



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:	MCGOWAN OIL COMPANY	LEASE & WELL:	CHRISTENSON # 1
FIELD:	EAST ARK CITY	COUNTY:	COWLEY
WATER:	N/A	Oil:	N/A
	(Bbls/Day)		(Bbls/Day)
FORMATION:		DATE SAMPLED:	12/4/2014
		SAMPLE POINT:	WELL HEAD
		STATE:	KS

SOLIDS	<i>Cations</i>	me/l	mg/l	<i>Anions</i>	me/l	mg/l
Calcium (Ca)		496.0	9,920	Chloride (Cl)	2,873.2	102,000
Magnesium (Mg)		191.3	2,320	Bicarbonate (HCO ³⁻)	0.9	55
Sodium (Na)		2,189.6	50,360	Sulfate (SO ₄)	2.3	110
Barium (Ba)		0.2	14			
Iron, Total:		1.0	19	Total Dissolved Solids (mg/l):		164,779
Iron, Ferrous:		0.3	6			
Iron, Ferric:		0.7	13			

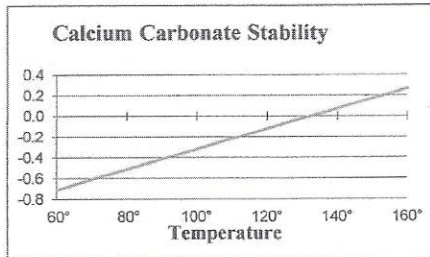
GASES:

Oxygen, O ₂ :	N/A
Carbon Dioxide, CO ₂ :	175
Hydrogen Sulfide, H ₂ S:	0.5

Specific Gravity: 1.0824
pH: 6.1

Calcium Carbonate

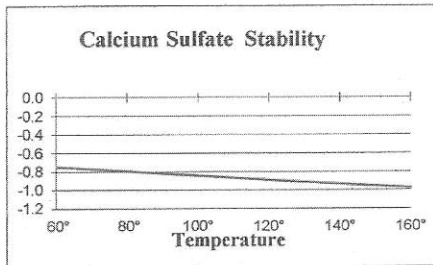
Temp	S.I.
60°	-0.70
80°	-0.51
100°	-0.31
120°	-0.12
140°	0.08
160°	0.27



Positive values indicate precipitation.

Calcium Sulfate

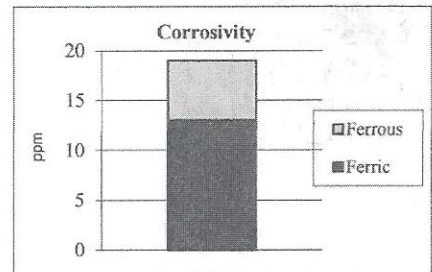
Temp	S.I.
60°	-0.74
80°	-0.79
100°	-0.84
120°	-0.89
140°	-0.93
160°	-0.97



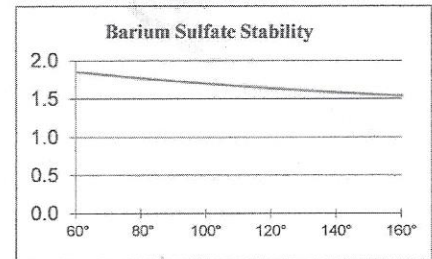
Positive values indicate precipitation.

Barium Sulfate

Temp	S.I.
60°	1.9
80°	1.8
100°	1.7
120°	1.6
140°	1.6
160°	1.5



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



Positive values indicate precipitation.

NOTES:

BACTERIA IS BEING TESTED FOR AMOUNT PRESENT

Tested by: MIKE