

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☒ GAS WELL ☐ OTHER ☐		5. LEASE DESIGNATION AND SERIAL NO. COM SW-658
2. NAME OF OPERATOR Santa Fe Energy Operating Partners, L.P.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR 500 W. Illinois, Suite 500, Midland, TX 79701		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1980' FNL & 660' FWL		8. FARM OR LEASE NAME Federal 27
14. PERMIT NO.		9. WELL NO. 2
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 3982.5' KB		10. FIELD AND POOL, OR WILDCAT West Sawyer (San Andres)
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 27, T-9S, R-37E
		12. COUNTY OR PARISH Lea
		13. STATE NM

18. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF ☐	PULL OR ALTER CASING ☐	WATER SHUT-OFF ☐	REPAIRING WELL ☐
FRACTURE TREAT ☐	MULTIPLE COMPLETE ☐	FRACTURE TREATMENT ☐	ALTERING CASING ☐
SHOOT OR ACIDIZE ☐	ABANDON* ☐	SHOOTING OR ACIDIZING ☐	ABANDONMENT* ☐
REPAIR WELL ☐	CHANGE PLANS ☐	(Other) ☐	(Other) ☐

(Other) Disposal Method of Produced Water

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1. This well produces San Andres formation water with its oil production.
2. Water production is about 1 BWPD.
3. Attached is a water analysis.
4. Water is stored in a 210 bbl tank on the lease.
5. Water is trucked by Gandy Corp. of Tatum, NM or Hardin Houston of Tatum, NM, and is disposed at the Santa Fe Energy Operating Partners, L.P. SFPRR No. 15 SWD well located at B, Sec. 34, T-9S, R-37E. This is a NMOCD approved facility. SFPRR No. 15 SWD replaced SFPRR No. 6 SWD in December 1985. SFPRR No. 6 SWD was a BLM approved disposal facility.

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

SIGNED Patric J. Law TITLE Sr. Production Engineer DATE 6-21-88

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Instructions

General: This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated, on Federal and Indian lands pursuant to applicable Federal law and regulations, and, if approved or accepted by any State, on all lands in such State, pursuant to applicable State law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 17: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by local Federal and/or State offices. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well site conditioned for final inspection looking to approval of the abandonment.

PRIVACY ACT

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et. seq., 351 et. seq., 25 U.S.C. et. seq.; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is to be used to evaluate, when appropriate, approve applications, and report completion of secondary well operations, on a Federal or Indian lease.

ROUTINE USES: (1) Evaluate the equipment and procedures used during the proposed or completed subsequent well operations. (2) Request and grant approval to perform those actions covered by 43 CFR 3162.3-2(2). (3) Analyze future applications to drill or modify operations in light of data obtained and methods used. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this notice and report and disclosure of the information is mandatory once an oil or gas well is drilled.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501, et. seq.) requires us to inform you that:

This information is being collected in order to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

This information will be used to report subsequent operations once work is completed and when requested, to obtain approval for subsequent operations not previously authorized.

Response to this request is mandatory for the specific types of activities specified in 43 CFR Part 3160.

WATER ANALYSIS REPORT

Company: SANTA FE ENERGY CO.

Sampling Date: 821115

Analysis Date: 821216

Sample ID: FO2400

Sample Source

Submitted by: BLACKWELL, G.M.

Lease: FEDERAL 27 #2

Sampled by:

Well: WELLHEAD

Chem. Treatment:

Sample Pt:

Sample Condition:

ANALYTICAL RESULTS

pH at the time of sampling: 5.80
pH at the time of analysis: 5.70
Density: 1.215
Hydrogen Sulfide (H2S): 30 PPM
TDS: Calculated 345090.4 mg/L

