



**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 | _____ | _____ | _____ | _____ | _____ |

Complete Water Analysis Report SSP v.8

| | | | |
|-------------------|----------------|----------------|-----------|
| Customer: | ISIS OPERATING | Sample Date: | 2/17/2017 |
| District: | GREAT BEND | Log Out Date: | 2/17/2017 |
| Area: | HAYS | Sample ID: | |
| Lease: | WOLF #1 | Analyst: | ROD GOETZ |
| Sample Point Name | BLEEDER | Chemical Used: | |
| Sales Rep: | ROR GOETZ | Comments: | |

ISIS OPERATING, WOLF #1, BLEEDER

| Field Data | | Analysis of Sample | | | | |
|--|--------|---|-------|--------|---------------------------------|-------|
| | mg/L | meq/L | mg/L | meq/L | meq/L | |
| Initial Temperature (°F): | 140 | Chloride (Cl ⁻): | 61400 | 1729.6 | Sodium (Na ⁺): | 32403 |
| Final Temperature (°F): | 70 | Sulfate (SO ₄ ²⁻): | 1000 | 20.8 | Potassium (K ⁺): | 0 |
| Initial Pressure (psi): | 15 | Borate (H ₃ BO ₃): | 0.0 | 0.0 | Magnesium (Mg ²⁺): | 612 |
| Final Pressure (psi): | 15 | Fluoride (F ⁻): | 0.0 | 0.0 | Calcium (Ca ²⁺): | 5836 |
| | | Bromide (Br ⁻): | 0.0 | 0.0 | Strontium (Sr ²⁺): | 0 |
| | | Nitrite (NO ₂ ⁻): | 0.0 | 0.0 | Barium (Ba ²⁺): | 0.0 |
| pH: | | Nitrate (NO ₃ ⁻): | 0.0 | 0.0 | Iron (Fe ²⁺): | 0.0 |
| pH at time of sampling: | 7.1 | Phosphate (PO ₄ ³⁻): | 0.0 | 0.0 | Manganese (Mn ²⁺): | 0.00 |
| pH at time of analysis: | 7.1 | Silica (SiO ₂): | 0.0 | 0.0 | Lead (Pb ²⁺): | 0.00 |
| pH used in Calcs: | 7.1 | | | | Zinc (Zn ²⁺): | 0.0 |
| | | | | | Aluminum (Al ³⁺): | 0.0 |
| | | | | | Chromium (Cr ³⁺): | 0.0 |
| | | | | | Cobalt (Co ²⁺): | 0.0 |
| | | | | | Copper (Cu ²⁺): | 0.0 |
| | | | | | Molybdenum (Mo ²⁺): | 0.0 |
| | | | | | Nickel (Ni ²⁺): | 0.0 |
| | | | | | Tin (Sn ²⁺): | 0.0 |
| | | | | | Titanium (Ti ²⁺): | 0.0 |
| | | | | | Vanadium (V ²⁺): | 0.0 |
| | | | | | Zirconium (Zr ²⁺): | 0.0 |
| Alkalinity by Titration: | meq/L | | | | Total Hardness: | 17110 |
| Bicarbonate (HCO ₃ ⁻): | 573 | | | | | N/A |
| Carbonate (CO ₃ ²⁻): | 0 | | | | | |
| Hydroxide (OH ⁻): | 0 | | | | | |
| aqueous CO ₂ (ppm): | 0.0 | Organic Acids: | mg/L | meq/L | | |
| aqueous H ₂ S (ppm): | 0.0 | Formate: | 0.0 | 0.0 | | |
| aqueous O ₂ (ppb): | 0.0 | Acetate: | 0.0 | 0.0 | | |
| | | Propionate: | 0.0 | 0.0 | | |
| | | Butyrate: | 0.0 | 0.0 | | |
| | | Valerate: | 0.0 | 0.0 | | |
| Calculated TDS (mg/L): | 101824 | | | | | |
| Density/Specific Gravity (g/cm ³): | 1.0662 | | | | | |
| Measured Density/Specific Gravity | 0 | | | | | |
| Conductivity (umhos): | 0 | | | | | |
| MCF/D: | 0 | | | | | |
| BOPD: | 0 | | | | | |
| BWPD: | 0 | | | | | |
| | | Antion/Cation Ratio: | | 1.00 | | |

| Temp | Press. | Barite (BaSO ₄) | | Calcite (CaCO ₃) | | Gypsum (CaSO ₄ ·2H ₂ O) | | Anhydrite (CaSO ₄) | |
|-------|--------|-----------------------------|-----------|------------------------------|-----------|---|--------|--------------------------------|-----------|
| | | Index | Amt (PTB) | Index | Amt (PTB) | Index | Amount | Index | Amt (PTB) |
| 70°F | 15 psi | 0.000 | 127.411 | 1.66 | 127.411 | -0.23 | 0.000 | -0.46 | 0.000 |
| 78°F | 15 psi | 0.000 | 130.114 | 1.73 | 130.114 | -0.22 | 0.000 | -0.43 | 0.000 |
| 86°F | 15 psi | 0.000 | 132.572 | 1.79 | 132.572 | -0.22 | 0.000 | -0.39 | 0.000 |
| 93°F | 15 psi | 0.000 | 134.817 | 1.85 | 134.817 | -0.21 | 0.000 | -0.35 | 0.000 |
| 101°F | 15 psi | 0.000 | 136.876 | 1.91 | 136.876 | -0.20 | 0.000 | -0.31 | 0.000 |
| 109°F | 15 psi | 0.000 | 138.767 | 1.97 | 138.767 | -0.20 | 0.000 | -0.27 | 0.000 |
| 117°F | 15 psi | 0.000 | 140.508 | 2.03 | 140.508 | -0.19 | 0.000 | -0.23 | 0.000 |
| 124°F | 15 psi | 0.000 | 142.113 | 2.08 | 142.113 | -0.19 | 0.000 | -0.19 | 0.000 |
| 132°F | 15 psi | 0.000 | 143.596 | 2.14 | 143.596 | -0.18 | 0.000 | -0.15 | 0.000 |
| 140°F | 15 psi | 0.000 | 144.966 | 2.19 | 144.966 | -0.18 | 0.000 | -0.10 | 0.000 |

| Temp | Press. | Celestite (SrSO ₄) | | Halite (NaCl) | | Iron Sulfide (FeS) | | Iron Carbonate (FeCO ₃) | |
|-------|--------|--------------------------------|-----------|---------------|-----------|--------------------|-----------|-------------------------------------|-----------|
| | | Index | Amt (PTB) | Index | Amt (PTB) | Index | Amt (PTB) | Index | Amt (PTB) |
| 70°F | 15 psi | 0.000 | 0.000 | -1.50 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 78°F | 15 psi | 0.000 | 0.000 | -1.51 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 86°F | 15 psi | 0.000 | 0.000 | -1.52 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 93°F | 15 psi | 0.000 | 0.000 | -1.52 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 101°F | 15 psi | 0.000 | 0.000 | -1.53 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 109°F | 15 psi | 0.000 | 0.000 | -1.53 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 117°F | 15 psi | 0.000 | 0.000 | -1.54 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 124°F | 15 psi | 0.000 | 0.000 | -1.54 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 132°F | 15 psi | 0.000 | 0.000 | -1.55 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |
| 140°F | 15 psi | 0.000 | 0.000 | -1.55 | 0.000 | 0 | 0.000 | 0.000 | 0.000 |

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered
 Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the eight (8) scales.
 Note 3: Saturation Index predictions on this sheet use pH and alkalinity. %CO₂ is not included in the calculations.

