

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION 1084887

Form ACO-4 Form must be typed March 2009

# APPLICATION FOR COMMINGLING OF Commingling ID # CO071224 PRODUCTION (K.A.R. 82-3-123) OR FLUIDS (K.A.R. 82-3-123a)

| OPERATOR: License # 33343  | API No. 15 - 15-099-24241-00-00   |
|--|---|
| Name: PostRock Midcontinent Production LLC   | Spot Description:   |
| Address 1: Oklahoma Tower  | NE NE NW Sec. 1 Twp. 31 S. R. 19 ✓ East West  |
| Address 2: 210 Park Ave, Ste 2750  |   |
| City: OKLAHOMA CITY State: OK Zip: 73102 +   |   |
| Contact Person: CLARK EDWARDS  | County: Labette   |
| Phone: (920 ) 432-4200   | Lease Name: BEACHNER BROTHERS Well #: 1-31-19-1   |
| ,,   |   |
| 1. Name and upper and lower limit of each production interval to   |   |
| Formation: RIVERTON  | (Perfs): 736-738  |
| Formation: NEUTRAL   | (Perfs): _681-683   |
| Formation: TEBO  | (Perfs): 515-517  |
| Formation: FLEMING   | (Perfs): 449-451  |
| Formation: CROWEBURG   | (Perfs): 419-422  |
|  |   |
| <ol> <li>Estimated amount of fluid production to be commingled from extended.</li> </ol>   |   |
| Formation: RIVERTON  | BOPD: $\frac{0}{2}$ MCFPD: $\frac{0}{2}$ BWPD: $\frac{5}{2}$                                    |
| Formation: NEUTRAL   | BOPD: $0$ MCFPD: $0$ BWPD: $5$  |
| Formation: TEBO  | BOPD: 0 BWPD: 5   |
| Formation: FLEMING   | BOPD: 0 MCFPD: 0 BWPD: 5  |
| Formation: CROWEBURG   | BOPD: 0 MCFPD: 0 BWPD: 5  |
| <ul> <li>Plat map showing the location of the subject well, all other well the subject well, and for each well the names and addresses of</li> <li>Signed certificate showing service of the application and affida</li> </ul>   |   |
| For Commingling of PRODUCTION ONLY, include the following:   |   |
| 5. 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 Commingling of FLUIDS ONLY, include the following:   |   |
| 7. Well construction diagram of subject well.  |   |
| 8. Any available water chemistry data demonstrating the compating  | ibility of the fluids to be commingled.   |
| AFFIDAVIT: 1 am the affiant and hereby certify that to the best of my current information, knowledge and personal belief, this request for commingling is true and proper and I have no information or knowledge, which is inconsistent with the information supplied in this application. | Submitted Electronically  |
| KCC Office Use Only  | Protests may be filed by any party having a valid interest in the application. Protests must be |
| □ Denied   | in writing and comply with K.A.R. 82-3-135b and must be filed wihin 15 days of publication of   |
| 15-Day Periods Ends: 7/14/2012   | the notice of application.  |
| Diels Heatermann 07/16/2012  |   |
| Approved By: RICK nestermann Date: 07710/2012  |   |



