



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	_____	_____	_____	_____	_____

DownHole SAT™ Water Analysis Report



JACAM LABORATORIES

SYSTEM IDENTIFICATION

LINN OPERATING
 STALLMAN B SWDW
 DREW LOTT
 TANK
 KEARNY KS

Sample ID#: 3076
 ID: 117225
 Report Date: 01-22-2016
 Sample Date: 01-18-2016
 at 0000

WATER CHEMISTRY

CATIONS

Calcium(as Ca)	7438
Magnesium(as Mg)	4120
Barium(as Ba)	1.10
Strontium(as Sr)	162.70
Sodium(as Na)	58719
Potassium(as K)	658.60
Lithium(as Li)	8.63
Iron(as Fe)	1269
Field Iron(as Fe)	0.00
Ammonia(as NH ₃)	0.00
Aluminum(as Al)	0.00
Manganese(as Mn)	23.09
Zinc(as Zn)	1.35
Lead(as Pb)	0.00

ANIONS

Chloride(as Cl)	130400
Sulfate(as SO ₄)	500.00
Bromine(as Br)	0.00
Dissolved CO ₂ (as CO ₂)	190.00
Bicarbonate(as HCO ₃)	192.00
Carbonate(as CO ₃)	0.00
Silica(as SiO ₂)	0.00
Phosphate(as PO ₄)	0.00
H ₂ S (as H ₂ S)	0.00
Fluoride(as F)	0.00
Nitrate(as NO ₃)	0.00
Boron(as B)	12.25

PARAMETERS

Temperature(°F)	49.00
Sample pH	7.20
Conductivity:	329259
T.D.S.	195511
Resistivity:	3.04

SCALE AND CORROSION POTENTIAL

Temp. (°F)	Press. (atm)	Calcite CaCO ₃		Anhydrite CaSO ₄		Gypsum CaSO ₄ *2H ₂ O		Barite BaSO ₄		Celestite SrSO ₄		Siderite FeCO ₃		Mackawenite FeS		CO ₂ (mpy)	pCO ₂ (atm)
50.00	0.00	2.91	0.0261	0.227	-185.91	0.318	-133.44	1.76	0.281	0.106	-194.56	203.49	0.0458	0.00	>-0.001	0.0335	0.00772
65.45	0.00	3.86	0.0344	0.200	-198.57	0.271	-152.17	1.04	0.0275	0.0903	-208.07	302.12	0.0536	0.00	>-0.001	0.0627	0.00772
80.91	0.00	4.77	0.0406	0.186	-197.68	0.236	-167.11	0.658	-0.335	0.0818	-212.67	415.75	0.0594	0.00	>-0.001	0.0286	0.00772
96.36	0.00	5.49	0.0439	0.183	-185.49	0.209	-178.34	0.438	-0.820	0.0765	-212.37	529.28	0.0620	0.00	>-0.001	0.0374	0.00772
111.82	0.00	5.89	0.0438	0.188	-165.28	0.204	-170.35	0.305	-1.44	0.0728	-210.06	624.37	0.0610	0.00	>-0.001	0.0392	0.00772
127.27	0.00	5.98	0.0413	0.202	-140.49	0.210	-152.16	0.216	-2.26	0.0691	-208.50	691.30	0.0573	0.00	-0.00103	0.0329	0.00772
142.73	0.00	5.74	0.0369	0.225	-114.21	0.214	-137.80	0.155	-3.33	0.0654	-207.91	719.50	0.0516	0.00	-0.00111	0.0267	0.00772
158.18	0.00	5.25	0.0313	0.260	-88.77	0.218	-126.47	0.112	-4.70	0.0617	-208.23	707.61	0.0447	0.00	-0.00120	0.0278	0.00772
173.64	0.00	4.60	0.0254	0.309	-65.74	0.220	-117.56	0.0821	-6.40	0.0582	-209.43	661.90	0.0375	0.00	-0.00131	0.0287	0.00772
189.09	0.00	3.91	0.0198	0.378	-45.92	0.221	-110.65	0.0608	-8.46	0.0548	-211.52	593.06	0.0307	0.00	-0.00146	0.0145	0.00772
204.55	0.00	3.24	0.0149	0.476	-29.52	0.222	-105.40	0.0456	-10.91	0.0516	-214.52	512.79	0.0249	0.00	-0.00164	0.0121	0.00772
220.00	0.171	2.57	0.0106	0.608	-17.13	0.221	-105.31	0.0342	-13.93	0.0483	-222.94	418.05	0.0200	0.00	-0.00194	0.0165	0.00904
			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}{CO₃}/K_{sp}. pCO₂ (atm) is the partial pressure of CO₂ in the gas phase.
 Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.

