



**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:

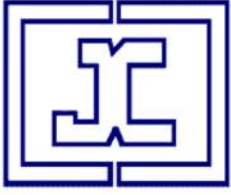
Type (Pick one): Fresh Water Treated Brine Untreated Brine Water/Brine
Source: Produced Water Other (Attach list)
Quality: Total Dissolved Solids: _____ mg/l Specific Gravity: _____ Additives: _____
(Attach water analysis, if available)

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
BROWN SWD 17-19
DREW LOTT
TANK
FINNEY KS

Sample ID#: 3076
ID: 117228
Report Date: 01-22-2016
Sample Date: 01-18-2016
at 0000

WATER CHEMISTRY

CATIONS

Calcium(as Ca)	6832
Magnesium(as Mg)	2200
Barium(as Ba)	0.897
Strontium(as Sr)	154.50
Sodium(as Na)	52562
Potassium(as K)	505.60
Lithium(as Li)	7.64
Iron(as Fe)	259.90
Field Iron(as Fe)	0.00
Ammonia(as NH ₃)	0.00
Aluminum(as Al)	2.50
Manganese(as Mn)	0.584
Zinc(as Zn)	3.00
Lead(as Pb)	0.00

ANIONS

Chloride(as Cl)	108800
Sulfate(as SO ₄)	1600
Bromine(as Br)	0.00
Dissolved CO ₂ (as CO ₂)	100.00
Bicarbonate(as HCO ₃)	84.00
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)	120.00
Fluoride(as F)	0.00
Nitrate(as NO ₃)	0.00
Boron(as B)	17.43

PARAMETERS

Temperature(°F)	47.00
T.D.S.	167666
Conductivity:	262820
Sample pH	6.80
Resistivity:	3.80

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	0.00155	-0.0182	0.781	-64.95	1.14	32.69	7.18	0.457	0.501	-71.74	0.0315	-0.00101	9305	22.55	0.0333	0.00762
65.45	0.00	0.00221	-0.0161	0.707	-89.90	0.997	-0.725	4.36	0.409	0.438	-87.38	0.0502	>-0.001	7937	22.15	0.0624	0.00762
80.91	0.00	0.00292	-0.0144	0.676	-97.05	0.891	-28.48	2.81	0.342	0.406	-95.21	0.0740	>-0.001	6717	21.71	0.0283	0.00762
96.36	0.00	0.00361	-0.0130	0.681	-89.32	0.811	-50.73	1.92	0.254	0.390	-98.51	0.102	>-0.001	5665	21.24	0.0371	0.00762
111.82	0.00	0.00433	-0.0119	0.718	-70.84	0.807	-48.96	1.37	0.144	0.380	-99.75	0.134	>-0.001	4782	20.73	0.0389	0.00762
127.27	0.00	0.00499	-0.0110	0.789	-45.93	0.851	-34.07	0.993	-0.00362	0.369	-101.40	0.169	>-0.001	4063	20.18	0.0326	0.00762
142.73	0.00	0.00553	-0.0103	0.898	-18.46	0.889	-22.98	0.727	-0.199	0.357	-103.64	0.204	>-0.001	3470	19.59	0.0264	0.00762
158.18	0.00	0.00585	-0.00973	1.06	8.60	0.923	-14.73	0.538	-0.454	0.344	-106.43	0.233	>-0.001	2972	18.95	0.0275	0.00762
173.64	0.00	0.00585	-0.00929	1.28	33.31	0.952	-8.63	0.402	-0.786	0.331	-109.72	0.251	>-0.001	2548	18.25	0.0285	0.00762
189.09	0.00	0.00576	-0.00896	1.60	54.63	0.975	-4.15	0.303	-1.21	0.317	-113.51	0.265	>-0.001	2182	17.49	0.0144	0.00762
204.55	0.00	0.00543	-0.00872	2.04	72.26	0.994	-0.941	0.231	-1.76	0.304	-117.82	0.264	>-0.001	1862	16.66	0.0120	0.00762
220.00	0.171	0.00527	-0.00886	2.64	87.99	0.999	-0.197	0.175	-2.47	0.287	-125.28	0.271	>-0.001	1779	15.53	0.0164	0.00892

	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}{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.