## **Wellbore Schematic**

WELL: Beachner Bros 1-31-19-1

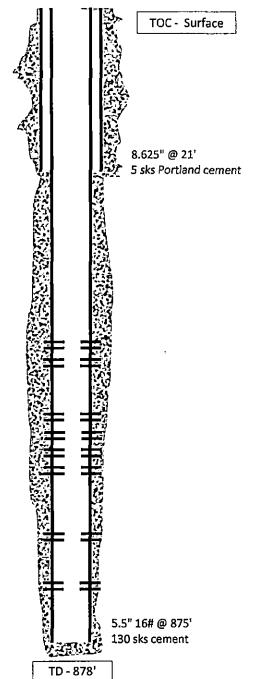
SSI: 625940

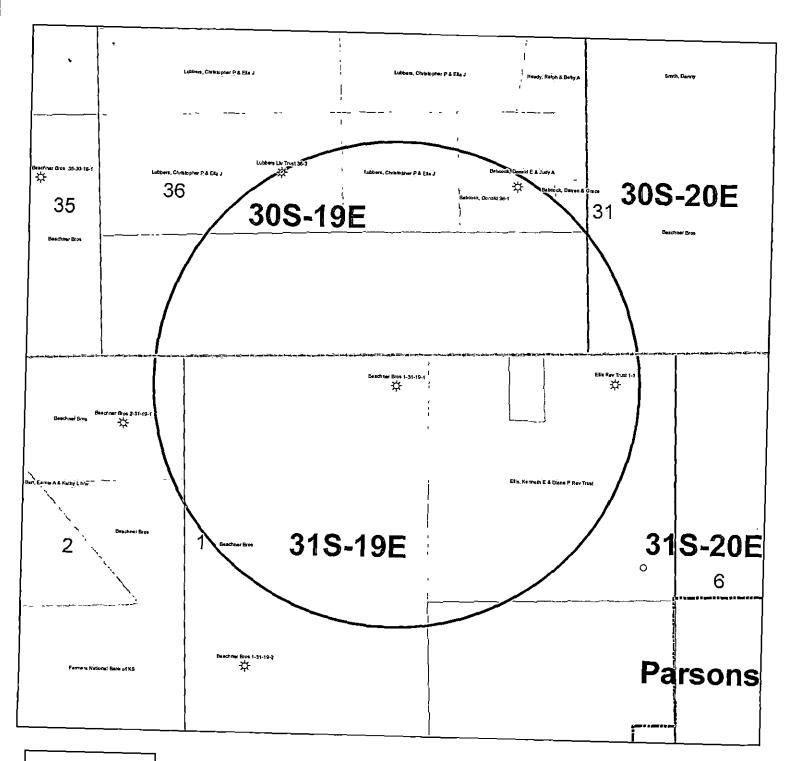
API: 15-099-24241

LOCATION: NE NW Sec. 1 31S-19E

COUNTY: Labette STATE: Kansas

|              | SIAIE: Kansas   |
|--------------|---|
| Casing       | 8.625" @ 21'<br>5.5" 16# J-55, 4.95" ID w/ 0.0238 bbl/ft<br>capacity @ 875'   |
| Perforations | Original Perfs: 5/6/08 - Riverton 736-738' (9) - Neutral 681-683' (9) - Tebo 515-517' (9) - Fleming 449-451' (9) - Croweburg 419-422' (13) - Bevier 401-403' - Mulky 302-306' (17) - Summit 286-290' (17)   |
| Completions  | Spud Date: 3/10/08  NV Completion: 5/6/08  - 500 gal 15% HCl  - 10.2 BPM  - 8,700# 20/40  - 681 bbls fluid  BCFT Completion: 5/6/12  - 400 gal 15% HCl  - 12.0 BPM  - 5,000# 20/40  - 575 bbls fluid  SM Completion: 5/6/12  - 400 gals 15% HCl  - 14 BPM  - 8,600# 20/40  - 690 bbls fluid |





### **KGS STATUS**

- ♦ DA/PA
- e EOR
- ☆ GAS
- △ INJ/SWD
- OIL
- \* OIL/GAS
- OTHER

Beachner Bros 1-31-19-1 1-31S-19E

1" = 1,000'

# Affidavit of Publication

STATE OF KANSAS, LABETTE COUNTY, ss:

Kim Root, being first duly sworn,

deposes and says: That she is Classified Manager of PARSONS SUN, a daily newspaper printed in the State of Kansas, and published in and of general circulation in Labette County, Kansas, with a general paid circulation on a daily basis in Labette 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 Parsons, 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 \_\_\_ consecutive \_\_\_\_\_, the first publication thereof being made as aforesaid on the 19 day of June 2012, with subsequent publications being made on the following dates:

| , 2012, 2012                                  |
|---|
|   |
| , 2012, 2012                                  |
| Kimbul Prot                                   |
|   |
| Subscribed and sworn to and before me this 19 |
| day ofJune,2012                               |
|   |
| NotaryPublic                                  |
|   |

