

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Oil Cons.
N.M. DIV-Dist. 2
301 W. Grand Avenue
Artesia, NM 88210

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

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

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Southwestern Energy Production Company

3a. Address **2350 N. Sam Houston Pkwy. E.,
Suite 300, Houston, TX 77032**

3b. Phone No. (include area code)
281-618-4739

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Section 29, T17S, R29E

5. Lease Serial No.

NM-1480

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

28088

8. Well Name and No.

Empire Deep "29" Federal #1

9. API Well No.

30-015-31813

10. Field and Pool, or Exploratory Area

Empire; Greyburg Morrow

11. County or Parish, State

Eddy County, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input 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 checked="" 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 recompleat 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 recompleat 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.)

- Sundry Notice From 3160
- Water produced from Morrow formation
- Current water production - less than 1 bbl/day
- Water stored in 300 bbl tank
- Water is trucked from well to SWD site.
- Primary SWD**
Loco Hills Disposal
SW 1/4, Sec 16, T17S, R30E
Eddy County, NM
- Permit # R-6811B / NM-01-004 R3221

Secondary SWD
Walter Solt State #1 SWD
Unit L 400' FWL & 2240' FSL, Sec 5, T18S, R28E
Eddy County, NM

Permit # SWD 3318

APPROVED

APR 17 2003

LES BABYAK
PETROLEUM ENGINEER

14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

Vonnie J. Germin

Signature

Title **Production / Drilling Analyst**

Date **April 9, 2003**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

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

Pro-Kem, Inc.

WATER ANALYSIS REPORT

SAMPLE

Oil Co. : Southwestern Energy
 Lease : Empire Deep 29 Fed.
 Well No.: # 1
 Location:
 Attention:

Date Sampled : 04-March-2003
 Date Analyzed: 05-March-2003
 Lab ID Number: Mar0503.003- 1
 Salesperson :

File Name : F:\ANALYSES\Mar0503.003

ANALYSIS

1. Ph 6.900
2. Specific Gravity 60/60 F. 1.023
3. CACO3 Saturation Index @ 80F -0.337
 @ 140F 0.633

Dissolved Gasses

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

MG/L. EQ. WT. *MEQ/L

0
 180
 Not Determined

Cations

7. Calcium (Ca++)
8. Magnesium (Mg++)
9. Sodium (Na+) (Calculated)
10. Barium (Ba++)

601 / 20.1 = 29.90
 304 / 12.2 = 24.92
 10,714 / 23.0 = 465.83
 Not Determined

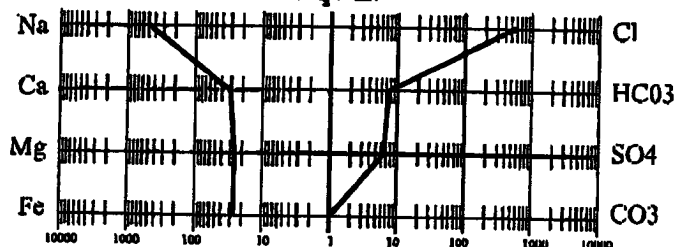
Anions

11. Hydroxyl (OH+)
12. Carbonate (CO3=)
13. Bicarbonate (HCO3-)
14. Sulfate (SO4=)
15. Chloride (Cl-)
16. Total Dissolved Solids
17. Total Iron (Fe)
18. Total Hardness as CaCO3
19. Resistivity @ 75 F. (Calculated)

0 / 17.0 = 0.00
 0 / 30.0 = 0.00
 439 / 61.1 = 7.18
 300 / 48.8 = 6.15
 17,996 / 35.5 = 506.93
 30,354
 478 / 18.2 = 26.24
 2,752
 0.251 /cm.

LOGARITHMIC WATER PATTERN

*meq / L.



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	*meq/L =	mg/L.
Ca(HCO3)2	81.04	7.18		582
CaSO4	68.07	6.15		418
CaCl2	55.50	16.57		920
Mg(HCO3)2	73.17	0.00		0
MgSO4	60.19	0.00		0
MgCl2	47.62	24.92		1,187
NaHCO3	84.00	0.00		0
NaSO4	71.03	0.00		0
NaCl	58.46	465.44		27,210

Calcium Sulfate Solubility Profile

