



**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
 MASONIC HOME 14-35 SWD
 DREW LOTT
 WATER DUMP VALVE
 KEARNY KS

Sample ID#: 3076
 ID: 117221
 Report Date: 01-22-2016
 Sample Date: 01-14-2016
 at 0000

WATER CHEMISTRY

CATIONS

| | |
|------------------------------|--------|
| Calcium(as Ca) | 11110 |
| Magnesium(as Mg) | 3903 |
| Barium(as Ba) | 0.937 |
| Strontium(as Sr) | 249.30 |
| Sodium(as Na) | 60302 |
| Potassium(as K) | 643.10 |
| Lithium(as Li) | 9.34 |
| Iron(as Fe) | 13.70 |
| Field Iron(as Fe) | 20.00 |
| Ammonia(as NH ₃) | 0.00 |
| Aluminum(as Al) | 0.00 |
| Manganese(as Mn) | 0.918 |
| Zinc(as Zn) | 1.55 |
| Lead(as Pb) | 0.00 |

ANIONS

| | |
|---|--------|
| Chloride(as Cl) | 138200 |
| Sulfate(as SO ₄) | 600.00 |
| Bromine(as Br) | 0.00 |
| Dissolved CO ₂ (as CO ₂) | 120.00 |
| Bicarbonate(as HCO ₃) | 30.50 |
| 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) | 0.200 |
| Fluoride(as F) | 0.00 |
| Nitrate(as NO ₃) | 0.00 |
| Boron(as B) | 10.48 |

PARAMETERS

| | |
|-----------------|--------|
| Temperature(°F) | 50.00 |
| T.D.S. | 206036 |
| Conductivity: | 358155 |
| Sample pH | 6.70 |
| Resistivity: | 2.79 |

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 | 0.229 | -0.00646 | 0.361 | -98.49 | 0.498 | -63.55 | 1.44 | 0.168 | 0.155 | -173.99 | 0.104 | -0.0191 | 0.508 | -0.0964 | 0.0403 | 0.00328 |
| 65.45 | 0.00 | 0.307 | -0.00513 | 0.320 | -108.18 | 0.428 | -77.44 | 0.855 | -0.0934 | 0.133 | -187.75 | 0.156 | -0.0141 | 0.440 | -0.114 | 0.0755 | 0.00328 |
| 80.91 | 0.00 | 0.392 | -0.00403 | 0.301 | -108.91 | 0.375 | -88.67 | 0.542 | -0.463 | 0.121 | -192.46 | 0.222 | -0.0105 | 0.377 | -0.132 | 0.0275 | 0.00328 |
| 96.36 | 0.00 | 0.476 | -0.00314 | 0.298 | -102.17 | 0.336 | -97.33 | 0.364 | -0.953 | 0.114 | -192.21 | 0.299 | -0.00773 | 0.321 | -0.151 | 0.0361 | 0.00328 |
| 111.82 | 0.00 | 0.552 | -0.00247 | 0.309 | -90.11 | 0.328 | -93.24 | 0.255 | -1.57 | 0.110 | -189.94 | 0.382 | -0.00568 | 0.273 | -0.169 | 0.0378 | 0.00328 |
| 127.27 | 0.00 | 0.615 | -0.00196 | 0.334 | -75.01 | 0.341 | -82.34 | 0.182 | -2.39 | 0.105 | -188.44 | 0.466 | -0.00415 | 0.233 | -0.187 | 0.0317 | 0.00328 |
| 142.73 | 0.00 | 0.659 | -0.00163 | 0.375 | -58.87 | 0.351 | -73.83 | 0.131 | -3.45 | 0.100 | -187.91 | 0.544 | -0.00305 | 0.200 | -0.206 | 0.0257 | 0.00328 |
| 158.18 | 0.00 | 0.675 | -0.00147 | 0.435 | -43.22 | 0.359 | -67.20 | 0.0958 | -4.79 | 0.0951 | -188.32 | 0.604 | -0.00232 | 0.172 | -0.225 | 0.0268 | 0.00328 |
| 173.64 | 0.00 | 0.660 | -0.00147 | 0.521 | -29.04 | 0.365 | -62.04 | 0.0707 | -6.47 | 0.0902 | -189.64 | 0.637 | -0.00189 | 0.148 | -0.246 | 0.0277 | 0.00328 |
| 189.09 | 0.00 | 0.617 | -0.00160 | 0.642 | -16.85 | 0.370 | -58.07 | 0.0527 | -8.50 | 0.0855 | -191.86 | 0.639 | -0.00169 | 0.128 | -0.268 | 0.0140 | 0.00328 |
| 204.55 | 0.00 | 0.555 | -0.00182 | 0.810 | -6.79 | 0.373 | -55.10 | 0.0396 | -10.93 | 0.0809 | -195.02 | 0.611 | -0.00167 | 0.109 | -0.292 | 0.0117 | 0.00328 |
| 220.00 | 0.171 | 0.469 | -0.00221 | 1.04 | 1.14 | 0.372 | -55.03 | 0.0299 | -13.93 | 0.0760 | -203.60 | 0.549 | -0.00186 | 0.105 | -0.321 | 0.0159 | 0.00384 |
| | | 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.