My commission expires: January 9, 2015 Affidavit, Notary's Fee ...... \$\_\_\_ Additional Copies .....\$\_ Total Publication Fees ..... \$ 11,0

> SHANNA L. GUIOT Notary Public - State of Kansas My Appt. Expires | -9 - |

(Published in the Persons Sun COMMISSION

OF THE STATE OF KANSAS

NOTICE OF FILING APPLICATION

RE In the Matter of Postrock Midcontinent Production ELC Applications for

nent: Production, ELC Applications for Commingling of Production. In: the Beachner Bros 1-31-1931 located in: Labette County, Kansas 170. All foli & Gas Producets. Unleased Mingral 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 committingle the Riverton, Neutral, Tebo, Fleming, Croweburg Bevier, Mulk, Summit, Cattleman and Bartlesville producing formations at the Beachner Bros 1-31-19-1, located in the NE NE NW. S1-T31S-R19E, Approximately 30 FNL & 2310 FEL Labette 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 Corporation Commission of the State of Kansas within litteen (15) days from the date of this publication. These protests whall be filed pursuant to Commission regulations and must state specific reasons why granting the application may cause waste, violate correlative rights or politic the natural resources of the State of Kansas. All persons interested or concerned shall

Kansas.
All persons interested or concerned shall take notice of the foregoing and shall govern themselves accordingly. All persons 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.

sion of the Kensas Oil and das consum-sion.

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) 560-7704.

# KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

Form ACO-1 September 1999 Form Must Be Typed

# WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

| Operator: License # 33344   | API No. 15 - 15-099-24241-0000  |
|---|---|
| Nane: Quest Cherokee, LLC   | County; Labette   |
| Address: 211 W. 14th Street   | NE_NE_NW Sec. 1 Twp. 31 S. R. 19 Y East West  |
| City/State/Zip: Chanute, KS 66720   | 330 feet from S Nicircle one) Line of Section   |
| Purchaser: Bluestem Pipeline, LLC   | 2310 feet from E (W) circle one) Line of Section  |
| Operator Contact Person: Jennifer R. Smith  | Footages Calculated from Nearest Outside Section Corner:  |
| Phone: (620 ) 431-9500  | (circle one) NE SE (NW) SW  |
| Contractor: Name: TXD/FOXXE   | Lease Name: Beachner Bros Well #: 1-31-19-1   |
| License: 33837  | Fleld Name: Cherokee Basin CBM  |
| Wellsite Geologist: Ken Recoy   | Producing Formation: Multiple   |
| Designate Type of Completion:   | Elevation: Ground: 883 Kelly Bushing: n/a   |
| New Well Re-Entry Workover  | Total Depth: 878 Plug Back Total Depth: 875   |
| Oii SWD SIOWTemp. Abd.  | Amount of Surface Pipe Set and Cemented at 21 Feet  |
| ✓ Gas ENHR SIGW   | Multiple Stage Cementing Collar Used? ☐ Yes ☑ No  |
| Dry Other (Core, WSW, Expl., Cathodic, etc)   | If yes, show depth setFeet  |
| ll Workover/Re-entry: Old Well Info as follows:   | If Alternate II completion, cement circulated from 875  |
| Operator:   | feet depth to surface w/ 130 sx cmt   |
| Well Name:  | Belling Ehrid Hansamant Dien  |
| Original Comp, Date: Original Total Depth:  | Drilling Fluid Management Plan (Data must be collected from the Reserve Pit)  |
| Despening Re-perf Conv. to Enhr/SWD   | Chloride contentppm Fluid volumebbls  |
| Plug Back Plug 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:  |
| 3-10-08 3-15-08 3-17-08   | Lease Name;License No.:   |
| Spud Date or Date Reached TD Completion Date or Recompletion Date   | CuarterSecTwpS. R East West  County: Docket No.:  |
| 1,000,000   | County: Docket No.:   |
| INSTRUCTIONS: An original and two copies of this form shall be filed with the 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 of TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. | r or conversion of a well. Flule 82-3-130, 82-3-106 and 82-3-107 apply.  I 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.   | e the oil and gas industry have been fully complied with and the statements   |
| Signature: Jumps R. Smith   | KCC Office Use ONLY   |
| Tile: New Well Development Coordinator Date: 6/24/08  | Letter of Confidentiality Received  |
| Subscribed and sworn to before me this 24th day of Will   | If Danied, Yes Date:  |
| R   | Wireline Log Received   |
| 20  | Geologist Report Received   |
| Notary Public: Str. Ca Traumal  | UIC Distribution  |
| Date Commission Expires: 8-4- 2010 A. TERR  | A KLAUMAN   |
| Notary Publisher States   | ic-State of Kansas<br>8-4-2010  |

