

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

Form ACO-4 Form must be typed March 2009

APPLICATION FOR COMMINGLING OF Commingling ID # _ PRODUCTION (K.A.R. 82-3-123) OR FLUIDS (K.A.R. 82-3-123a)

| OPERATOR: License # | | API No. 15 | | | | |
|-------------------------------------|---|----------------------------------|------------------|---|--|--|
| | | Spot Description: | | | | |
| Address | 1: | | Sec Twp | S. R East West | | |
| Address | 2: | | Feet from No | orth / South Line of Section | | |
| City: | | | Feet from Ea | st / West Line of Section | | |
| Contact | Person: | County: | | | | |
| Phone: | () | Lease Name: | Wel | l #: | | |
| | | | | | | |
| 1. | Name and upper and lower limit of each production interval to | be commingled: | | | | |
| | Formation: | (Perfs): . | | | | |
| | Formation: | (Perfs): _ | | | | |
| | Formation: | (Perfs): _ | | | | |
| | Formation: | (Perfs): . | | | | |
| | Formation: | (Perfs): _ | | | | |
| | | | | | | |
| 2. | Estimated amount of fluid production to be commingled from e | | | | | |
| | Formation: | | | BWPD: | | |
| | Formation: | | | BWPD: | | |
| | Formation: | | - | BWPD: | | |
| | Formation: | BOPD: | MCFPD: | BWPD: | | |
| | Formation: | BOPD: | MCFPD: | BWPD: | | |
| □ 3.□ 4. | Plat map showing the location of the subject well, all other well the subject well, and for each well the names and addresses of Signed certificate showing service of the application and affida | of the lessee of record or ope | rator. | ses within a 1/2 mile radius of | | |
| For Con | nmingling of PRODUCTION ONLY, include the following: | | | | | |
| <u> </u> | Wireline log of subject well. Previously Filed with ACO-1: | Yes No | | | | |
| 6. | Complete Form ACO-1 (Well Completion form) for the subject | well. | | | | |
| | | | | | | |
| For Con | nmingling of FLUIDS ONLY, include the following: | | | | | |
| 7. | Well construction diagram of subject well. | | | | | |
| 8. | Any available water chemistry data demonstrating the compati | ibility of the fluids to be comn | ningled. | | | |
| current ir mingling | /IT: I am the affiant and hereby certify that to the best of my nformation, knowledge and personal belief, this request for comistrue and proper and I have no information or knowledge, which istent with the information supplied in this application. | Su | bmitted Electron | ically | | |
| l — | C Office Use Only | | | t in the application. Protests must be e filed wihin 15 days of publication of | | |

Date: _

Approved By:

15-Day Periods Ends: _



Wellbore Schematic

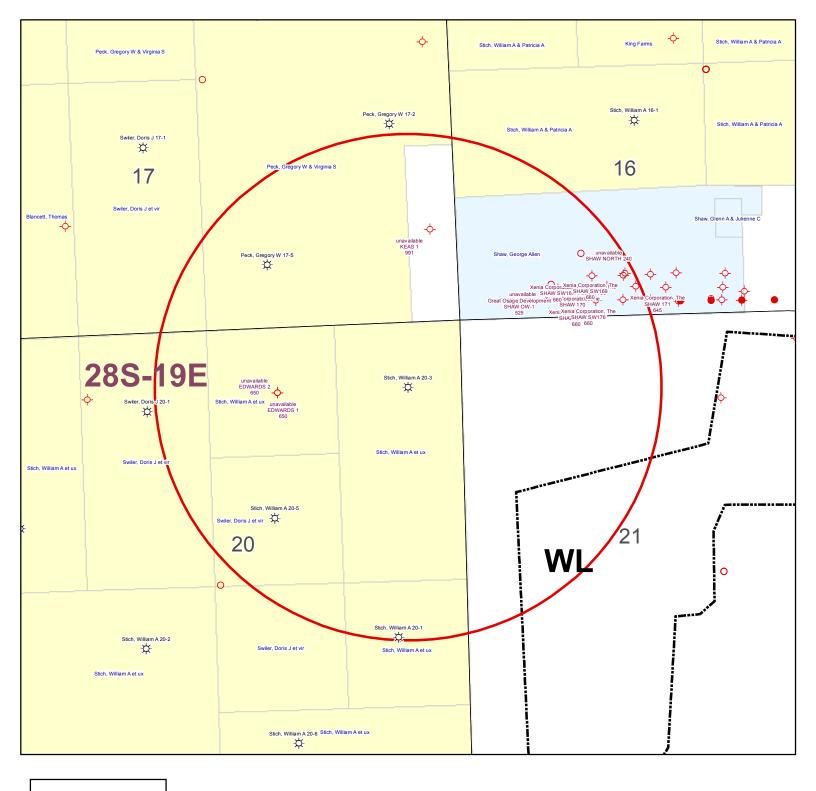
TOC - Surface

WELL: Stich, William A 20-3

SSI: 609130 **API:** 15-133-26383

LOCATION: NE NE Sec. 20 28S-19E

| | COUNTY: Neosho STATE: Kansas | |
|--------------|---|--|
| Casing | 8.625" @ 22' 4.5'' 10.5# J-55, 4.05'' ID w/ 0.0159 bbl/ft capacity @ 983' | |
| Perforations | Original Perfs: 1/9/05 - Riverton 875-879' (17) - Rowe 820-822' (9) - Fleming 633-635' (9) - Fleming 616-618' (9) - Croweburg 577-580' (13) - Bevier 552-554' (9) - Mulky 471-475' (17) - Summit 459-463' (17) | 8.625" @ 22' 4 sks cement |
| Completions | Spud Date: 12/23/05 RV Completion: 1/9/05 - 400 gal 15% HCl - 14 BPM - 2,600# 20/40 - 397 bbls BCF Completion: 1/9/05 - 450 gal 15% HCl - 17 BPM - 9,800# 20/40 - 586 bbls SM Completion: 1/9/05 - 400 gal 15% HCl - 18 BPM - 11,200# 20/40 - 539 bbls | 4.5" 10.5# @ 993' 157 sks cement TD - 1000' |



KGS STATUS

- ◆ DA/PA
- EOR
- **♯** GAS
- △ INJ/SWD
- OIL
- **♦** OIL/GAS
- OTHER

Stich, William A 20-3 20-28S-19E 1" = 1,000'

