

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 | | | | |
|-------------------------------------|---|----------------------------------|------------------|---|--|--|
| Name: | | 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

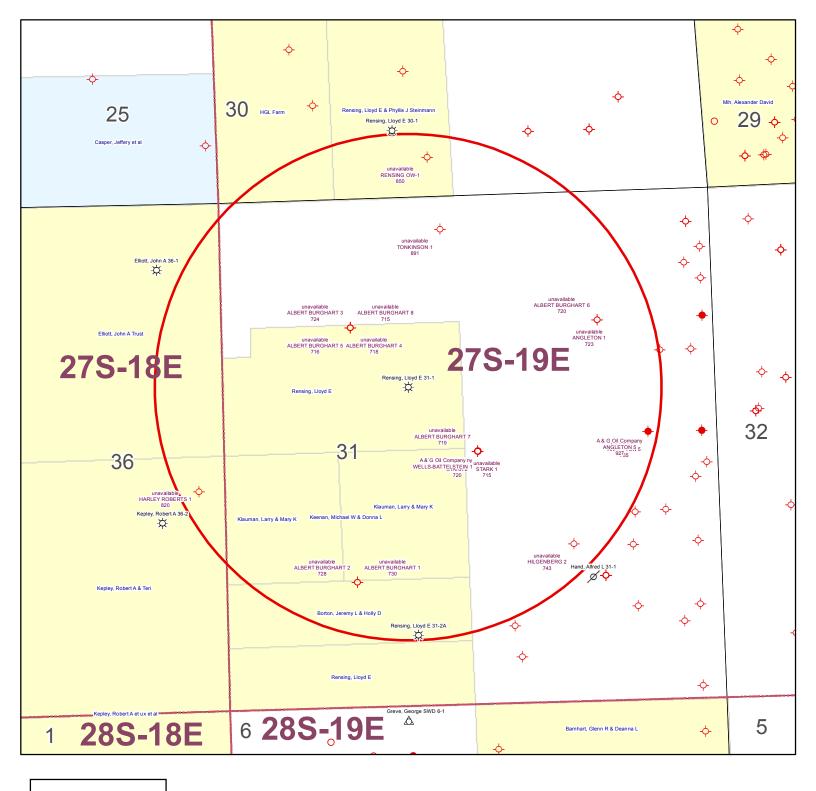
WELL: Rensing, Lloyd E 31-1

SSI: 623620

API: 15-133-27114-00-00 LOCATION: SE NW Sec. 31-27S-19E

COUNTY: Neosho

| | STATE: Kansas | | |
|--------------|---|------------|--------------------------------------|
| Casing | 8.625" @ 22' 4.5'' 10.5# J-55, 4.05'' ID w/ 0.0159 bbl/ft capacity @ 1046' | | , |
| Perforations | Original Perfs: 9/27/2007 - Weir 759-762 (13) - Weir 746-748 (9) - Fleming 651-653 (9) - Croweburg 616-619 (13) - Mulky 518-522 (17) - Summit 507-511 (17) | | 8.625" @ 22' |
| Completions | Spud Date: 9/6/2007 Completion Date: 9/27/2007 Weir/Flem/Crowe: - 4,300# 20/40 - 400 gal 15% - 546 bbls - 14 bpm Mulky/Summit: - 5,600# 20/40 - 300 gal 15% - 646 bbls - 14 bpm | TD - 1054' | 4.5" 10.5# @ 1046' 154 sks cement |



KGS STATUS

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

Rensing, Lloyd E 31-1 31-27S-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/°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 | 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) * | 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 | 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) (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 88 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 SCations= 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 10 10 10 10 10 10 10 10 10 10 10 1 | 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 | 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) (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