| Operator Name: Que   | st Cherokee, LLC                             | >                        |                                       | Lease                     | Name: E     | eachner Bros                | <u> </u>                                    | Well #: 1-31                          | -19-1                                |        |
|--|--|--------------------------|---------------------------------------|---------------------------|-------------|-----------------------------|---|---------------------------------------|--------------------------------------|--------|
| Sec. 1 Twp. 31   |  |                          | ☐ West                                | County                    | Labett      | 8                           |   |                                       |                                      |        |
| INSTRUCTIONS: She<br>tested, time tool open<br>temperature, fluid reco<br>Electric Wireline Logs | and closed, flowing<br>overy, and flow rates | and shut-<br>if gas to s | in pressures, v<br>surface test, el   | vhether sh<br>ong with fi | ut-in pre   | ssure reached s             | tatic level, hydros                         | tatic pressure                        | s, bottom hole                       |        |
| Drill Stem Tests Taker<br>(Attach Additional S   |  | Ye                       | s 🗌 No                                |                           | Nr          | og Formatio                 | n (Top), Depth ar                           | d Datum                               | Sample                               |        |
| Samples Sent to Geo  | logical Survey                               | ∐ Ye                     | s 🔲 No                                |                           | Name<br>See | ettached                    |   | Тор                                   | Datum                                |        |
| Cores Taken<br>Electric Log Run<br>(Submit Copy)   |  | ∐ Ye<br>∐ Ye             | =                                     |                           |             |                             |   | •                                     |                                      |        |
| List All E. Logs Run:  |  |                          |                                       |                           | İ           |                             |   |                                       |                                      |        |
| Compensated<br>Dual Induction  | •  | ron Log                  | ]                                     |                           |             |                             | ·   |                                       |                                      |        |
|  |  | Banor                    | CASING I                              |                           | Ne          | w Used<br>rmediate, product | lan etc                                     |                                       |                                      |        |
| Purpose of String  | Size Hole<br>Drilled                         | Siz                      | e Casing                              |                           | ight        | Setting<br>Depth            | Type of<br>Cement                           | # Sacks<br>Used                       | Type and Perc                        | ent    |
| Surface  | 12-1/4                                       | 8-5/8"                   | (in O.D.)                             | 22                        | 7 FG        | 21                          | "A"   | 5                                     | Againes                              |        |
| Production   | 7-7/8  | 5-1/2                    |                                       | 14.5                      |             | 875                         | "A"   | 130                                   |                                      |        |
|  | <u> </u>                                     | l                        |                                       | ]                         |             |                             |   | <u></u>                               | [                                    |        |
| Purpose:  — Perforate — Protect Casing — Plug Back TD — Plug Off Zone                            | Depth<br>Top Bottom                          | Туре                     | ADDITIONAL<br>of Coment               | \                         | S Used      | JEEZE RECORD                |   | Broent Additives                      |                                      |        |
| Shots Per Foot   |  |                          | ID - Bridge Plug<br>Each Interval Per |                           | )           | Acid, Fra                   | cture, Shot, Cement<br>nount and Kind of Ma | Squeeze Recor                         | rd Dep                               | oth    |
| 4  | 736-738/681-68                               | 3                        |                                       |                           |             | 500gal (5%HCLm/55bbb        | : 25km water, 601bhis water w               | 72% KCL Biodds, 8700                  | 2040 and 738-738/0                   | 31-683 |
| 4  | 515-517/449-45                               | 1/419-42                 | 2/401-403                             |                           |             | 400gal 15%HCLus 60bbb       | 25kal water, 67 libbis water w              | / 2% KCL, Elouido, 5000               |                                      |        |
| A  | 302-306/286-29                               |                          |                                       |                           |             | 400mmi 15%/HCL m/ 500%      | a ZTÁKAI water, (SSCobia water w            | / 2% K21. Blockha 8800                | 419-422/4<br># 2040 cond   302-306/2 |        |
| TUBING RECORD  | Size   | Set At                   |                                       | Packer                    | At          | Liner Run                   |   |                                       |                                      |        |
|  | 3/8"   | 748                      |                                       | n/a                       | <del></del> | ]                           | Yes No                                      |                                       |                                      |        |
| Date of First, Resumer N/A   | d Production, SWD or I                       | Enhr.                    | Producing Met                         |                           | - Howin     | g Pumpi                     | ng 🗌 Gas Uf                                 | t 🗌 Oth                               | er (Explain)                         |        |
| Estimated Production<br>Per 24 Hours   | Oil<br>n/a                                   | Bbis.                    | Gas                                   | McI                       | Wat         | er E                        | ibls. G                                     | es-Oil Ratio                          | Gravi                                | ity    |
| Disposition of Gas   | METHOD OF                                    | COMPLETI                 | NC                                    |                           |             | Production Inte             | rvai  | · · · · · · · · · · · · · · · · · · · |                                      |        |
| Vented Sold  | Used on Lease  ubmit ACO-18.)                |                          | Open Hole                             | Pe:                       | rf. 🗀       | Dually Comp.                | Commingled _                                |                                       |                                      |        |