| | A | В | С | D | Е | F | C | П | ı | ı | К |
|--|---|--|--|--|--|--|---|---|---|---|-----------------|
| 1 | Produced Fluids # | O | 1 | 2 | 3 | 4 | G 5 | Н | <u> </u> | J | 1 N |
| | Parameters | Units | Input | Input | Input | Input | Input | | Click he | ro | Click |
| 3 | Select the brines | Select fluid | 7 | | 7 | | 7 | Mixed brine: | to run S | | |
| 4 | Sample ID | by checking | | | | | · · | Cell H28 is | to run St | | Click |
| | Date | the box(es), | 3/19/2012 | 3/4/2012 | 3/14/2012 | 1/20/2012 | 1/20/2012 | STP calc. pH. | > | | |
| 6 | Operator | Row 3 | PostRock | PostRock | PostRock | PostRock | PostRock | Cells H35-38 | | | Click |
| | Well Name | | Ward Feed | Ward Feed | Clinesmith | Clinesmith | Clinesmith | are used in | Goal Seek | SSP | |
| 8 | Location | | #34-1 | #4-1 | #5-4 | #1 | #2 | mixed brines | | | Click |
| _ | Field | | CBM | CBM | Bartles | Bartles | Bartles | calculations. | | | |
| 10 | Na ⁺ | (mg/l)* | 19,433.00 | 27,381.00 | 26,534.00 | 25689.00 | 24220.00 | 24654.20 | Initial(BH) | Final(WH) | SI/SR |
| 11 | K ⁺ (if not known =0) | (mg/l) | | | | | | 0.00 | Saturation Index | values | (Final-Initial) |
| 12 | Mg ²⁺ | (mg/l) | 1,096.00 | 872.00 | 1,200.00 | 953.00 | 858.00 | 995.91 | Ca | lcite | |
| 13 | Ca ²⁺ | (mg/l) | 1,836.00 | 2,452.00 | 2,044.00 | 1920.00 | 1948.00 | 2040.23 | -0.73 | -0.60 | 0.13 |
| | Sr ²⁺ | (mg/l) | | · | | | | 0.00 | Ba | rite | |
| 15 | Ba ²⁺ | (mg/l) | | | | | | 0.00 | | | |
| | Fe ²⁺ | (mg/l) | 40.00 | 21.00 | 18.00 | 82.00 | 90.00 | 50.21 | н | alite | |
| | Zn ²⁺ | | 40.00 | 21.00 | 10.00 | 02.00 | 70.00 | 0.00 | -1.77 | -1.80 | -0.03 |
| | | (mg/l) | | | | | | | | | -0.03 |
| | Pb ²⁺ | (mg/l) | 2 < 200 00 | 40.045.00 | 47.074.00 | 45.22.00 | 424 47 00 | 0.00 | | osum | 0.00 |
| | Cl' | (mg/l) | 36,299.00 | 48,965.00 | 47,874.00 | 45632.00 | 43147.00 | 44388.44 | -3.19 | -3.18 | 0.00 |
| - | SO ₄ ² · | (mg/l) | 1.00 | 1.00 | 8.00 | 1.00 | 1.00 | 2.40 | | nydrate | |
| 21 | F | (mg/l) | | | | | | 0.00 | -3.96 | -3.90 | 0.06 |
| | Br [*] | (mg/l) | | | | | | 0.00 | Anh | ydrite | |
| 23 | SiO2 | (mg/l) SiO2 | | | | | | 0.00 | -3.47 | -3.36 | 0.12 |
| 24 | HCO3 Alkalinity** | (mg/l as HCO3) | 190.00 | 234.00 | 259.00 | 268.00 | 254.00 | 241.03 | Cele | estite | |
| 25 | CO3 Alkalinity | (mg/l as CO3) | | | | | | | | | |
| 26 | Carboxylic acids** | (mg/l) | | | | | | 0.00 | Iron S | Sulfide | |
| 27 | Ammonia | (mg/L) NH3 | | | | | | 0.00 | -0.16 | -0.22 | -0.06 |
| 28 | Borate | (mg/L) H3BO3 | | | | | | 0.00 | Zinc | Sulfide | |
| | TDS (Measured) | (mg/l) | | | | | | 72781 | | | |
| | Calc. Density (STP) | (g/ml) | 1.038 | 1.051 | 1.050 | 1.048 | 1.045 | 1.047 | Calcium | ı fluoride | |
| | CO ₂ Gas Analysis | (%) | 19.97 | 18.76 | 22.41 | 35.53 | 33.79 | 26.16 | Curezun | | |
| | H ₂ S Gas Analysis*** | (%) | 0.0289 | 0.0292 | 0.0296 | 0.0306 | 0.0151 | 0.0269 | Iron Ca | arbonate | |
| _ | Total H2Saq | (mgH2S/l) | 1.00 | 1.00 | 1.00 | 1.00 | 0.50 | 0.90 | -0.74 | -0.51 | 0.23 |
| | pH, measured (STP) | pН | 5.67 | 5.76 | 5.72 | 5.54 | 5.55 | 5.63 | Inhibitor ne | eeded (mg/L) | |
| | | 0-CO2%+Alk, | | | | | | | Calcite | NTMP | |
| | Choose one option | | | | _ | | | | | | |
| 35 | to calculate SI? | • | 0 | 0 | 0 | 0 | 0 | | 0.00 | 0.00 | |
| | Gas/day(thousand cf/day) | (Mcf/D) | | 0 | | 1 | 4 | 0 | 0.00 Rorito | 0.00 | |
| | Oil/Day Water/Day | (B/D) (B/D) | 100 | 100 | 100 | 100 | 100 | 500 | Barite 0.00 | 0.00 | |
| | J | | | 100 | 100 | 100 | 100 | 200 | | о.00 оН | |
| | For mixed brines, enter val | . , | | ures in Cells (H | (40-H43) | | | (Enter H40-H43) | n | | |
| 40 | For mixed brines, enter val Initial T | . , | | ures in Cells (H 71.0 | (40-H43) 70.0 | 41.0 | 49.0 | (Enter H40-H43) 60.0 | 5.69 | 5.60 | |
| | | lues for tempera | tures and press 66.0 66.0 | ` | | 41.0 | 49.0 | 60.0 89.0 | 5.69 | | |
| 41 | Initial T | lues for temperator (F) | tures and press 66.0 | 71.0 | 70.0 | | | 60.0 89.0 | 5.69 | 5.60 | |
| 41 42 43 | Initial T Final T Initial P Final P | (F) (F) (psia) (psia) | tures and press 66.0 66.0 | 71.0 71.0 | 70.0 70.0 | 41.0 | 49.0 | 60.0 89.0 | 5.69 Viscosity (1.196 Heat Capaci | 5.60 CentiPoise) 0.826 ity (cal/ml/ ⁰ C) | |
| 41 42 43 44 | Initial T Final T Initial P Final P Use TP on Calcite sheet? | (F) (F) (psia) (psia) 1-Yes;0-No | 66.0 66.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 | 5.60 CentiPoise) 0.826 ty (cal/ml/ ⁰ C) 0.959 | |
| 41 42 43 44 45 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. | ues for temperat (F) (F) (psia) (psia) (psia) 1-Yes;0-No API grav. | 66.0 66.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no | 5.60 CentiPoise) 0.826 ty (cal/ml/ ⁰ C) 0.959 eeded (mg/L) | |
| 41 42 43 44 45 46 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. | ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. | 66.0 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 eded (mg/L) HDTMP | |
| 41 42 43 44 45 46 47 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day | ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) | 66.0 66.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 eded (mg/L) HDTMP 0.00 | |
| 41 42 43 44 45 46 47 48 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. | ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 eded (mg/L) HDTMP | |
| 41 42 43 44 45 46 47 48 49 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier | ues for tempera (F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * | (F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier | ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † | ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. McOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH* (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) | ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH' (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) PH Calculated | ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated | (F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (PH) (%) | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated | (F) (F) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated | (F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (PH) (%) | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated EXAnions= EXAnions= Calc TDS= | (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) | tures and presss 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 | 70.0 70.0 25.0 | 41.0 25.0 | 49.0 25.0 | 60.0 89.0 25.0 120.0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated 2Cations= 2Anions= Calc TDS= Inhibitor Selection | ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input | tures and pressures 66.0 66.0 25.0 25.0 0 0 0 Unit | 71.0 71.0 25.0 25.0 | 70.0 70.0 25.0 25.0 | 41.0 25.0 25.0 Unit Converter | 49.0 25.0 25.0 | 60.0 89.0 25.0 120.0 30.00 0.60 0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor nc Gypsum 0.00 Anhydrite 0.00 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 60 61 62 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textit{Z}\text{calculated}\$ Alkalinity Caclulated \$\text{Z}\text{calculated}\$ Calc TDS= Inhibitor Selection Protection Time | (F) (F) (psia) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) | tures and press 66.0 66.0 25.0 25.0 | 71.0 71.0 25.0 25.0 | 70.0 70.0 25.0 25.0 Inhibitor NTMP | 41.0 25.0 25.0 Unit Converter | 49.0 25.0 25.0 25.0 | 60.0 89.0 25.0 120.0 30.00 0.60 0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated 2Cations= 2Anions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer | (F) (F) (psia) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (equiv./I) (mg/I) Input 120 | tures and pressures 66.0 66.0 25.0 25.0 0 0 0 Unit min | 71.0 71.0 25.0 25.0 4 1 1 2 | 70.0 70.0 25.0 25.0 25.0 Inhibitor NTMP BHPMP | 41.0 25.0 25.0 25.0 Unit Converter From Unit | 49.0 25.0 25.0 25.0 (From metric Value 80 | 60.0 89.0 25.0 120.0 30.00 0.60 0 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. McOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated 2Cations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? | (F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120 | tures and pressures 66.0 66.0 25.0 25.0 0 0 0 0 Unit min | 71.0 71.0 25.0 25.0 4 1 1 2 3 | Inhibitor NTMP BHPMP PAA | 41.0 25.0 25.0 25.0 Unit Converter From Unit °C m³ | 49.0 25.0 25.0 25.0 (From metric Value 80 100 | 60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 53 54 55 56 67 75 88 89 60 61 62 63 64 65 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H† (Strong acid) † OH' (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated 2Cations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: | (F) (F) (psia) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (equiv./I) (mg/I) Input 120 | tures and pressures 66.0 66.0 25.0 25.0 0 0 0 Unit min | 71.0 71.0 25.0 25.0 4 # 1 2 3 | Inhibitor NTMP BHPMP PAA DTPMP | Unit Converter From Unit °C m³ m³ | 49.0 25.0 25.0 25.0 (From metric Value 80 100 100 | 60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit "F ft"3 bbl(42 US gal) | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 67 78 89 60 61 62 63 64 65 66 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed, | (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) (N) STP: (%) (mgH2S/I) (pH) (mg/I) as HCO3 (equiv./I) (mg/I) Input 120 1 4 | tures and press 66.0 66.0 25.0 25.0 0 0 0 1-Yes;0-No # | 71.0 71.0 25.0 25.0 4 1 2 3 4 5 | Inhibitor NTMP BHPMP PAA DTPMP PPCA | Unit Converter From Unit °C m³ m³ MPa | 49.0 25.0 25.0 25.0 (From metric Value 80 100 1,000 | 60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit "F ft"3 bbl(42 US gal) | Value 176 3,531 629 145,074 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 67 60 61 62 63 64 65 66 66 67 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH' (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated Alkalinity Caclulated EXATIONS= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed, 1st inhibitor # is: | (F) (F) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/l) as HCO3 (equiv./I) (mg/l) Input 120 1 4 | Unit min 1-Yes;0-No # | # # 1 2 3 4 4 5 6 | Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA | Unit Converter From Unit °C m³ m³ MPa Bar | 49.0 25.0 25.0 25.0 | 60.0 89.0 25.0 120.0 30.00 0.60 0 0 0 To Unit "F ft ³ bbl(42 US gal) psia | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 67 63 64 65 66 67 68 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated SCations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed, 1st inhibitor is: | (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120 1 4 1 50 | Unit min 1-Yes;0-No # # % | # # 1 2 3 4 4 5 6 6 7 | Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA HEDP | Unit Converter From Unit °C m³ m³ MPa Bar Torr | 49.0 25.0 25.0 25.0 25.0 | 60.0 89.0 25.0 120.0 30.00 0.60 0 0 0 To Unit "F ft ³ bbl(42 US gal) psia psia | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194 193 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 67 62 63 64 65 66 67 68 69 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated Alkalinity Caclulated PCO2 Calculated Alkalinity Caclulated EXAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor for you? If you select Mixed, 1st inhibitor # is: % of 1st inhibitor is: % of 1st inhibitor is: 2nd inhibitor is: | (F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) 1 120 1 4 1 50 2 | Unit min 1-Yes;0-No # # % # | ## 1 2 3 4 4 5 6 6 7 8 | Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA HEDP HDTMP | Unit Converter From Unit °C m³ MPa Bar Torr Gal | 49.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25 | 60.0 89.0 25.0 120.0 30.00 0.60 0 0 10 10 10 10 10 10 10 10 10 10 10 1 | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194 193 238 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |
| 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 67 62 63 64 65 66 67 68 69 | Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated SCations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed, 1st inhibitor is: | (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120 1 4 1 50 | Unit min 1-Yes;0-No # # % | # # 1 2 3 4 4 5 6 6 7 | Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA HEDP | Unit Converter From Unit °C m³ m³ MPa Bar Torr | 49.0 25.0 25.0 25.0 25.0 | 60.0 89.0 25.0 120.0 30.00 0.60 0 0 0 To Unit "F ft ³ bbl(42 US gal) psia psia | 5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194 193 | 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP | |

