

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:**

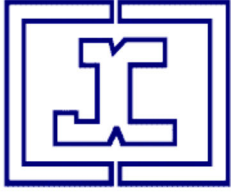
Maximum Authorized Injection Pressure: \_\_\_\_\_ psi Injection Zone: \_\_\_\_\_  
Maximum Authorized Injection Rate: \_\_\_\_\_ barrels per day  
Total Number of Enhanced Recovery Injection Wells Covered by this Permit: \_\_\_\_\_ (Include TA's)

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





# DownHole SAT™ Water Analysis Report



JACAM LABORATORIES

## SYSTEM IDENTIFICATION

LINN OPERATING  
HCU 1441 B SWD  
JEFF SULLIVAN  
HOLDING TANK  
HAMILTON KS

Sample ID#: 3076  
ID: 208780  
Report Date: 01-02-2019  
Sample Date: 12-13-2018  
at 0000

## WATER CHEMISTRY

### CATIONS

Calcium(as Ca)	2716
Magnesium(as Mg)	1353
Barium(as Ba)	0.0350
Strontium(as Sr)	56.75
Sodium(as Na)	67259
Potassium(as K)	359.20
Lithium(as Li)	9.48
Iron(as Fe)	2.04
Field Iron(as Fe)	3.00
Ammonia(as NH <sub>3</sub> )	0.00
Aluminum(as Al)	0.00
Manganese(as Mn)	0.411
Zinc(as Zn)	0.203
Lead(as Pb)	0.00

### ANIONS

Chloride(as Cl)	124400
Sulfate(as SO <sub>4</sub> )	2850
Bromine(as Br)	0.00
Dissolved CO <sub>2</sub> (as CO <sub>2</sub> )	40.00
Bicarbonate(as HCO <sub>3</sub> )	18.30
Carbonate(as CO <sub>3</sub> )	0.00
Silica(as SiO <sub>2</sub> )	0.00
Phosphate(as PO <sub>4</sub> )	0.00
H <sub>2</sub> S (as H <sub>2</sub> S)	5.00
Fluoride(as F)	0.00
Nitrate(as NO <sub>3</sub> )	0.00
Boron(as B)	7.76

### PARAMETERS

Temperature(°F)	50.20
T.D.S.	190792
Resistivity:	3.20
Sample pH	7.61
Conductivity:	312136

## SCALE AND CORROSION POTENTIAL

Temp. (°F)	Press. (atm)	Calcite CaCO <sub>3</sub>		Anhydrite CaSO <sub>4</sub>		Gypsum CaSO <sub>4</sub> *2H <sub>2</sub> O		Barite BaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Siderite FeCO <sub>3</sub>		Mackawenite FeS		CO <sub>2</sub> (mpy)	pCO <sub>2</sub> (atm)
50.00	0.00	0.159	-0.0373	0.740	-160.48	1.04	20.01	0.634	-0.0120	0.417	-51.73	0.0598	-0.118	34.32	0.167	0.00979	< 0.001
65.45	0.00	0.193	-0.0315	0.675	-206.32	0.916	-46.69	0.388	-0.0327	0.367	-62.48	0.0814	-0.0920	26.02	0.162	0.0183	< 0.001
80.91	0.00	0.209	-0.0276	0.651	-217.54	0.824	-101.49	0.252	-0.0615	0.343	-68.34	0.0981	-0.0734	20.10	0.156	0.00360	< 0.001
96.36	0.00	0.205	-0.0251	0.660	-199.66	0.756	-144.91	0.173	-0.0990	0.331	-71.21	0.106	-0.0602	15.81	0.150	0.00472	< 0.001
111.82	0.00	0.185	-0.0235	0.701	-159.88	0.757	-137.21	0.124	-0.146	0.324	-72.68	0.105	-0.0508	12.62	0.143	0.00494	< 0.001
127.27	0.00	0.159	-0.0225	0.774	-105.92	0.803	-101.20	0.0904	-0.209	0.317	-74.51	0.0973	-0.0439	10.18	0.135	0.00415	< 0.001
142.73	0.00	0.131	-0.0217	0.888	-44.96	0.845	-73.37	0.0665	-0.291	0.308	-76.82	0.0863	-0.0389	8.27	0.126	0.00336	< 0.001
158.18	0.00	0.106	-0.0210	1.05	16.98	0.882	-51.93	0.0494	-0.399	0.298	-79.57	0.0738	-0.0353	6.72	0.115	0.00350	< 0.001
173.64	0.00	0.0849	-0.0205	1.28	75.43	0.914	-35.46	0.0370	-0.539	0.287	-82.72	0.0613	-0.0328	5.44	0.102	0.00362	< 0.001
189.09	0.00	0.0673	-0.0202	1.61	127.55	0.941	-22.93	0.0280	-0.719	0.276	-86.28	0.0496	-0.0314	4.35	0.0882	0.00183	< 0.001
204.55	0.00	0.0532	-0.0199	2.06	172.01	0.964	-13.51	0.0213	-0.949	0.265	-90.24	0.0390	-0.0310	3.43	0.0723	0.00153	< 0.001
220.00	0.171	0.0407	-0.0204	2.67	210.71	0.968	-11.82	0.0162	-1.26	0.250	-96.61	0.0290	-0.0325	2.97	0.0585	0.00208	< 0.001
		Lbs per xSAT 1000 Barrels		Lbs per xSAT 1000 Barrels		Lbs per xSAT 1000 Barrels		Lbs per xSAT 1000 Barrels		Lbs per xSAT 1000 Barrels		Lbs per xSAT 1000 Barrels		Lbs per xSAT 1000 Barrels			

Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. {Ca}{CO<sub>3</sub>}/K<sub>sp</sub>. pCO<sub>2</sub> (atm) is the partial pressure of CO<sub>2</sub> in the gas phase. Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.