|  | A  | В  | С  | D   |  | F  | G  | н   |  | J  | Т ії                     |
|--|--|--|--|---|--|--|--|---|--|--|--------------------------|
| Н  | A<br>Produced Fluids #   | B  | 1  | 2   |  | F  | - G<br>- 5   | н   |  | Į Į  |                          |
| <u> </u>   | Parameters   | Units  | Input  | Input   | Input  | Input  | Input  |   | Click he   | re   | Click                    |
| 3  | Select the brines  | Select fluid   | П.   | Ţ.  |  | Л  | T.   | Mixed brine:  | to run SS  |  | {                        |
| 4  | Sample 1D  | by checking  |  |   |  |  |  | Cell H28 is   |  |  | Click                    |
| -  | Date '   | the box(es),   | 3/19/2012  | 3/4/2012  | 3/14/2012  | 1/20/2012  | 1/20/2012  | STP calc. pH.   |  |  | <b>\</b>                 |
|  | Operator<br>Well Name  | Row 3  | PostRock<br>Ward Feed  | PostRock<br>Ward Feed   | PostRock<br>Clinesmith   | PostRock<br>Clinesmith   | PostRock<br>Clinesmith   | Cells H35-38<br>are used in   |  |  | Click                    |
| -  | Location   |  | #34-1  | #4-1  | #5-4   | #1   | #2   | are usea in<br>mixed brines   | Goal Seek  | SSP  | {                        |
|  | Field  |  | CBM  | СВМ   | Bartles  | Bartles  | Bartles  | calculations.   |  |  | Click                    |
| 10   | Na <sup>+</sup>  | (mg/l)*  | 19,433.00  | 27,381.00   | 26,534.00  | 25689.00   | 24220.00   | 24654.20  | Initial(BH)  | Final(WH)  | T                        |
| 11   | K <sup>+</sup> (if not known =0)   | (mg/l)   |  |   |  |  | <del></del>  | 0.00  | Saturation Index   | values   | SI/SR<br>(Final-Initial) |
|  | Mg <sup>2+</sup>   | (mg/l)   | 1,096.00   | 872.00  | 1,200.00   | 953.00   | 858.00   | 995.91  |  | lcite  |                          |
| 13   | Ca <sup>2+</sup>   | (mg/l)   | 1.836.00   | 2,452.00  | 2,044.00   | 1920.00  | 1948.00  | 2040.23   | -0.73  | -0.60  | 0.13                     |
|  | Sr <sup>2</sup> *  | (mg/l)   | 1,000,000  |   |  |  |  | 0.00  |  | rite   |                          |
|  | Ba <sup>2+</sup>   | (mg/l)   |  |   |  |  |  | 0.00  |  |  | 1 1                      |
|  | Fe <sup>2+</sup>   | (mg/l)   | 40,00  | 21.00   | 18.00  | 82,00  | 90,00  | 50.21   | На   | lite   |                          |
|  | Zn <sup>2</sup>  | (mg/l)   |  |   |  | 54,44  | ,  | 0.00  | -1.77  | -1.80  | -0.03                    |
|  | Pb <sup>2</sup> *  | (mg/l)   |  |   |  |  |  | 0.00  |  | sum  | 1                        |
|  | 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 <sub>4</sub> <sup>2</sup>   | (mg/l)   | 1.00   | 1.00  | 8.00   | 1.00   | 1.00   | 2.40  |  | ydrate.  |                          |
| 21   | F  | (mg/l)   | 2.00   | 1.00  | 3.00   | 1.00   | 2.00   | 0.00  | -3.96  | -3,90  | 0.06                     |
| 22   | Br <sup>-</sup>  | (mg/l)   |  |   |  |  |  | 0.00  |  | vdrite   | 0.00                     |
| -  | SiO2   | (mg/I) SiO2  |  |   |  | <del> </del>   |  | 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  |  | estite   | <del></del>              |
| 25   | CO3 Alkalinity   | (mg/l as HCO3)   | 130.00   | 234.00  | 437.00   | 406.00   | 434.00   | 241.03  | Cen  |  | <del>  </del>            |
| 26   | Carboxylic acids**   | (mg/l)   |  |   |  |  | -  | 0,00  | leon (   | Sulfide  | <del>  </del>            |
