMINISTRATIVE ORDER SWD-923*

***APPLICATION OF P&W RESOURCES, LLC FOR PRODUCED WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.***

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Rule 701(B), P&W Resources, LLC made application to the New Mexico Oil Conservation Division on April 27, 2004, for permission to utilize for produced water disposal its Kaiser State Well No. 9 (API No. 30-025-02538) located 1,980 feet from the North line and 1,980 feet from the West line of Section 13, Township 21 South, Range 34 East, NMPM, Lea County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

- (1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;
- (2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;
- (3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met; and
- (4) No objections have been received within the waiting period prescribed by said rule.

**IT IS THEREFORE ORDERED THAT:**

The applicant is hereby authorized to utilize its Kaiser State Well No. 9 (API No. 30-025-02538) located 1,980 feet from the North line and 1,980 feet from the West line of Section 13, Township 21 South, Range 34 East, NMPM, Lea County, New Mexico, in such manner as to permit the injection of produced water for disposal purposes into the Yates and Seven Rivers formations from 3,590 feet to 3,668 feet through 2-7/8 inch plastic-lined tubing set in a packer located at 3,490 feet.



IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

**Within 60 days following the effective date of this permit, the operator shall submit water analysis to the Division in Santa Fe for waters from all pools to be disposed of into this well. In addition, the operator shall estimate the current reservoir pressure of the injection interval and supply this data in writing to the Division.**

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well **to no more than 718 psi.**

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the injection formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment and of any mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Hobbs district office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER THAT, jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

*Administrative Order SWD-923*

*P&W Resources, LLC*

*May 13, 2004*

*Page 3 of 3*

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**The operator shall provide written notice of the date of commencement of injection to the Hobbs district office of the Division.** The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Approved at Santa Fe, New Mexico, on this 13th day of May 2004.



JOANNA PRUKOP,  
Interim Director

JP/wvj

cc: Oil Conservation Division – Hobbs  
State Land Office – Oil and Gas Minerals Division  
Lee Engineering – Robert Lee  
Case No. 4015

**BUREAU OF LAND MANAGEMENT  
Carlsbad Field Office  
620 East Greene Street  
Carlsbad, New Mexico 88220  
575-234-5972**

**Disposal of Produced Water From Federal Wells  
Conditions of Approval**

Approval of the produced water disposal methodology is subject to the following conditions of approval:

1. This agency shall be notified of any change in your method or location of disposal.
2. Compliance with all provisions of Onshore Order No. 7.
3. This agency shall be notified of any spill or discharge as required by NTL-3A.
4. This agency reserves the right to modify or rescind approval whenever it determines continued use of the approved method may adversely affect the surface or subsurface environments.
5. All above ground structures on the lease shall be painted Shale Green (5Y 4/2), or as per approved APD stipulations. This is to be done within 90 days, if you have not already done so.
6. Any on-lease open top storage tanks shall be covered with a protective cover to prevent entry by birds and other wildlife.
7. This approval should not constitute the granting of any right-of-way or construction rights not granted by the lease instrument.
8. If water is transported via a pipeline that extends beyond the lease boundary, then you need to submit within 30 days an application for right-of-way approval to the Realty Section in this office if you have not already done so.
9. Disposal at any other site will require prior approval.
10. Subject to like approval by NMOCD.

6/17/2011