## **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

OCD Hobbs OCD

FORM APPROVED

OMB NO 1004-0135
Expires July 31, 2010
Lease Serial No
NMNM27572

SUNDRY NOTICES AND REPORTS ON WELLS  Do not use this form for proposals to drill or to re-enter an JUL 1 1 2011 abandoned well. Use form 3160-3 (APD) for such proposals.					5 Lease Serial No NMNM27572 6 If Indian, Allottee	or Tribe Name
					o ii malan, rinottee	or Thoe Ivaine
SUBMIT IN TRI	PLICATE - Other instruc	ctions on re	verse side.	RECEIVED	7 If Unit or CA/Agre	ement, Name and/or No
1. Type of Well  ☐ Gas Well ☐ Oth	8. Well Name and No LAGUNA DEEP	UNIT 009				
2. Name of Operator Contact NATALIE E KRUEGER CIMAREX ENERGY CO. OF COLORAD Qual: nkrueger@cimarex.com					9. API Well No 30-025-37686	
3a. Address 600 N. MARIENFELD ST., ST MIDLAND, TX 79701	E. 600	3b. Phone N Ph: 432-6: Fx: 432-62		Exploratory CAMP		
4 Location of Well (Footage, Sec., 7	, R, M, or Survey Description	7)	/	A.	11. County or Parish,	and State
Sec 35 T19S R33E Mer NMP	NWSE 1980FSL 1980FE	EL /			LEA COUNTY,	NM
12 CHECK ADDI	DODDIATE DOV(ES) TO	LINDICATI	E NATURE OF	ENOTICE I	DEDODIT OR OTHE	D.D.A.T.A
	ROPRIATE BOX(ES) TO					R DATA
TYPE OF SUBMISSION			TYPE	OF ACTION		
Notice of Intent	☐ Acidize	□ Dee		_	ction (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	Alter Casing	_	cture Treat	□ Reclan		Well Integrity
Final Abandonment Notice	☐ Casing Repair ☐ Change Plans	_	v Construction g and Abandon	Recom		Other
I mai Abandonment Notice	Convert to Injection			☐ Tempe	orarily Abandon Disposal	
3 Describe Proposed or Completed Ope	eration (clearly state all pertiner	nt details, includ	ing estimated start	ting date of any	proposed work and appro	ximate duration thereof.
If the proposal is to deepen directions Attach the Bond under which the wor following completion of the involved testing has been completed Final Ab determined that the site is ready for fi	rk will be performed or provide operations If the operation resonandonment Notices shall be file	the Bond No o	n file with BLM/B le completion or re	BIA Required secompletion in a	ubsequent reports shall be new interval, a Form 316	filed within 30 days 60-4 shall be filed once
Cimarex Energy Co. of Colora the attached disposal informat	do respectfully requests t ion.	o dispose of	water from the	well above p	per	
WATER PRODUCTION & DISPOSAL INFORMATION  1. Name(s) of all formation(s) producing water on this lease.  Tonto; Wolfcamp  SEE ATTACHED FOR						
2. Amount of water produced from all formations in barrels per day. 0.21 bpd  CONDITIONS OF APPROVAL						
3. Attach a current water analy dissolved solids, pH, and the c	vsis of produced water fro concentrations of chloride	m all zones s s and sulfate	showing at leas s.	st the total		
14 I hereby certify that the foregoing is	true and correct					
	Electronic Submission #1 For CIMAREX ENE	11407 verifie RGY CO. OF	d by the BLM W COLORADO, se	ell Informatio ent to the Hob	n System bs	
Name (Printed/Typed) NATALIE E KRUEGĘR Title · REGULATORY ANALYST						
Signature (Electronic S	ubmission)		Date 06/24/	/2011		
	THIS SPACE FO	R FEDERA	L OR STATE	OFFICE U	SE	
Approved By D 2/L	Hocha		Title CPE			Date 6

Conditions of approval, if any, are attached Approval of this notice does not warrant or certify that the applicant holds legal or equitable to those rights in the subject lease which would entitle the applicant to conduct exercises thereon 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

Office .CFO

#### Additional data for EC transaction #111407 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: Government 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.

