

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0135
Expires July 31, 1996

OCD-HOBBS
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.*

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. NM-100861
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, Texas 79701	3b. Phone No. (include area code) 432-571-7800	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 24-19S-33E 1650 FSL & 1980 FWL		8. Well Name and No. Esmeralda 24 Federal No. 1
		9. API Well No. 30-025-34484
		10. Field and Pool, or Exploratory Area Gem; Strawn (Oil), Tonto; Wolfcamp
		11. County or Parish, 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, included estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate 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 approval for disposal of produced water from the well above per the attached Water Production and Disposal information.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**SUBJECT TO LIKE
APPROVAL BY STATE**

RECEIVED

**APR 05 2010
HOBBSOCD**

APPROVED

**MAR 30 2010
/s/ JD Whitlock Jr**

**BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE**

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Natalie Krueger

Signature

Natalie Krueger

Title

Regulatory

Date

March 9, 2010

Approved by

Title

Date

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

Title 18 U.S.C. Section 1001, makes 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.

(Instructions on reverse)

WATER PRODUCTION & DISPOSAL INFORMATION

In order to process your disposal request, the following information must be completed:

1. Name(s) of all formation(s) producing water on this lease.
Gem; Strawn, East & Tonto; Wolfcamp
2. Amount of water produced from all formations in barrels per day.
Strawn: 1.6 bbls per day, Wolfcamp: 0.22 bbls per day
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.
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 $\frac{1}{4}$ $\frac{1}{4}$, Section, Township, and Range: SWNW 13-21S-34E
7. Attach a copy of the state-issued permit for the Disposal Facility.

Submit 1 original and 5 copies within the required time frame with 3160-5. This form may be used as an attachment to the sundry notice.

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



Chemical Services

UNICHEM Representative: Lavell Hanson

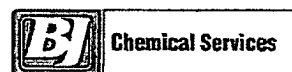
Production Water Analysis

Listed below please find water analysis report from: ESMARELDA, 1

Lab Test No: 2008126790 Sample Date: 06/10/2008
Specific Gravity: 1.079

TDS: 119910
pH: 7.10

Cations:	mg/L	as:
Calcium	34370	(Ca ⁺⁺)
Magnesium	390	(Mg ⁺⁺)
Sodium	26900	(Na ⁺)
Iron	32.10	(Fe ⁺⁺)
Barium	2.20	(Ba ⁺⁺)
Strontium	680.00	(Sr ⁺⁺)
Manganese	2.77	(Mn ⁺⁺)
Anions:	mg/L	as:
Bicarbonate	305	(HCO ₃ ⁻)
Sulfate	850	(SO ₄ ⁼)
Chloride	55000	(Cl ⁻)
Gases:		
Carbon Dioxide	50	(CO ₂)
Hydrogen Sulfide	0	(H ₂ S)



**DownHole SAT™ Scale Prediction
@ 100 deg. F**

Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO ₃)	19.35	.105
Aragonite (CaCO ₃)	16.39	.104
Witherite (BaCO ₃)	< 0.001	-81.98
Strontianite (SrCO ₃)	.197	-.666
Magnesite (MgCO ₃)	.333	-.187
Anhydrite (CaSO ₄)	.921	-10.88
Gypsum (CaSO ₄ *2H ₂ O)	1.09	12.05
Barite (BaSO ₄)	.525	-3.28
Celestite (SrSO ₄)	.158	-593.29
Fluorite (CaF ₂)	0	-3.44
Calcium phosphate	0	>-0.001
Hydroxyapatite	0	-904.94
Silica (SiO ₂)	0	-124
Brucite (Mg(OH) ₂)	< 0.001	-1.18
Magnesium silicate	0	-284.25
Iron hydroxide (Fe(OH) ₃)	172.74	< 0.001
Strengite (FePO ₄ *2H ₂ O)	0	>-0.001
Siderite (FeCO ₃)	10.32	.116
Halite (NaCl)	.0525	-339458
Thenardite (Na ₂ SO ₄)	< 0.001	-249390

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 scale is logarithmic, i.e. a Saturation Index of 3 is 10 times more saturated than a value of 2.

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) infinity to positive (precipitating) infinity. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor

Joanna Prukóp
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.

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/wvjj

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. Subject to like approval by NMOCD.

3/25/2010