



# 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	_____	_____	_____	_____	_____
	<b>TOTAL</b>	_____	_____	_____	_____	_____

**STAABCO CHEMICAL, INC.**

P.O. Box D  
Plainville, KS 67663

Phone: (785) 737-6141  
Fax: (785) 434-2529

**WATER ANALYSIS REPORT**

Company: Shakespeare  
Source: Glassman 4-35 SWD & 6-36 Inj.

Date Sampled: 1-19-16  
Date Analyzed: 1-26-16

pH:	6.00	Total Dissolved Solids (mg/L):	172,978
Dissolved H <sub>2</sub> S:	0		
Dissolved CO <sub>2</sub> :	0	Total Ionic Strength:	3.085
Specific Gravity:	1.090		
Density, (lbs/gal):	9.09		

	mg/L	Meq/L
<b>Anions</b>		
Sulfide	283.2	283.2
Bicarbonate:	238	4
Chloride:	101,000	2,845
Sulfate:	4,700	98
<b>Cations</b>		
Calcium:	2,520	126
Magnesium:	415	34
Sodium:	64,098	2,787
Barium:	7	
Strontium:	0	
Total Hardness:	3,200	
Total Dissolved Iron:	0	
Ferrous Iron:	Not Determined	

**PROBABLE MINERAL COMPOSITION**

126 Ca	4 HCO <sub>3</sub>		
34 Mg	98 SO <sub>4</sub>	Meq/L	mg/L
2,787 Na	2,845 Cl	Calcium Bicarbonate:	4 316
		Calcium Sulfate:	98 6,665
		Calcium Chloride:	24 1,342
		Magnesium Bicarbonate:	0 0
		Magnesium Sulfate:	0 0
		Magnesium Chloride:	34 1,619
		Sodium Bicarbonate:	0 0
		Sodium Sulfate:	0 0
		Sodium Chloride:	2,787 162,922

  

<b>Saturation Values</b>	
In Distilled Water @ 20°C	
CaCO <sub>3</sub>	13 mg/L
CaSO <sub>4</sub> * 2H <sub>2</sub> O	2,090 mg/L
MgCO <sub>3</sub>	103 mg/L

**COMMENTS:**

# STAABCO CHEMICAL, INC.

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## Scale Deposition Potential Analysis

Company: Shakespeare  
Source: Glassman 4-35 SWD & 6-36 Inj.

Date Sampled: 1-19-16  
Date Analyzed: 1-26-16

### Brine Composition

pH:	6.00	Ca, mg/L:	2,520	Total Hardness, mg/L:	3,200
Specific Gravity:	1.090	Mg, mg/L:	415	Total Dissolved Solids, mg/L:	172,978
HCO <sub>3</sub> , mg/L:	238	Na, mg/L:	64,098	Total Ionic Strength:	3.085
Cl, mg/L:	101,000	Ba, mg/L:	7	Total Dissolved Iron, mg/L:	0.0
SO <sub>4</sub> , mg/L:	4,700	Sr, mg/L:	0		

### Calcium Carbonate Scale Indices

					Specified Temperatures	
Temperature, °F:	75	100	125	150	110	130
Stiff-Davis Index:	-0.67	-0.36	0.03	0.46	-0.21	0.10
Deposition, lbs/1,000 Bbls:	-416.3	-171.5	2.8	81.3	-86.8	20.8

### Calcium Sulfate Scale Indices

					Specified Temperatures	
Temperature, °F:	75	100	125	150	110	130
Supersaturation Ratio:	1.00	1.00	1.01	1.01	1.00	1.01
Deposition, lbs/1,000 Bbls:	-2.6	2.9	15.4	14.1	8.9	17.5

### Barium Sulfate Scale Indices

					Specified Temperatures	
Temperature, °F:	75	100	125	150	110	130
Supersaturation Ratio:	113.92	83.23	62.04	45.36	73.93	57.98
Deposition, lbs/1,000 Bbls:	4.1	4.1	4.1	4.1	4.1	4.1

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