CONSTITUENT		mg/L	meq/L	method	comments
ANIONS					
*Bicarbonate	HC03-	222.0	3.64	FIA	
Boron	B(OH)4-	771.3	9.78	ICP	
*Carbonate	C03--	.0	.00	FIA	
*Chloride	Cl-	205000.0	5782.30	FIA	
Phosphate	P04---	2.8	.09	ICP	
*Sulfate	S04--	759.0	15.80	FIA	
SUM OF ANIONS=			5811.62		
CATIONS					
Aluminum	Al+++	7.8	.86	ICP	
*Barium	Ba++	10.3	.15	ICP	
*Calcium	Ca++	23700.0	1182.63	ICP	
Chromium	Cr+++	1.0	.06	ICP	
Copper	Cu++	0.0	0.00	ICP	DL= 0.10
*Iron	Fe++	15.8	.57	ICP	
Lead	Pb++	.2	.00	ICP	
Lithium	Li+	67.8	9.76	ICP	
*Magnesium	Mg++	13205.0	1086.61	ICP	
Manganese	Mn++	0.0	0.00	ICP	DL= 0.10
Nickel	Ni++	1.0	.04	ICP	
Potassium	K+	5077.0	129.85	ICP	
Silicon	Si++++	5.8	.82	ICP	
*Sodium	Na+	95470.0	4152.68	ICP	
*Strontium	Sr++	773.6	17.66	ICP	
Vanadium	V++	0.0	0.00	ICP	DL= 0.10
SUM OF CATIONS=			6581.69		

Ratio of ANIONS:CATIONS .88

TRETOHITE

303 Marshall Avenue / Saint Louis, Missouri 63119
(314) 931-3500 / TWX 910-760-1860 / Telex 44-2617

SATURATION INDEX TABLE

Sample ID: F02400

Temperature		Scale Component				
deg F	deg C	CaCO ₃ (Calcite)	CaSO ₄ (Anhydrite)	CaSO ₄ *2H ₂ O (Gypsum)	SrSO ₄ (Celestite)	BaSO ₄ (Barite)
32.00	.00	-.747	-.898	-.252	-1.402	.447
68.00	20.00	-.467	-.676	-.417	-1.497	.067
104.00	40.00	-.276	-.465	-.484	-1.584	-.267
140.00	60.00	-.159	-.254	-.486	-1.663	-.565
176.00	80.00	-.107	-.035	-.450	-1.737	-.832
212.00	100.00	-.104	.197	-.394	-1.805	-1.073

*****NOTES ON WATER ANALYSIS REPORT*****

****KEY****

DL=DETECTION LIMIT (mg/L)
FIA=FLOW INJECTION ANALYSIS
ICP=INDUCTIVELY COUPLED PLASMA EMISSION
meq/L=MILLIEQUIVALENTS PER LITER
mg/L=MILLIGRAMS PER LITER
S.I.=SATURATION INDEX= $\log(\text{Activity Product}/K_{sp})$
TDS=TOTAL DISSOLVED SOLIDS
#=INDICATES THE CONCENTRATION OF THE CONSTITUENT HAS
SIGNIFICANTLY CHANGED SINCE THE LAST ANALYSIS
*=USED IN SPECIES DISTRIBUTION CALCULATIONS
(SEE SECTION ON COMPUTER CALCULATIONS)

The following guidelines are useful when interpreting the results in the WATER ANALYSIS REPORT.

- 1) The pH is an indication of relative acidity or basicity of the water sample.
- 2) The Ratio of ANIONS:CATIONS determines if the balance between anions and cations is in agreement and consequently whether the results are reliable. If the ratio is significantly greater than or less than 1.0 the results should be interpreted with caution.
- 3) The COMMENTS column is reserved to indicate if a constituent has significantly changed since the last analysis (#), and to denote the analytical detection limits (DL) when the constituent can not be detected.
- 4) The SATURATION INDEX (S.I.) predicts scaling conditions in the analyzed water. The S.I. is an indicator and may not accurately represent some site water conditions. In some instances a S.I. near 0 could indicate that scaling has already occurred. However, in most cases the following guidelines are useful when evaluating possible scaling situations.

S.I. less than 0	The water is undersaturated and indicates a non-scaling situation.
S.I. near or equal to 0	The water is saturated and scale formation is likely.
S.I. greater than 0	The water is supersaturated and favors scale formation.

*****NOTES ON COMPUTER CALCULATIONS*****

4 A computer assisted model, WASEQ, has been utilized to calculate the equilibrium distribution of chemical species (single ions and ion pairs) in an aqueous system. The model is based on thermodynamic principles and calculations that incorporate activity coefficients, temperature corrected equilibrium constants and conservation of mass equations.

All of the ions listed in the constituent data are utilized for determining ionic strength, however, only the ions identified with a "*" are used in the ion pair distribution computations. The Saturation Index (S.I.) is a measure of the state of saturation and is determined from the free ions remaining after ion pairing.