



**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  
BEATY SWD  
MICHAEL BELLOMY  
FLOWLINE  
SEWARD KS

Sample ID#: 3076  
ID: 117615  
Report Date: 01-26-2016  
Sample Date: 01-20-2016  
at 0000

## WATER CHEMISTRY

### CATIONS

Calcium(as Ca)	9973
Magnesium(as Mg)	2812
Barium(as Ba)	0.833
Strontium(as Sr)	206.20
Sodium(as Na)	57468
Potassium(as K)	599.80
Lithium(as Li)	11.11
Iron(as Fe)	3.32
Field Iron(as Fe)	0.00
Ammonia(as NH <sub>3</sub> )	0.00
Aluminum(as Al)	0.00
Manganese(as Mn)	0.0120
Zinc(as Zn)	1.09
Lead(as Pb)	0.00

### ANIONS

Chloride(as Cl)	126600
Sulfate(as SO <sub>4</sub> )	900.00
Bromine(as Br)	0.00
Dissolved CO <sub>2</sub> (as CO <sub>2</sub> )	150.00
Bicarbonate(as HCO <sub>3</sub> )	42.20
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)	0.500
Fluoride(as F)	0.00
Nitrate(as NO <sub>3</sub> )	0.00
Boron(as B)	15.56

### PARAMETERS

Temperature(°F)	48.00
Sample pH	6.19
T.D.S.	191206
Conductivity:	317662
Resistivity:	3.15

## 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	0.106	-0.00941	0.542	-84.85	0.766	-35.01	2.50	0.295	0.251	-143.42	0.0150	-0.0813	0.0427	-0.718	0.0742	0.00981
65.45	0.00	0.143	-0.00795	0.487	-98.18	0.665	-53.44	1.50	0.165	0.218	-158.34	0.0228	-0.0640	0.0401	-0.734	0.192	0.00981
80.91	0.00	0.186	-0.00676	0.463	-100.57	0.590	-68.55	0.965	-0.0178	0.201	-164.31	0.0331	-0.0511	0.0370	-0.752	0.0941	0.00981
96.36	0.00	0.232	-0.00577	0.463	-93.84	0.534	-80.40	0.655	-0.259	0.192	-165.32	0.0458	-0.0414	0.0337	-0.772	0.123	0.00981
111.82	0.00	0.280	-0.00496	0.486	-80.57	0.528	-77.08	0.465	-0.564	0.186	-164.21	0.0609	-0.0340	0.0304	-0.794	0.130	0.00981
127.27	0.00	0.330	-0.00428	0.531	-63.52	0.554	-65.56	0.335	-0.969	0.179	-163.75	0.0786	-0.0283	0.0275	-0.817	0.111	0.00981
142.73	0.00	0.379	-0.00372	0.601	-45.08	0.576	-56.71	0.244	-1.50	0.173	-164.14	0.0986	-0.0238	0.0249	-0.841	0.0915	0.00981
158.18	0.00	0.424	-0.00326	0.705	-27.11	0.595	-49.92	0.180	-2.20	0.166	-165.31	0.120	-0.0202	0.0226	-0.867	0.0875	0.00981
173.64	0.00	0.461	-0.00292	0.852	-10.79	0.610	-44.71	0.134	-3.09	0.159	-167.27	0.141	-0.0175	0.0204	-0.895	0.0836	0.00981
189.09	0.00	0.483	-0.00270	1.06	3.25	0.623	-40.76	0.100	-4.22	0.152	-169.99	0.159	-0.0154	0.0183	-0.924	0.0390	0.00981
204.55	0.00	0.489	-0.00261	1.35	14.84	0.633	-37.83	0.0762	-5.64	0.144	-173.52	0.173	-0.0137	0.0164	-0.956	0.0308	0.00981
220.00	0.171	0.466	-0.00277	1.74	24.54	0.635	-37.47	0.0578	-7.45	0.136	-181.68	0.176	-0.0130	0.0165	-0.996	0.0414	0.0115

  

	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	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.

