Form 3 160-5 (June 1990)

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

N.M. Oil Cons. P.O 1980

FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 3 1,1993

INole: Reponresuitsof multiplecompitiononWdf Completion or Recompletion Report and Log form.)

Beitanoon	Hobbs. NW 8824	5. Lease Designation and Seriai No.
Do not use this form for proposals to dri	AND REPORTS ON WELLS  Il or to deepen or reentry to a different reservoir.  R PERMIT—" for such proposals	LC 031695B  6. If Indian, Allonee or Tribe Name
	IN TRIPLICA TE	7. If Unit or CA, Agreement Designation
		8. Well Name and No.  Warren Unit, Well #108  9. API Well No.  30-025-32666  10. Field and Pool, or Exploratory Area  Warren Drinkard/San Andres  11. County or Parish, State  Lea, NM  RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
Notice of Intent  Subsequent Repon  Final Abandonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other OO & GO #7 III.A	Change of Plans  New Construction  Non-Routine Fracrunng  Water Shut-Off  Conversion to Injection  Dispose Water

13. Describe Proposed or Completed Operations (Clearly state ail 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.)\*

Water Producing Formation:	Warren Drinkard/Warren San Andres			
Amount of Water Produced:	107 bpd	Č.		
Current Water Analysis Attached:	Yes	증젊	1999	
How is Water Stored on Lease:	400 bbl Tank (above ground)	REAU 1083S		고
How is Water Moved:	By Transfer Pump		MAR	m
Disposal Facility Operator Name:	Conoco Inc	200		$\Box$
Disposal Facility Well Name / No.:	SEMU Well # 95, Unit J, Sec.23, T 20S, R 37E			m
NMOCD SWD Permit #:	R -9327		T	K
	Voya on moved of this most had of discount is seen as C.			D
	Your approval of this method of disposal is respectful	ly <b>reque</b> ste	عطيي	
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CONDITIONS SEAPPRIMAL

14. I hereby certify that the foregoing is true and correct  Signed Title	Bill R. Keathly Sr. Regulatory Specialist	Date _	3-16-98
(This space for Federai or State office use)  Approved by (ORIG. SGD.) ALEXIS C. SWOBODA  Title Conditions of approval if any:	PETROLEUM ENGINEER	Date	MAR 85 1998

BLM(6), BRK, PONCA, DJS, FILE ROOM

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 junsdiction.



Committed To Improvement

# Saturation Index Calculations

Champion Technologies, Inc. (Based on the Tomson-Oddo Model)

# Site Information

Company	Conoco	
Field	Warren Unit San Andres	
Point	#108(West Production)	
Date	12/3/97	

Water Analysis (mg/L)

water Analysis (mg/L)	
Calcium	1,122
Magnesium	486
Barium	0
Strontium	0
Sodium*	3704
Bicarbonate Alkalinity	2,281
Sulfate	2,424
Chloride	6,000

Appended Data

Appended Data	
Dissolved CO2	219 mg/L
Dissolved O2	N/A PPM
H2S	342 mg/L
Iron	1.0 mg/L
Resistivity	N/A value
TDS	16041 mg/L
Total Hardness	4800 mg/L
Well head pH	7.33 value

Physical Properties

Ionic Strength*	0.33
pH*	6.81
Temperature	100°F
Pressure	100 psia
L	1

<sup>\* -</sup> Calculated Value

# Calcite Calculation Information

Calculation Method	Value
CO2 in Brine	219 mg/L
Bicarbonate Alkalinity Correction(s)	Value
None Used	***

#### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.96	605.5
Gypsum (Calcium Sulfate)	-0.37	N/A
Hemihydrate (Calcium Sulfate)	-0.26	N/A
Anhydrite (Calcium Sulfate)	-0.54	N/A
Barite (Barium Sulfate)	N/A	N/A
Celestite (Strontium Sulfate)	· N/A	N/A

<sup>\* -</sup> Calculated Value



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# Saturation Index Calculations

Champion Technologies, Inc. (Based on the Tomson-Oddo Model)

#### Site Information

Company	Conoco
Field	Warren Unit Drinkard
Point	#108(East Production)
Date	12/3/97

Water Analysis (mg/L)

Calcium	7,418
Magnesium	3,402
Barium	0
Strontium	0
Sodium*	49817
Bicarbonate Alkalinity	195
Sulfate	2,371
Chloride	98,000

Appended Data

Dissolved CO2	219 mg/L
Dissolved O2	N/A PPM
H2S	5.0 mg/L
Iron	10.0 mg/L
Resistivity	N/A value
TDS	161382 mg/L
Total Hardness	32500 mg/L
Well head pH	6.94 value

**Physical Properties** 

Ionic Strength*	3.17	
pH*	6.15 100°F	
Temperature		
Pressure	100 psia	

<sup>\* -</sup> Calculated Value

**Calcite Calculation Information** 

Calculation Method	Value	
CO2 in Brine	219 mg/L	
Bicarbonate Alkalinity Correction(s)	Value	
Noue Used		

# SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	-0.58	N/A
Gypsum (Calcium Sulfate)	0.07	181.5
Hemihydrate (Calcium Sulfate)	0.04	85.0
Anhydrite (Calcium Sulfate)	0.16	287.2
Barite (Barium Sulfate)	N/A	N/A
Celestite (Strontium Sulfate)	N/A	N/A

<sup>\* -</sup> Calculated Value