Saturation Index Calculations

Champion Technologies, Inc. (Based on the Tomson-Oddo Model)

Brine 1: Ward Feed Yard 34-1 Brine 2: Ward Feed Yard 4-1 Brine 3: Clinesmith 5-4 Brine 4: Clinesmith 1 Brine 5: Clinesmith 2

| | | | Ratio | | | |
|--------------------------|---------|---------|---------|---------|---------|-------------|
| | 20% | 20% | 20% | 20% | 20 | |
| Component (mg/L) | Brine 1 | Brine 2 | Brine 3 | Brine 4 | Brine 5 | Mixed Brine |
| Calcium | 1836 | 2452 | 2044 | 1920 | 1948 | 1952 |
| Magnesium | 1096 | 872 | 1200 | 953 | 858 | 865 |
| Barium | 0 | 0 | 0 | 0 | 0 | 0 |
| Strontium | 0 | 0 | 0 | 0 | 0 | 0 |
| Bicarbonate | 190 | 234 | 259 | 268 | 254 | 253 |
| Sulfate | 1 | 1 | 8 | 1 | 1 | 1 |
| Chloride | 36299 | 48965 | 47874 | 45632 | 43147 | 43206 |
| CO ₂ in Brine | 246 | 220 | 264 | 422 | 405 | 401 |
| Ionic Strength | 1.12 | 1.48 | 1.46 | 1.38 | 1.31 | 1.31 |
| Temperature (°F) | 89 | 89 | 89 | 89 | 89 | 89 |
| Pressure (psia) | 50 | 50 | 120 | 120 | 120 | 119 |

Saturation Index

| Calcite | -1.71 | -1.41 | -1.48 | -1.68 | -1.69 | -1.69 |
|-------------|-------|-------|-------|-------|-------|-------|
| Gypsum | -3.71 | -3.64 | -2.82 | -3.73 | -3.72 | -3.69 |
| Hemihydrate | -3.70 | -3.65 | -2.83 | -3.74 | -3.71 | -3.69 |
| Anhydrite | -3.89 | -3.79 | -2.97 | -3.89 | -3.88 | -3.85 |
| Barite | N/A | N/A | N/A | N/A | N/A | N/A |
| Celestite | N/A | N/A | N/A | N/A | N/A | N/A |

PTB

| Calcite | N/A | N/A | N/A | N/A | N/A | N/A |
|-------------|-----|-----|-----|-----|-----|-----|
| Gypsum | N/A | N/A | N/A | N/A | N/A | N/A |
| Hemihydrate | N/A | N/A | N/A | N/A | N/A | N/A |
| Anhydrite | N/A | N/A | N/A | N/A | N/A | N/A |
| Barite | N/A | N/A | N/A | N/A | N/A | N/A |
| Celestite | N/A | N/A | N/A | N/A | N/A | N/A |

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

ORIGINAL September 1999 Form Must Be Typed

WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

| Operator: License # | API No. 15 - 133-26383-0000 |
|--|--|
| Name: Quest Cherokee, LLC RECEIVED | County: Neosho |
| Address: 211 W. 14th Street KANSAS CORPORATION COMMISS | SKONc _ ne _ ne Sec. 20 Twp. 28 S. R. 19 |
| City/State/Zip: Chanute, KS 66720 APR 1 8 2006 | 660 feet from S (N) (circle one) Line of Section |
| Purchaser: Bluestem Pipeline, LLC | 660 feet from E W (circle one) Line of Section |
| Operator Contact Person: Gary Laswell CONSERVATION DIVISION WICHITA, KS | Footages Calculated from Nearest Outside Section Corner: |
| Phone: (_620) 431-9500 | (circle one) NE SE NW SW |
| Contractor: Name: Well Refined Drilling Company, Inc. | Lease Name: Stich, William A. Well #: 20-3 |
| License: _33072 | Field Name: Cherokee Basin CBM |
| Wellsite Geologist: n/a | Producing Formation: Multiple |
| Designate Type of Completion: | Elevation: Ground: 922 Kelly Bushing: n/a |
| ✓ New Well Re-Entry Workover | Total Depth: 1000 Plug Back Total Depth: 998.37 |
| Oil SWD SIOW Temp. Abd. | Amount of Surface Pipe Set and Cemented at 21.4 Feet |
| GasENHRSIGW | Multiple Stage Cementing Collar Used? |
| Dry Other (Core, WSW, Expl., Cathodic, etc) | If yes, show depth setFeet |
| If Workover/Re-entry: Old Well Info as follows: | If Alternate II completion, cement circulated from 998.37 |
| Operator: | feet depth to surface w/ 144 sx cmt. |
| Well Name: | ALT II WHM 8-28-06 |
| Original Comp. Date: Original Total Depth: | Drilling Fluid Management Plan (Data must be collected from the Reserve Pit) |
| Deepening Re-perf Conv. to Enhr./SWD | Chloride contentppm Fluid volumebbls |
| Plug BackPlug Back Total Depth | Dewatering method used |
| Commingled Docket No | Location of fluid disposal if hauled offsite: |
| Dual Completion Docket No | |
| Other (SWD or Enhr.?) Docket No | Operator Name: |
| 12/23/05 12/26/05 1/4/06 | Lease Name: License No.: |
| Spud Date or Date Reached TD Completion Date or | Quarter Sec TwpS. R East West |
| Recompletion Date Recompletion Date | County: Docket No.: |
| | |
| INSTRUCTIONS: An original and two copies of this form shall be filed with t Kansas 67202, within 120 days of the spud date, recompletion, workover Information of side two of this form will be held confidential for a period of 12 107 for confidentiality in excess of 12 months). One copy of all wireline logs a TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. | or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. months if requested in writing and submitted with the form (see rule 82-3-ind geologist well report shall be attached with this form. ALL CEMENTING |
| All requirements of the statutes, rules and regulations promulgated to regulate herein are complete and correct to the best of my knowledge. | e the oil and gas industry have been fully complied with and the statements |
| Signature: / Ly James | KCC Office Use ONLY |
| Title: Head of Operations Date: 4/8/06 | Letter of Confidentiality Received |
| of 1. 1 | If Denied, Yes Date: |
| Subscribed and sworn to before me this | , Wireline Log Received |
| 20 04. | Geologist Report Received |
| Notary Public: Sumfu K. Ammann | UIC Distribution |
| Date Commission Expires: July 30, 2009 | JENNIFERR AMMANN |
| | Notary Public - State of Kansas |