Form ACO-1 September 1999 Form Must Be Typed

WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

| Operator: License # 33344 | API No. 15 - 133-27114-0000 |
|---|--|
| Name: Quest Cherokee, LLC | County: Neosho |
| Address: 211 W. 14th Street | <u>se</u> - nw Sec. 31 Twp. 27 S. R. 19 |
| City/State/Zip: Chanute, KS 66720 | 1980 feet from S N (circle one) Line of Section |
| Purchaser: Bluestern Pipeline, LLC | 1980 feet from (E)/ W (circle one) Line of Section |
| Operator Contact Person: Jennifer R. Ammann | Footages Calculated from Nearest Outside Section Corner: |
| Phone: (620) 431-9500 | (circle one) NE (SE) NW SW |
| Contractor: Name: TXD | Lease Name: Rensing, Lloyd E. Well #: 31-1 |
| License: 33837 | Field Name: Cherokee Basin CBM |
| Wellsite Geologist: Ken Recoy | Producing Formation:multiple |
| Designate Type of Completion: | Elevation: Ground: 933 Kelly Bushing: n/a |
| New Well Re-Entry Workover | Total Depth: 1054 Plug Back Total Depth: 1046 |
| Oil SWD SIOWTemp. Abd. | Amount of Surface Pipe Set and Cemented at 22 Feet |
| Gas ENHR SIGW | Multiple Stage Cementing Collar Used? ☐ Yes ✓ No |
| 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 1046 |
| Operator: | feet depth to surface w/ 154 sx cmt. |
| Well Name: | |
| 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 Back Plug Back Total Depth | |
| Commingled Docket No | Dewatering method used Location of fluid disposal if hauled offsite: |
| Dual Completion Docket No | Location of fluid disposal if hauled offsite: |
| Other (SWD or Enhr.?) Docket No | Operator Name:License No.: |
| 9/7/07 9/10/07 9/11/07 | Lease Name: License No.: |
| 9/7/07 9/10/07 9/11/07 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 Kansas 67202, within 120 days of the spud date, recompletion, workove 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. | r or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. 2 months if requested in writing and submitted with the form (see rule 82-3- and geologist well report shall be attached with this form. ALL CEMENTING |
| All requirements of the statutes, rules and regulations promulgated to regulat herein are complete and correct to the best of my knowledge. | te the oil and gas industry have been fully complied with and the statements |
| 0.120 | KCC Office Use ONLY |
| Signature: Gunnifu & Commann | |
| Title: New Well Development Coordinator Date: 1/4/08 | Letter of Confidentiality Received |
| Subscribed and sworn to before me this 4 day of | If Denied, Yes Date: |
| 20 07 . | Wireline Log Received RECEIVED KANSAS CORPORATION COMMISSION |
| | Geologist Report Received CORPORATION COMMISSION |
| , | UIC Distribution JAN 0 8 2008 |
| Date Commission Expires: 8-4-200 TERRA K | <u>CLAUMAN</u> |
| My Appt. Expires & | WICHITA, KS |

Operator Name: Quest*Cherokee*LLC Rensing, Lloyd E. _ Well #: <u>31-1</u> Lease Name: County: _Neosho __ Twp. 27 ___ S. R. 19 INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach copy of all Electric Wireline Logs surveyed. Attach final geological well site report. **Drill Stem Tests Taken** Yes No ✓ Log Formation (Top), Depth and Datum ☐ Sample (Attach Additional Sheets) Name Top Datum Samples Sent to Geological Survey □No ☐ Yes See attached Cores Taken ☐ Yes ☐ No Electric Log Run ☐ Yes ☐ No (Submit Copy) List All E. Logs Run: Compensated Density Neutron Log **Dual Induction Log** CASING RECORD New Used Report all strings set-conductor, surface, intermediate, production, etc. Weight Setting Type of Size Hole Size Casing # Sacks Type and Percent Purpose of String Drilled Set (In O.D.) Lbs. / Ft. Cement Additives Depth Used Surface 5 12-1/4 8-5/8" 22 22 "A" **Production** 6-3/4 4-1/2 10.5 1046 "A" 154 ADDITIONAL CEMENTING / SQUEEZE RECORD Purpose: Depth Type of Cement #Sacks Used Type and Percent Additives Top Bottom Perforate **Protect Casing** Plug Back TD Plug Off Zone PERFORATION RECORD - Bridge Plugs Set/Type Acid, Fracture, Shot, Cement Squeeze Record Shots Per Foot (Amount and Kind of Material Used) Depth Specify Footage of Each Interval Perforated 759-762/746-748/651-653/616-619 100gai 15%HCLw/ 34 bbis 2%kci water, 545bbis water w/ 2% KCL, Blockle, 4300# 20/40 sa 759-762/746-748 651-653/616-619 518-522/507-511 518-522/507-511 300gal 15%HCLw/ 44 bbts 2%kcl water, 646bbts water w/ 2% KCL, Biocide, 5600# 20/40 sand **TUBING RECORD** Liner Run Size Set At Packer At Yes **V** No 2-3/8" 800 n/a **Producing Method** Date of First, Resumerd Production, SWD or Enhr. Flowing ✓ Pumping Gas Lift Other (Explain) 11/29/07 Estimated Production Ġas Gas-Oil Ratio Water **Bbls** Gravity Oil Bbls. Mcf Per 24 Hours 0bbls **Omcf** n/a Disposition of Gas METHOD OF COMPLETION Production Interval Vented ✓ Sold Used on Lease Open Hole Dually Comp. Commingled (If vented, Submit ACO-18.) Other (Specify)

