

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(tm)

FORMATION WATER CHEMISTRY INPUT

Petroleum Resource Mgmt SanCo, LLC
Hammond Gary Sanborn & Brian Anderson
Gun Barrel H2O Leg

Report Date: 03-11-2019 Sampled: 01-24-2019 at 1047
Sample #: 5401 Sample ID: KHamburg

CATIONS

Calcium (as Ca)	2480
Magnesium (as Mg)	875.00
Barium (as Ba)	78.00
Strontium (as Sr)	0.00
Sodium (as Na)	26170
Potassium (as K)	0.00
Lithium (as Li)	0.00
Ammonia (as NH ₃)	0.00
Aluminum (as Al)	0.00
Iron (as Fe)	11.50
Manganese (as Mn)	0.487
Zinc (as Zn)	0.00
Lead (as Pb)	0.00

ANIONS

Chloride (as Cl)	49000
Sulfate (as SO ₄)	40.00
Bromine (as Br)	0.00
Dissolved CO ₂ (as CO ₂)	35.00
Bicarbonate (as HCO ₃)	340.00
Carbonate (as CO ₃)	0.00
Oxalic acid (as C ₂ O ₄)	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)	0.00

PARAMETERS

Calculated T.D.S.	77976
Molar Conductivity	108982
Resistivity	9.18
Sp.Gr.(g/mL)	1.05
Pressure(psia)	14.70
pCO ₂ (psia)	0.00937
pH ₂ S(atm)	0.00
Temperature (°F)	69.00
pH	7.41

CORROSION RATE PREDICTION

CO ₂ - H ₂ S Rate(mpy)	0.00447
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COMMENTS All cations & anions are in mg/l

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DownHole SAT(tm)

FORMATION WATER DEPOSITION POTENTIAL INDICATORS

Petroleum Resource Mgmt	SanCo, LLC
Hammond	Gary Sanborn & Brian Anderson
Gun Barrel H2O Leg	
Report Date: 03-11-2019	Sampled: 01-24-2019 at 1047
Sample #: 5401	Sample ID: KHamburg

SATURATION LEVEL

Calcite (CaCO ₃)	8.03
Aragonite (CaCO ₃)	7.57
Witherite (BaCO ₃)	0.0733
Strontianite (SrCO ₃)	0.00
Calcium oxalate (CaC ₂ O ₄)	0.00
Magnesite (MgCO ₃)	2.50
Anhydrite (CaSO ₄)	0.0106
Gypsum (CaSO ₄ *2H ₂ O)	0.0166
Barite (BaSO ₄)	27.87
Celestite (SrSO ₄)	0.00
Fluorite (CaF ₂)	0.00
Calcium phosphate	0.00
Hydroxyapatite	0.00
Silica (SiO ₂)	0.00
Brucite (Mg(OH) ₂)	< 0.001
Magnesium silicate	0.00
Iron hydroxide (Fe(OH) ₃)	714.15
Strengite (FePO ₄ *2H ₂ O)	0.00
Siderite (FeCO ₃)	41.95
Halite (NaCl)	0.0191
Thenardite (Na ₂ SO ₄)	< 0.001
Iron sulfide (FeS)	0.00

FREE ION MOMENTARY EXCESS (ppm)

Calcite (CaCO ₃)	1.15
Aragonite (CaCO ₃)	1.14
Witherite (BaCO ₃)	-26.02
Strontianite (SrCO ₃)	-19.64
Calcium oxalate (CaC ₂ O ₄)	-0.0768
Magnesite (MgCO ₃)	0.663
Anhydrite (CaSO ₄)	-2146
Gypsum (CaSO ₄ *2H ₂ O)	-1650
Barite (BaSO ₄)	46.89
Celestite (SrSO ₄)	-585.97
Fluorite (CaF ₂)	-15.49
Calcium phosphate	>-0.001
Hydroxyapatite	-970.20
Silica (SiO ₂)	-94.84
Brucite (Mg(OH) ₂)	0.0165
Magnesium silicate	-288.88
Iron hydroxide (Fe(OH) ₃)	< 0.001
Strengite (FePO ₄ *2H ₂ O)	>-0.001
Siderite (FeCO ₃)	1.48
Halite (NaCl)	-450085
Thenardite (Na ₂ SO ₄)	-214431
Iron sulfide (FeS)	-0.0975

SIMPLE INDICES

Langelier	1.17
Ryznar	5.07
Puckorius	4.38
Larson-Skold Index	248.52
Stiff Davis Index	0.438
Oddo-Tomson	0.193

BOUND IONS

Calcium	2480	2451
Barium	78.00	78.00
Carbonate	14.12	0.786
Phosphate	0.00	0.00
Sulfate	40.00	20.44

OPERATING CONDITIONS

Temperature (°F)	69.00
Time(mins)	3.00