| Operator Name: Quest Cherokee, LLC | | | | Lease Name: Stich, William A. Well #: 20-3 | | | | | |
|--|---|--------------------------|---------------------------------------|--|---------------------------------|----------------------|---|--------------------------------|---|
| Sec Twp | 28 S. R. 19 | ✓ Eas | st West | | County: Neosho | | | | |
| tested, time tool ope temperature, fluid re | Show important tops en and closed, flowin ecovery, and flow rate gs surveyed. Attach | g and shu s if gas to | t-in pressures, surface test, a | whether : long with | shut-in pr | essure reache | d static level, hyd | rostatic pressur | |
| Drill Stem Tests Taken (Attach Additional Sheets) ✓ Yes | | | | ✓ Log Formation (Top), De | | | epth and Datum | | |
| Samples Sent to Geological Survey | | | | Nan See | ne attached | | Тор | Datum | |
| Cores Taken Electric Log Run (Submit Copy) | | _ \ ✓ \ | ∕es ☑ No ∕es ☐ No | | | | | RECEIVED ORPORATION CO | |
| List All E. Logs Run | | | | | | | A | PR 1 8 200 | 6 |
| Comp. Densit Dual Inductior Gamma Ray/I | y/Neutron Log n Log | | | | | | CO | NSERVATION DIVI WICHITA, KS | BłO ^A · |
| | | Ren | CASING ort all strings set- | RECORD | | ew Used | ation ato | | |
| Purpose of String | Size Hole | Si | ze Casing | W | eight | Setting | Type of | # Sacks | Type and Percent |
| Surface | 12-1/4" | 8-5/8" | et (In O.D.) | 20# | s. / Ft. | Depth 21.4' | "A" | Used 4 | Additives |
| Production | 6-3/4" | 4-1/2 | | 10.5# | | 998.37 | "A" | 144 | |
| Purpose: Depth Top Bottom Type of Cement Perforate Protect Casing Plug Back TD | | | T | FING / SQ | Used Type and Percent Additives | | | | |
| Shots Per Foot | Specify | Footage of | RD - Bridge Plug Each Interval Per | forated | | (/ | acture, Shot, Ceme Amount and Kind of I | Material Used) | Depth |
| 4 | 875-879/820-82 | | 6/033-035/5/ | 7-580/5 | 052-554 | | bls 2%kcl water, 509bbls water bbls 2%kcl water, 567bbls water | | s 20/40 sand 616-618/633-635 |
| | | , | | | | 450gal 15%HCLw/ 17 b | ibls 2%kci water, 378bbis wate | er w/ 2% KCL, Biocide, 26sk | 577-580/552-554 s 20/40 sand 875-879/820-822 |
| | Size 3/8" | Set At 990.16 | r | Packer n/a | At | Liner Run | Yes✓ N | 0 | |
| Date of First, Resumer 2/22/06 | rd Production, SWD or E | inhr. | Producing Meth | nod | Flowin | g 🗸 Pump | ing Gas L | ift Othe | er (Explain) |
| Estimated Production Per 24 Hours | oii n/a | Bbls. | Gas 13.2 | Mcf | Wate | er l | Bbls. | Gas-Oil Ratio | Gravity |
| Disposition of Gas | METHOD OF C | OMPLETIC | | | | Production Inte | rval | | <u> </u> |
| Vented ✓ Sold (If vented, St | Used on Lease ubmit ACO-18.) | | Open Hole Other (Special | √ Per | f. 🔲 [| Dually Comp. | Commingled | | |

BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS NOTICE OF FILING APPLICATION

RE: In the Matter of Postrock Midcontinent Production, LLC Application for Commingling of Production in the Stich, William A 20-3 located in Neosho County, Kansas.