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 Rensing, Lloyd E 31-1 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 filed an application to commingle the Weir, Fleming, Croweburg, Mulky, Summit and Bartlesville producing formations at the Rensing, Lloyd E 31-1, located in the SE NW SE NW, S31-T27S-R19E, Approximately 1978 FNL & 1933 FWL, 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 Orporation 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 1 conscions time, the first publication thereof being made as aforesaid on the 19 day of iune 2012, with subsequent publications being made on the following dates: _____, 2012 _______, 2012 Subscribed and sworn to and before me this 19 day of June lotary Public My commission expires: January 9, 2015 Affidavit, Notary's Fee \$__ 3.00 Additional Copies\$_ Total Publication Fees \$ 72.18



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 notice was

made as aforesaid on the 21st 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

21st day of June, 2012

PENNY L. CASE 回泊 Notary Public My Appt. Expires

Notary Public Sedgwick County, Kansas

Printer's Fee: \$132.40

PUBLISHED IN THE WICHITA EAGLE JUNE 21, 2012 (3191658) BEFORE THE STATE CORPORATION

JUNE 21, 2012 (3191658)
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
Rensing, Llovd E 31-1 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 filed an application to commingle the
Welr, Fleming, Croweburg, Mulky, Summit
and Bartlesville producing formations at the
Rensing, Llovd E 31-1, located in the SE NW
SE NW, S31-T27S-R19E, Approximately
1978 FNL & 1933 FWL, Neosho County,
Kansas.
Any persons who object to or protest

Any persons who object to or profest this application shall be required to file their objections or profest with the Conservation Division of the State Corporation Commission Division of the State Corporation Commission of the State of Kansas within fifteen (15) days from the date of this publication. These projests shall be filled 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.

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.

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 ways health.

course of as individuals, appearing on own behalf.
Postrock Midcontinent Production, LLC 210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102 (405) 660-7704

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| Affidavit of Noti | ice Served | | |
| Re: Applicat | ion for: APPLICATION FOR COMMINGLING | OF PRODUCTION OR FLUIDS - ACO-4 | |
| Well Na | me: RENSING, LLOYD E 31-1 | Legal Location: SENWSENW S31-T2 | 7S-R19E |
| The undersigned he | ereby certificates that he / she is a duly authorized agent for | the applicant, and that on the day 11th of JULY | |
| 2012 | _ , a true and correct copy of the application referenced abo | ove was delivered or mailed to the following parties: | |
| Note: A copy of this | s affidavit must be served as a part of the application. | | |
| Name | | Address (Attach additional sheets if necessary) | |
| A & G OIL | COMPANY | 19535 JACKSON RD, CHAN | JTE, KS 66720 |
| HAND OIL | .CO 🗸 | 9850 190TH RD, CHANUTE, I | KS 66720 |
| DALE & C | AROLYN M SCHIEDEL | 15183 S GREENWOOD ST, STE 2701, | OLATHE, KS 66062 |
| ELLIOTT F | FAMILY REV TRUST | 19730 IRVING RD, CHANUTE | KS 66720 |
| ALFRED L | HAND & OMA HAND | 9850 190TH RD, CHANUTE, A | KS 66720 |
| DAVID A 8 | LINDA ANGLETON | 20128 WICHITA RD, CHANUT | E, KS 66720 |
| DANIEL G | & BD ANGLETON | 9845 200TH RD, CHANUTE, P | (S 66720 |
| MICHAEL | C & MELINDA M CHURNING | 19785 JACKSON RD, CHANL | JTE, KS 66720 |
| DANIEL D | LANDIS | 313 W MAIN, CHANUTE, KS | 66720 |
| MICHAEL | D & TRICIA GREVE | 285 2400 ST, HUMBOLDT, KS | 66748 |
| | | | |
| | otice of the filing of this application was published in the \overline{Ch} | IANUTE TRIBUNE | the official county publication |
| of NEOSHO | со | unty. A copy of the affidavit of this publication is attached. | |
| Signed this | day of JULY 2012 | 2 | |
| Juniani. | D. ISAACIU | de l'Arthol | |
| A STATE OF | OTAQL COM | licapt of Duly Authorized Agent | |
| # 0 EXP | 09004117 Subscribed and sworn to before | ore me this day of | , 2012 |
| STA | Nota Nota | Aristy D Ubon | |
| The O | day of JULY 201: D. ISA4 OTARL COMMISSION Subscribed and sworn to before the commission of the comm | Commission Expires: 5/13/13 | |
| | | 7 | |