| 27   | Ammonia  | (mg/L) NH3   |  |   |  |  |  | 0.00  | -0.16  | -0.22  | -0.06                    |
| -  | Borate   | (mg/L) H3BO3   |  |   |  |  |  | 0.00  |  | Sulfide  | -5,55                    |
| 29   | TDS (Measured)   | (mg/l)   |  | -   |  |  |  | 72781   |  | June   | 1                        |
| 30   | Calc. Density (STP)  | (g/ml)   | 1.038  | 1.051   | 1.050  | 1.048  | 1.045  | 1.047   | Calcium  | fluoride   |                          |
| 31   | CO <sub>2</sub> Gas Analysis   | (%)  | 19.97  | 18.76   | 22,41  | 35.53  | 33.79  | 26.16   |  | _  | 1                        |
| 32   | H <sub>2</sub> S Gas Analysis***   | (%)  | 0.0289   | 0.0292  | 0.0296   | 0.0306   | 0.0151   | 0.0269  | Iron Ca  | rbonate  |                          |
| 33   | Total H2Saq  | (mgH2S/l)  | 1.00   | 1.00  | 1.00   | 1.00   | 0.50   | 0.90  | -0.74  | -0.51  | 0.23                     |
| 34   | pH, measured (STP)   | pН   | 5.67   | 5.76  | 5.72   | 5.54   | 5.55   | 5.63  |  | eded (mg/L)  | -1                       |
|  | Choose one option  | 0-CO2%+Alk,<br>1-pH+Alk.   |  |   |  |  |  |   | Calcite  | NTMP   | 1 1                      |
| 35   | to calculate S1?   |  | 0  | o.  | 0  | 0  | 0  |   |  |  | 1                        |
|  | Gas/day(thousand cf/day)   | (Mcf/D)  |  |   |  |  |  | 0   | 0.00   | 0.00   | -1 1                     |
|  | Qil/Day  |  |  |   |  |  |  |   | 0.00   | 0.00   |                          |
|  |  | (B/D)  | 0  | 0   | i  | 1  | 1  | 4   | Barite   | ВНРМР  | d                        |
| 38   | Water/Day  | (B/D)  | 100  | 100   | 1<br>100   | 100  | 100  | 4<br>500  | Barite<br>0.00   | BHPMP<br>0.00  |                          |
| 39   | Water/Day<br>For mixed brines, enter val   | (B/D)<br>lues for tempera  | 100<br>tures and press   | 100<br>ures in Cells (F                                       | (40-H43)   |  |  | 4<br>500<br>(Enter H40-H43)   | Barite<br>0.00   | BHPMP<br>0.00<br>H   |                          |
| 39<br>40   | Water/Day  | (B/D)  | 100  | 100   |  | 1<br>100<br>41.0<br>41.0   | 1<br>100<br>49.0<br>49.0   | 4<br>500  | Barite<br>0.00<br>P<br>5.69  | BHPMP<br>0.00  |                          |
| 39<br>40<br>41   | Water/Day<br>For mixed brines, enter val<br>Initial T  | (B/D)<br>lues for tempera<br>(F)   | 100<br>tures and press<br>66.0                                   | 100<br>ures in Cells (F<br>71.0                               | (40-H43)<br>70.0   | 41.0   | 49.0   | 500<br>(Enter H40-H43)<br>60.0  | Barite<br>0.00<br>P<br>5.69  | BHPMP<br>0.00<br>H<br>5.60   |                          |
| 39<br>40<br>41<br>42   | Water/Day<br>For mixed brines, enter val<br>Initial T<br>Final T   | (B/D)<br>ues for tempera<br>(F)<br>(F)   | 100<br>tures and press<br>66.0<br>66.0                           | 100<br>ures in Cells (F<br>71.0<br>71.0                       | (40-H43)<br>70.0<br>70.0   | 41.0<br>41.0   | 49.0<br>49.0   | 4<br>500<br>(Enter H40-H43)<br>60,0<br>89,0   | Barite 0.00  5.69  Viscosity ( 1.196   | BHPMP<br>0.00<br>H<br>5.60<br>CentiPoise)  |                          |
