

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form U3C
June 2015
Form must be Typed
Form must be completed
on a per well basis

**ANNUAL REPORT OF PRESSURE MONITORING,
FLUID INJECTION AND ENHANCED RECOVERY**

Complete all blanks - add pages if needed. Copy to be retained for five (5) years after filing date.

OPERATOR: License # _____
Name: _____
Address 1: _____
Address 2: _____
City: _____ State: _____ Zip: _____ + _____
Contact Person: _____
Phone: (_____) _____
Lease Name: _____
Well Number: _____

API No.: _____
Permit No.: _____
Reporting Year: _____
(January 1 to December 31)
____ - ____ - ____ - ____ Sec. ____ Twp. ____ S. R. ____ E W
(a/a/a/a)
_____ feet from N / S Line of Section
_____ feet from E / W Line of Section
County: _____

I. Injection Fluid:

Type (Pick one): Fresh Water Treated Brine Untreated Brine Water/Brine
Source: Produced Water Other (Attach list)
Quality: Total Dissolved Solids: _____ mg/l Specific Gravity: _____ Additives: _____
(Attach water analysis, if available)

II. Well Data:

Maximum Authorized Injection Pressure: _____ psi Injection Zone: _____
Maximum Authorized Injection Rate: _____ barrels per day
Total Number of Enhanced Recovery Injection Wells Covered by this Permit: _____ (Include TA's)

III.	Month:	Total Fluid Injected BBL	Maximum Fluid Pressure	Total Gas Injected MCF	Maximum Gas Pressure	# Days of Injection
	January	_____	_____	_____	_____	_____
	February	_____	_____	_____	_____	_____
	March	_____	_____	_____	_____	_____
	April	_____	_____	_____	_____	_____
	May	_____	_____	_____	_____	_____
	June	_____	_____	_____	_____	_____
	July	_____	_____	_____	_____	_____
	August	_____	_____	_____	_____	_____
	September	_____	_____	_____	_____	_____
	October	_____	_____	_____	_____	_____
	November	_____	_____	_____	_____	_____
	December	_____	_____	_____	_____	_____
	TOTAL	_____	_____	_____	_____	_____



Cochran Chemical Company, Inc.

P. O. Drawer 1341

Wewoka, Ok. 74881

WATER ANALYSIS

COMPANY: Warren American Oil	LEASE & WELL: Sparks # 4
FIELD: Hackney East	COUNTY: Cowley STATE: KS
WATER: N/A Oil: N/A	SAMPLE POINT: well location
(Bbls/Day) (Bbls/Day)	
FORMATION:	DATE SAMPLED: 4/3/2017

SOLIDS	Cations	me/l	mg/l	Anions	me/l	mg/l
Calcium (Ca)		400.0	8,000	Chloride (Cl)	2,338.0	83,000
Magnesium (Mg)		178.1	2,160	Bicarbonate (HCO ³)	2.1	128
Sodium (Na)		1,769.3	40,695	Sulfate (SO ₄)	7.3	350
Barium (Ba)		0.0	0			
Iron, Total:		1.5	28	Total Dissolved Solids (mg/l):		134,333
Iron, Ferrous:		1.2	22			
Iron, Ferric:		0.3	6			

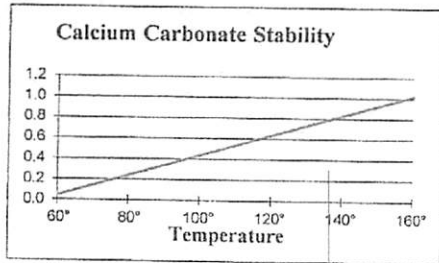
GASES:

Oxygen, O₂: N/A
 Carbon Dioxide, CO₂: 150
 Hydrogen Sulfide, H₂S: 3.5

Specific Gravity: 1.0672
 pH: 6.5

Calcium Carbonate

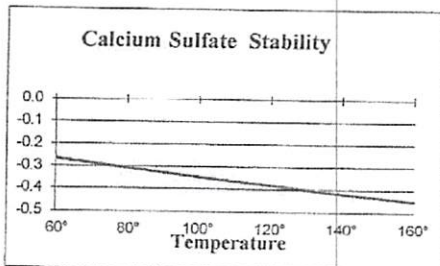
Temp	S.I.
60°	0.05
80°	0.25
100°	0.44
120°	0.64
140°	0.83
160°	1.03



Positive values indicate precipitation.

