

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 3120 E SWD  
 DREW LOTT  
 FLOWLINE  
 HAMILTON KS

Sample ID#: 3076  
 ID: 145339  
 Report Date: 03-06-2017  
 Sample Date: 01-24-2017  
 at 0000

## WATER CHEMISTRY

### CATIONS

Calcium(as Ca)	4019
Magnesium(as Mg)	1998
Barium(as Ba)	0.204
Strontium(as Sr)	105.40
Sodium(as Na)	83077
Potassium(as K)	790.80
Lithium(as Li)	13.15
Iron(as Fe)	0.0510
Field Iron(as Fe)	0.00
Ammonia(as NH <sub>3</sub> )	0.00
Aluminum(as Al)	2.91
Manganese(as Mn)	0.410
Zinc(as Zn)	1.71
Lead(as Pb)	0.00

### ANIONS

Chloride(as Cl)	161800
Sulfate(as SO <sub>4</sub> )	2200
Bromine(as Br)	0.00
Dissolved CO <sub>2</sub> (as CO <sub>2</sub> )	80.00
Bicarbonate(as HCO <sub>3</sub> )	60.00
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)	0.00
Fluoride(as F)	0.00
Nitrate(as NO <sub>3</sub> )	0.00
Boron(as B)	18.86

### PARAMETERS

Temperature(°F)	48.00
T.D.S.	238918
Conductivity:	435832
Sample pH	6.60
Resistivity:	2.29

## 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	0.156	-0.0181	0.773	-85.53	1.00	1.23	1.73	0.0508	0.363	-96.24	< 0.001	-0.436	0.00	-0.571	0.0557	0.00767
65.45	0.00	0.211	-0.0149	0.695	-118.57	0.872	-45.58	1.04	0.00457	0.315	-113.41	0.00103	-0.385	0.00	-0.579	0.104	0.00767
80.91	0.00	0.268	-0.0123	0.660	-129.21	0.773	-84.36	0.665	-0.0608	0.290	-122.65	0.00145	-0.342	0.00	-0.587	0.0474	0.00767
96.36	0.00	0.318	-0.0104	0.660	-121.07	0.699	-115.33	0.450	-0.148	0.275	-127.19	0.00190	-0.308	0.00	-0.597	0.0621	0.00767
111.82	0.00	0.351	-0.00906	0.691	-99.15	0.691	-112.49	0.318	-0.259	0.266	-129.54	0.00231	-0.279	0.00	-0.607	0.0651	0.00767
127.27	0.00	0.365	-0.00821	0.754	-68.72	0.723	-91.05	0.228	-0.408	0.256	-132.30	0.00263	-0.255	0.00	-0.618	0.0546	0.00767
142.73	0.00	0.358	-0.00776	0.853	-34.55	0.750	-74.91	0.166	-0.608	0.245	-135.66	0.00280	-0.235	0.00	-0.631	0.0443	0.00767
158.18	0.00	0.333	-0.00763	0.998	-0.438	0.773	-62.80	0.121	-0.872	0.234	-139.58	0.00282	-0.218	0.00	-0.644	0.0461	0.00767
173.64	0.00	0.295	-0.00769	1.20	31.06	0.792	-53.78	0.0899	-1.22	0.223	-144.02	0.00269	-0.205	0.00	-0.658	0.0477	0.00767
189.09	0.00	0.251	-0.00787	1.49	58.49	0.807	-47.17	0.0672	-1.67	0.212	-149.01	0.00246	-0.193	0.00	-0.674	0.0241	0.00767
204.55	0.00	0.208	-0.00810	1.89	81.30	0.818	-42.49	0.0507	-2.24	0.201	-154.56	0.00217	-0.183	0.00	-0.691	0.0202	0.00767
220.00	0.171	0.164	-0.00870	2.43	101.31	0.816	-42.66	0.0382	-3.01	0.189	-163.85	0.00181	-0.178	0.00	-0.717	0.0275	0.00899

  

	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 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.