TO: All Oil & Gas Producers, Unleased Mineral Interest Owners, Landowners, and all persons whomever concerned.

You, and each of you, are hereby notified that Postrock Midcontinent Production, LLC has filled an application to commingle the Riverton, Rowe, Fleming, Croweburg, Bevier, Mulky, Summit and Cattleman producing formations at the Stich, William A 20-3, located in the SW NE, S20-728S-R19E, Approximately 678 FNL & 556 FEL, Neosho County, Kansas.

Any persons who object to or protest this application shall be required to file their objections or protest with the Conservation Division of the State Oroporation Commission of the State of Kansas within fifteen (15) days from the date of this publication. These protests shall be filed pursuant to Commission regulations and must state specific reasons why granting the application may cause waste, violate correlative rights or pollute the natural resources of the State of Kansas.

All persons interested or concerned shall take notice of the foregoing and shall govern themselves accordingly. All person and/or companies wishing to protest this application are required to file a written protest with the Conservation Division of the Kansas Oil and Gas Commission.

Upon the receipt of any protest, the Commission will convene a hearing and protestants will be expected to enter an appearance either through proper legal counsel or as individuals, appearing on their own behalf.

Postrock Midcontinent Production, LLC 210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102 (405) 660-7704

A COPY OF THE AFFIDAVIT OF PUBLICATION MUST ACCOM-PANY ALL APPLICATIONS

Affidavit of Publication &

STATE OF KANSAS, NEOSHO COUNTY, ss: Rhonda Howerter, being first duly sworn, deposes and says: That she is Classified Manager of THE CHANUTE TRIBUNE, a daily newspaper printed in the State of Kansas, and published in and of general circulation in Neosho County, Kansas, with a general paid circulation on a daily basis in Neosho County, Kansas, and that said newspaper is not a trade, religious or fraternal publication.

Said newspaper is a daily published at least weekly 50 times a year: has been so published continuously and uninterruptedly in said county and state for a period of more than five years prior to the first publication of said notice; and has been admitted at the post office of Chanute, in said county as second class matter.

That the attached notice is a true copy thereof and was published in the regular and entire issue of said newspaper for _______, the first publication thereof being made as aforesaid on the _______ day of _______

2012, with subsequent publications being made on the following dates:

| , 2012, 2012 |
|---|
| , 2012, 2012 |
| Bhonda Howerter |
| Subscribed and sworn to and before me this 19 day of |
| My commission expires: January 9, 2015 |
| Printer's Fee |
| Affidavit, Notary's Fee \$ 3.00 |
| Additional Copies\$ |
| Total Publication Fees \$ 73. 14 |



AFFIDAVIT

STATE OF KANSAS

SS.

County of Sedgwick

Mark Fletchall, of lawful age, being first duly sworn, deposeth and saith: That he is Record Clerk of The Wichita Eagle, a daily newspaper published in the City of Wichita, County of Sedgwick, State of Kansas, and having a general paid circulation on a daily basis in said County, which said newspaper has been continuously and uninterruptedly published in said County for more than one year prior to the first publication of the notice hereinafter mentioned, and which said newspaper has been entered as second class mail matter at the United States Post Office in Wichita, Kansas, and which said newspaper is not a trade, religious or fraternal publication and that a notice of a true copy is hereto attached was published in the regular and entire Morning issue of said The Wichita Eagle for _1_ issues, that the first publication of said n1tice was

made as aforesaid on the 18th of

June A.D. 2012, with

subsequent publications being made on the following dates:

And affiant further says that he has personal knowledge of the statements above set forth and that they are true.

Subscribed and sworn to before me this

18th day of June, 2012

PENNY L. CASE Notary Public-State of Kansas My Appt. Expires

Notary Public Sedgwick County, Kansas

Printer's Fee: \$132.40

LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGLE
JUNE 18, 2012 (3191266)
BEFORE THE STATE CORPORATION
COMMISSION OF THE
STATE OF KANSAS

NOTICE OF FILING APPLICATION

In the Matter of Postrock Midcontinent
Production, LLC Application for
Commingling of Production in the
Stich, William A 20-3 located in Neosho

County, Kansas,
TO: All Oil & Gas Producers, Unleased
Mineral interest Owners, Landowners, and all persons whomever concerned,

Mineral Interest Owners, Landowners, and all persons whomever concerned. You, and each of you, are hereby notified that Postrock Midcontinent Production, LLC has filed an application to commingle the Riverton, Rowe, Fleming, Croweburg, Bevier, Mulky, Summit and Cattleman producting formallons at the Stich, William A 20-3, located in the SW NE, S20-T28S-R19E, Approximately 678 FNL 8 556 FEL; Neosho County, Kansas.

Any persons who object to or protest his application shall be required to file their objections or protest with the Conservation Division of the State of Kansas within fifteen (15) days from the date of this publication. These protests shall be filed pursuant to Commission regulations and must state specific reasons why granting the application may cause wasfe, violate correlative rights or pollute the natural resources of the State of Kansas.

All persons interested or concerned shall take notice of the foregoing and shall govern themselves accordingly. All person and/or companies wishing to protest file application are required to file a written protest with the Conservation Division of the Kansas Oil and Gas Commission.