#### 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

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

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/wvji

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

# OFFICIAL FILE COPY

Form 3160-9 (December 1989)

# \*Certified Mail - Return

SP

# **UNITED STATES** DEPARTMENT OF THE INTERIOR

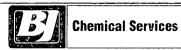
	Identification	
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Lease	NMNM27572	
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Page

Number KAH-062-11

Receipt Requested 70090820000144000818		BUREAU OF LAND MANAGEMENT Lease NMNM27572									
Hand Delivered Received								CA			
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Bureau of Land Management Office HOBBS II	NSPE	CTION OFFICE			Operate		AREX ENER	GY CON	IPANY C	OF CO	
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Inspector	HAS	TON			Attn Addr 600 N MARIENFELD STREET, SUITE 600 MIDLAND TX 79701						-
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LAGUNA DEEP UNIT		09	NWSE 35		98	33E	NMP		LEA		NM
Site Name	We	ell or Facility	1/4 1/4 Section	Townsh	•	Range	Mendian	County	1 E A		State
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Corrective Action To Be Completed By		Date	Corrected			Assessment for No	oncompliance		Assessment Reference		
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When violation is corrected, sign this no	tice and r	return to above addres	S.							ekalain maata maiyaka kapita ee see s	
Company Representative Title				Signa	ture				Date		
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Incidents of Noncompliance correct carlier. Each violation must be coraddress shown above. Please note not comply as noted above under "Civil Penalties (43 CFR 3163.2). A Section 109(d)(1) of the Federal Qi	rected v that you Correcti All self- il and G	within the prescribe a already may have ive Action To Be C certified correction as Royalty Manage	nes begin upon id time from red been assessed completed By" y s must be postr ement Act of 19	receipt ceipt of for none you may narked	this Not compliant incur a no later mpleme	tice and reportence (see amount additional asternational asternational asternational asternational but and the appropriated by	d to the Bureau t under "Assessi sessment under usiness day afte dreable provisio	of Land M nent for N (43 CFR 3 r the presc ns of the o	fanagemen oncomplia 163.1) and ribed time perating re	t office at the common of the corrections are corrections are considered as the corrections are considered as the corrections are corrections are corrections are corrections are corrections.	he on do neur on,
Title 43 CFR 3163 2(f)(1), provide notices, affidavits, record, data, or day such violation continues, not to	other w	ritten information I a maximum of 20	required by this days	s part sl	all be li	able for a civil	ubmits, false, in penalty of up to	accurate, c \$25,000 p	r misleadi er violatio	ng reports, n for each	
A person contesting a violation sha receipt of the Incidents of Noncom- Interior Board of Lands Appeals, & Management office for further info	pliance 01 Nort	st a State Director i with the appropriat h Quincy Street, St	e State Directo	reidents r (see 4	of Non 3 CFR 3	compliance. Tl (165.3). The St	ate Director rev	iew decisi	on may be	appealed to	of the
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## **Analytical Laboratory Report for:**



Cimarex

**Account Representative:** Lavell Hanson

# **Production Water Analysis**

Listed below please find water analysis report from: Laguna, #9

Lab Test No:

2008115269

Sample Date:

04/14/2008

Specific Gravity: 1.152

TDS:

232995

pH: Resistivity: 6.00

.09 @ 78F

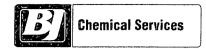
ohms/M

Cations:	mg/L	as:
Calcium	1706	(Ca <sup>⁺⁺</sup> )
Magnesium	6690	(Mg <sup>++</sup> )
Sodium	46963	(Na <sup>•</sup> )
Iron	124.00	(Fe <sup>++</sup> )
Potassium	22842.0	(K <sup>†</sup> )
Barium	0.70	(Ba <sup>++</sup> )
Strontium	42.00	(Sr <sup>++</sup> )
Manganese	5.00	(Mn <sup>++</sup> )
Anions:	mg/L	as:
Disaubawata	100	_
Bicarbonate	122	(HCO <sub>3</sub> )
Sulfate	6300	(SO <sub>4</sub> =)
Chloride	148200	(Cl)
Gases:		
Carbon Dioxide	400 .	(CO <sub>2</sub> )
Hydrogen Sulfide	17	(H <sub>2</sub> S)

Cimarex

Lab Test No: 2008115269

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



Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO3)	.0569	0335
Aragonite (CaCO3)	.0482	0399
Witherite (BaCO3)	< 0.001	-29.39
Strontianite (SrCO3)	< 0.001	-4.13
Magnesite (MgCO3)	.337	00336
Anhydrite (CaSO4)	.492	-323.51
Gypsum (CaSO4*2H2O)	.512	-341.36
Barite (BaSO4)	1.54	.145
Celestite (SrSO4)	.0899	-219.42
Silica (SiO2)	0	-37.13
Brucite (Mg(OH)2)	< 0.001	0938
Magnesium silicate	0	-96.33
Siderite (FeCO3)	2.02	.00118
Halite (NaCl)	.211	-78541
Thenardite (Na2SO4)	< 0.001	-79100
Iron sulfide (FeS)	12.45	1.65

#### 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.

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

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### 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