| Affidavit of Notice Served | |
|--|--|
| Re: Application for: APPLICATION FOR COMMINGLING | OF PRODUCTION OR FLUIDS - ACO-4 |
| Well Name: RENSING, LLOYD E 31-1 | Legal Location: SENWSENW S31-T27S-R19E |
| The undersigned hereby certificates that he / she is a duly authorized agent for | |
| , a true and correct copy of the application referenced abo | |
| Note: A copy of this affidavit must be served as a part of the application. | |
| Name | Address (Attach additional sheets if necessary) |
| CECIL E & KATHLEEN A WATTS | 501 E 6TH, CHANUTE, KS 66720 |
| OLOIL L & MATTILLLIN A WATTO | 301 E 0111, CHANOTE, NO 00120 |
| MICHAEL & PAMELA SCHIELDS | 9700 200TH RD, CHANUTE, KS 66720 |
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| I further attest that notice of the filing of this application was published in the CH | |
| of NEOSHO co | unty. A copy of the affidavit of this publication is attached. |
| Signed this day of | 2 |
| # 09004117 EXP. 05/13/13 PUBLIC Note My Co | 1/12/ |
| APPLICATION OF THE PROPERTY OF | icant or Duly Authorized Agent |
| Subscribed and sworn to before | ore me this day of _JULY |
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| Nota Nota | ny Aublic |
| My C | Commission Expires: 5/13/13 |
| Manual Community of the | |
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RENSING, LLOYD E 31-1 - APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS

| set Operators, Unleased Mineral Owners | s and Landowners acreage | | | |
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| Name: | | | Legal Description of Leasehold: | |
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| eby certify that the stalements made herein a | re true and correct to the best of | my knowledge and belief. | | |
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| MINIMA ISAA | | | | |
| THE D. LOCACO | Applie | ant or Duly Authorized Agent | | |
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| #09004117 EXP. 05/13/13 PUBLIC OF OKLANIII | Subscribed and sworn before | e me this day | of JULY | |
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| #09004117 EXP. 05/13/13 PUBLIC OF OKLANIA | Subscribed and sworn before | e me this day | JULY /13 /13 | |
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RENSING, LLOYD E 31-1

| SPOT | LEGAL LOCATION | CURR_OPERA |
|----------|----------------|-------------------|
| | S31-T27S-R19E | A & G Oil Company |
| | S31-T27S-R19E | A & G Oil Company |
| | S31-T27S-R19E | A & G Oil Company |
| SW SE NE | S31-T27S-R19E | A & G Oil Company |
| | S31-T27S-R19E | A & G Oil Company |
| | S31-T27S-R19E | Hand Oil Co. |

RENSING, LLOYD E 31-1

NW4 of 31-27S-19E

per TO dtd 7-28-07

N2 NW (mol)

Dale & Carolyn M Schiedel 15183 S Greenwood St, Ste 2701 Olathe, KS 66062

Small M & B desc in NW4

Elliott Family Rev. Trust 19730 Irving Rd Chanute, KS 66720

SE4 of 31-27S-19E

per OR dtd 7.22.03

Alfred L Hand and Oma Hand Co-Trustees of the Alfred L Hand and Oma L Hand Trust dated September 19, 1995 9850 190th Rd Chanute, KS 66720

NE4 of 31-27S-19E

E2W2NE4

David A & Linda Angleton 20128 Wichita Rd Chanute, KS 66720

E2W2NE4 and NE4 NE4 less tract

Daniel G & BD Angleton 9845 200th Rd Chanute, KS 66720

tract in NE4 NE4

Michael C & Melinda M. Churning 19785 Jackson Rd

Chanute, KS 66720

S24 SE4 NE4

Daniel D Landis

313 W Main

Chanute, KS 66720

N24 SE4 NE4

Michael D & Tricia Greve 285 2400 St

Humboldt, KS 66748

SE4 of 30-27S-19E

SE/4 less tract

Cecil E & Kathleen A. Watts 501 E 6th Chanute, KS 66720

Tract in SE/4

Michael & Pamela Schields 9700 200th Rd Chanute, KS 66720

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/

Sam Brownback, Governor

Mark Sievers, Chairman Thomas E. Wright, Commissioner

July 26, 2012

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

RE: Approved Commingling CO071221

Rensing, Lloyd E. 13-1, Sec.31-T27S-R19E, Neosho County

API No. 15-133-27114-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on July 11, 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 Bartlesville 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 CO071221 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