

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	_____	_____	_____	_____	_____
	TOTAL	_____	_____	_____	_____	_____

DownHole SAT™ Water Analysis Report



JACAM LABORATORIES

SYSTEM IDENTIFICATION

LINN OPERATING
 HCU 3211 B SWD
 DREW LOTT
 FLOWLINE
 HAMILTON KS

Sample ID#: 3076
 ID: 145348
 Report Date: 03-06-2017
 Sample Date: 01-24-2017
 at 0000

WATER CHEMISTRY

CATIONS

Calcium(as Ca)	4043
Magnesium(as Mg)	2434
Barium(as Ba)	0.204
Strontium(as Sr)	114.90
Sodium(as Na)	89516
Potassium(as K)	961.10
Lithium(as Li)	12.39
Iron(as Fe)	9.61
Field Iron(as Fe)	0.00
Ammonia(as NH ₃)	0.00
Aluminum(as Al)	2.54
Manganese(as Mn)	0.861
Zinc(as Zn)	1.90
Lead(as Pb)	0.00

ANIONS

Chloride(as Cl)	176000
Sulfate(as SO ₄)	2300
Bromine(as Br)	0.00
Dissolved CO ₂ (as CO ₂)	120.00
Bicarbonate(as HCO ₃)	228.00
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)	20.35

PARAMETERS

Temperature(°F)	120.00
T.D.S.	257886
Conductivity:	475677
Sample pH	7.60
Resistivity:	2.10

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	3.10	0.0387	0.796	-69.83	0.999	-0.453	1.51	0.0410	0.348	-106.37	2.17	0.0355	0.00	-0.0404	0.00770	0.00382
65.45	0.00	3.38	0.0387	0.709	-102.35	0.860	-46.39	0.904	-0.0129	0.299	-125.24	2.64	0.0394	0.00	-0.0422	0.0480	0.00382
80.91	0.00	3.27	0.0330	0.668	-114.11	0.757	-84.38	0.573	-0.0900	0.272	-135.61	2.84	0.0355	0.00	-0.0443	0.0182	0.00382
96.36	0.00	2.89	0.0248	0.663	-108.51	0.679	-114.73	0.384	-0.194	0.257	-140.92	2.76	0.0279	0.00	-0.0467	0.0238	0.00382
111.82	0.00	2.40	0.0168	0.689	-90.18	0.666	-113.30	0.269	-0.328	0.246	-143.83	2.50	0.0199	0.00	-0.0495	0.0250	0.00382
127.27	0.00	1.92	0.0103	0.746	-63.95	0.692	-94.32	0.192	-0.509	0.234	-147.06	2.17	0.0133	0.00	-0.0529	0.00461	0.00382
142.73	0.00	1.51	0.00533	0.838	-34.18	0.713	-80.08	0.138	-0.752	0.223	-150.83	1.83	0.00825	0.00	-0.0569	0.00981	0.00382
158.18	0.00	1.18	0.00174	0.975	-4.28	0.731	-69.39	0.101	-1.08	0.212	-155.09	1.51	0.00452	0.00	-0.0619	0.0183	0.00382
173.64	0.00	0.912	>-0.001	1.17	23.43	0.745	-61.39	0.0741	-1.50	0.201	-159.81	1.22	0.00179	0.00	-0.0681	0.0265	0.00382
189.09	0.00	0.705	-0.00267	1.44	47.67	0.756	-55.45	0.0552	-2.05	0.190	-165.01	0.966	>-0.001	0.00	-0.0760	0.0154	0.00382
204.55	0.00	0.545	-0.00401	1.83	67.98	0.764	-51.11	0.0416	-2.75	0.180	-170.71	0.748	-0.00187	0.00	-0.0860	0.0129	0.00382
220.00	0.171	0.406	-0.00532	2.35	86.04	0.763	-51.24	0.0313	-3.69	0.169	-180.39	0.547	-0.00349	0.00	-0.101	0.0176	0.00447
			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.