Calcium Sulfate

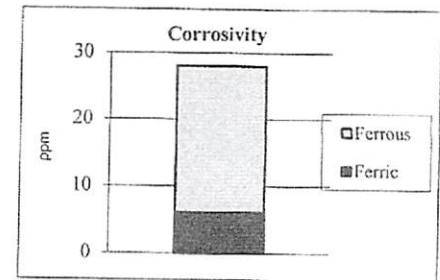
Temp	S.I.
60°	-0.26
80°	-0.31
100°	-0.34
120°	-0.38
140°	-0.42
160°	-0.45



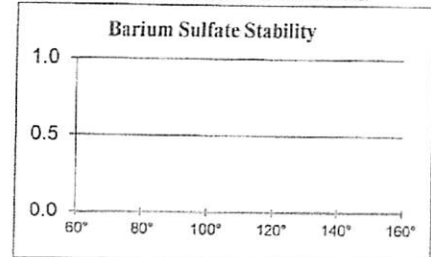
Positive values indicate precipitation.

Barium Sulfate

Temp	S.I.
60°	0.0
80°	0.0
100°	0.0
120°	0.0
140°	0.0
160°	0.0



Ferric iron is loss due to corrosion.
 Ferrous iron is natural formation iron.



Positive values indicate precipitation.

NOTES:

water sample temperature 70 degrees
 will report bacteria test results when available

Tested by: Shidler



Cochran Chemical Company, Inc.
 P. O. Drawer 1341
 Wewoka, Ok. 74881

WATER ANALYSIS

COMPANY: Warren American Oil	LEASE & WELL: Sparks # 4
FIELD: East Hackney	COUNTY: Cowley
WATER: N/A (Bbls/Day)	STATE: KS
Oil: N/A (Bbls/Day)	SAMPLE POINT: well location
FORMATION:	DATE SAMPLED: 4/25/2017

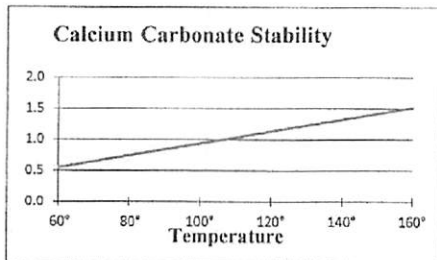
SOLIDS	<i>Cations</i>	me/l	mg/l	<i>Anions</i>	me/l	mg/l
Calcium (Ca)		400.0	8,000	Chloride (Cl)	2,253.5	80,000
Magnesium (Mg)		171.5	2,080	Bicarbonate (HCO ³⁻)	2.1	128
Sodium (Na)		1,690.4	38,879	Sulfate (SO ₄)	6.3	300
Barium (Ba)		0.0	0			
Iron, Total:		1.6	29	Total Dissolved Solids (mg/l):		129,387
Iron, Ferrous:		0.9	17			
Iron, Ferric:		0.6	12			

GASES:	
Oxygen, O ₂ :	N/A
Carbon Dioxide, CO ₂ :	100
Hydrogen Sulfide, H ₂ S:	9.5

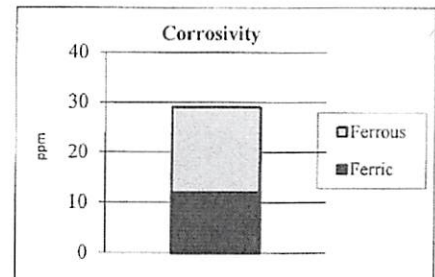
Specific Gravity: 1.0647
pH: 7.0

Calcium Carbonate

Temp	S.I.
60°	0.55
80°	0.75
100°	0.94
120°	1.14
140°	1.33
160°	1.53



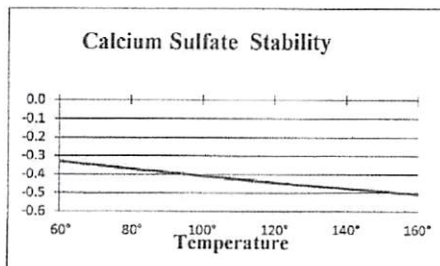
Positive values indicate precipitation.



Ferric iron is loss due to corrosion.
 Ferrous iron is natural formation iron.

Calcium Sulfate

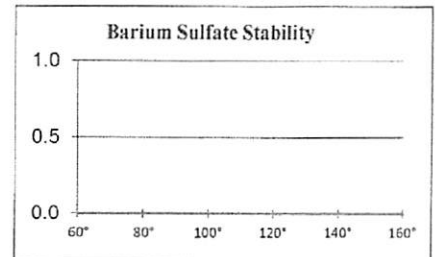
Temp	S.I.
60°	-0.33
80°	-0.37
100°	-0.41
120°	-0.44
140°	-0.47
160°	-0.51



Positive values indicate precipitation.

Barium Sulfate

Temp	S.I.
60°	0.0
80°	0.0
100°	0.0
120°	0.0
140°	0.0
160°	0.0



Positive values indicate precipitation.

NOTES:

water temperature was 80 degrees
 the last water sample collected on 4-3-2017 shows bacteria present

Tested by: Shidler