Upon the receipt of any protest, the Commission will convene a hearing and protestants will be expected to enter an appearance either through proper legal counsel or as Individuals, appearing on their own behalf.

Postrock Midconfinent Production, LLC 218 Park Avenue, Suife 2750

Postrock Midcontinent Production, LLC 210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102

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| ORMATION: | MULKY | (PERFS): | 471 | - 475 | | | |
| FORMATION: | SUMMIT | (PERFS): | 459 - | - 463 | | | |
| FORMATION: | CATTLEMAN | (PERFS): | 646 | - 656 | | | |
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| Affidavit of Notice Served | |
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| Re: Application for: APPLICATION FOR COMMI | NGLING OF PRODUCTION OR FLUIDS - ACO-4 |
| Well Name: STICH, WILLIAM A 20-3 | Legal Location: NWSENENE |
| The undersigned hereby certificates that he / she is a duly authorize | ed agent for the applicant, and that on the day 39% of <code>JUNE</code> , |
| 2012 , a true and correct copy of the application refe | erenced above was delivered or mailed to the following parties: |
| Note: A copy of this affidavit must be served as a part of the applica | ation. |
| Name | Address (Attach additional sheets if necessary) |
| JOSEPH W & REBECKA STICH | 8740 150TH RD, CHANUTE, KS 66720 |
| ALEXANDER DAVID MIH | 1927 BREWSTER ROAD, INDIANAPOLIS, IN 46260 |
| SHAW ENTERPRISES, INC | 11600 160TH ROAD, CHANUTE, KS 66720 |
| ELK CREEK AGRICULTURAL LP | 14 WOODSBOROUGH, HOUSTON, TX 77055 |
| GREAT OSAGE DEVELOPMENT | 4300 ALPHA RD, STE 124, PO BOX 870414, DALLAS, TX 75244 |
| THE XENIA CORPORATION | 24110 NE VERMONT RD, GARNETT, KS 66032 |
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| further attest that notice of the filing of this application was published | d in the CHANUTE TRIBUNE , the official county publication |
| of NEOSHO | county. A copy of the affidavit of this publication is attached. |
| Signed this 2944 day of JUNE | 2012 |
| | a i DA Beal |
| | Applicant of Duly Authorized Agent |
| Subscribed and sv | vorn to before me this 39th day of JUNE , 2012 |
| DENISE V. VENNEMAN OFFICIAL MY COMMISSION EXPIRES July 1, 2012 | Notary Public V lleneman |
| And the state of t | My Commission Expires: |
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| Offset Operators, Unleased Mineral Owners and Landowners acreage | |
| (Attach additional sheets if necessary) Name: | Legal Description of Leasehold: |
| JOSEPH W & REBECKA STICH | 21.2 ACRE TRACT IN SE S17-T28S-R19E |
| ALEXANDER DAVID MIH | TRACT IN W/2 S21-T28S-R19E |
| SHAW ENTERPRISES, INC | TRACT IN W/2 S21-T28S-R19E |
| ELK CREEK AGRIGULTURAL LP | TRACT IN W/2 S21-T28S-R19E |
| SEE ATTACHED | |
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| I hereby certify that the statements made herein are true and correct to the best of my | y knowledge and belief. |
| | |
| Applicant | Party Blal t ground Aptholized Agent |
| Subscribed and sworn before m | |
| The state of the s | |
| DENISE V. VENNEMAN OFFICIAL MY COMMISSION EXPIRES Notary PL | euse V Genneman |
| Stationer Stay 1, 2012 | mission Expires: 7-1-12 |
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STICH, WILLIAM A 20-3 OFFSET OPERATORS, UNLEASED MINERAL OWNERS AND LANDOWNERS ACREAGE

| SPOT LEGAL LOCATION CURR_OPERA | |
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Conservation Division Finney State Office Building 130 S. Market, Rm. 2078 Wichita, KS 67202-3802



Phone: 316-337-6200 Fax: 316-337-6211 http://kcc.ks.gov/

Mark Sievers, Chairman Thomas E. Wright, Commissioner Sam Brownback, Governor

July 16, 2012

Clark Edwards
PostRock Midcontinent Production LLC
Oklahoma Tower
210 Park Ave, Ste 2750
Oklahoma City, OK 73102

RE: Approved Commingling CO071217

Stich, William A. 20-3 Sec.20-T28S-R19E, Neosho County

API No. 15-133-26383-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on July 2, 2012, has been reviewed and approved by the Kansas Corporation Commission (KCC) per K.A.R. 82-3-123. Notice was examined and found to be proper per K.A.R. 82-3-135a. No protest had been filed within the 15-day protest period.

Based upon the depth of the Riverton formation perforations, total oil production shall not exceed 100 BOPD and total gas production shall not exceed 50% of the absolute open flow (AOF).

File form ACO-1 upon re-completion of the well to commingle.

Commingling ID number CO071217 has been assigned to this approved application. Use this number for well completion reports (ACO-1) and other correspondence that may concern this approved commingling.

Sincerely,

Rick Hestermann Production Department