| 39<br>40<br>41<br>42<br>43<br>44   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet?   | (B/D) ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No   | 100<br>tures and press<br>66.0<br>66.0<br>25.0                   | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0               | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4<br>500<br>(Enter H40-H43)<br>60.0<br>89.0<br>25.0   | Barite 0.00  p 5.69  Viscosity ( 1.196  Heat Capaci  | BHPMP<br>0.00<br>H<br>5.60<br>CentiPoise)<br>0.826<br>ty (cal/ml/ <sup>0</sup> C)<br>0.959 |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav.   | (B/D) tues for temperat (F) (F) (psia) (psia) 1-Yes;0-No API grav.   | 100<br>tures and press<br>66.0<br>66.0<br>25.0                   | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0               | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4<br>500<br>(Enter H40-H43)<br>60.0<br>89.0<br>25.0<br>120.0  | Barite 0.00  p 5.69 Viscosily ( 1.196 Heat Cupaci 0.955 Inhibitor ne   | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/ 0.959 seded (mg/L)                         |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav.  | (B/D) lues for temperat (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav.  | 100<br>tures and press<br>66.0<br>66.0<br>25.0                   | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4<br>500<br>(Enter H40-H43)<br>60.0<br>89.0<br>25.0   | Barite 0.00  p 5.69 Viscosily ( 1.196 Heat Cupaci 0.955 Inhibitor no   | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/ <sup>0</sup> C) 0.959 seded (mg/L) HDTMP   |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav.   | (B/D) tues for temperat (F) (F) (psia) (psia) 1-Yes;0-No API grav.   | 100<br>tures and press<br>66.0<br>66.0<br>25.0                   | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4<br>500<br>(Enter H40-H43)<br>60.0<br>89.0<br>25.0<br>120.0<br>30.00<br>0.60                                   | Barite 0.00  p 5.69 Viscosily ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/ 0.959 seded (mg/L)                         |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49   | Water/Day For mixed brines, enter val 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  | (B/D) tues for temperat (F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D)   | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 120.0 30.00 0.60 0  | Barite 0.00  p 5.69  Viscosity ( 1.196  Heat Capaci 0.955  Inhibitor m Gypsum 0.00   | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00           |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49   | Water/Day For mixed brines, enter val 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) †   | (B/D) ues for tempera (F) (F) (psia) (psia) 1-Yes:0-No API grav. Sp.Grav. (B/D) (B/D)  | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 120.0 30.00 0.60 0  | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50   | Water/Day For mixed brines, enter val 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) ¹ OH (Strong base) ¹   | (B/D) ues for tempera (F) (F) (psia) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N)   | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 120.0 30.00 0.60 0  | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51   | Water/Day For mixed brines, enter val Initial T Final T Initial P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. McOil/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at   | (B/D) ues for tempera (F) (F) (psia) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP:  | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 120.0 30.00 0.60 0  | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav, Gas Sp.Grav. MeOil/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H <sub>2</sub> S Gas  | (B/D) ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP:   | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 120.0 30.00 0.60 0  | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54   | Water/Day For mixed brines, enter val Initial T Final T Initial P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. McOil/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at   | (B/D) ues for tempera (F) (F) (psia) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP:  | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 120.0 30.00 0.60 0  | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54<br>55<br>56   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) OH (Strong base) Quality Control Checks at H <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated PCO2 Calculated   | (B/D) 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) (%)  | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 120.0 30.00 0.60 0  | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54<br>55<br>56<br>57   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav, Gas Sp.Grav. MeOil/Day MEG/Day Conc. Multiplier H   t' (Strong acid)  OH (Strong base)  Quality Control Checks at H  25 Gas Total H2Saq (STP) pH Calculated Alkalinity Caclulated   | (B/D) 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   | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 120.0 30.00 0.60 0  | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54<br>55<br>56<br>57<br>58   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MetOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations=   | (B/D) ues for tempera (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)                                | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0   | 49.0<br>49.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 25.0 120.0 30.00 0.60   | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54<br>55<br>56<br>57<br>58<br>59   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav, Gas Sp.Grav. MeOil/Day MEG/Day Conc. Multiplier H   t' (Strong acid)  OH (Strong base)  Quality Control Checks at H  25 Gas Total H2Saq (STP) pH Calculated Alkalinity Caclulated   | (B/D) 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   | 100<br>tures and press<br>66.0<br>66.0<br>25.0<br>25.0           | 100<br>ures in Cells (F<br>71.0<br>71.0<br>25.0<br>25.0       | 70.0<br>70.0<br>70.0<br>25.0   | 41.0<br>41.0<br>25.0<br>25.0   | 49.0<br>49.0<br>25.0<br>25.0   | 4 500 (Enter H40-H43) 60.0 89.0 25.0 120.0 0.60 0 0   | Barite 0.00 p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor no Gypsum 0.00 Anhydrite  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54<br>55<br>56<br>57<br>58<br>69<br>60<br>61   | Water/Day For mixed brines, enter val Initial T Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav, Gas Sp.Grav. MeOil/Day MEG/Day Conc. Multiplier H † (Strong acid) OH (Strong base) Quality Control Checks at H 25 Gas Total H2Saq (STP) pH Calculated Alkalinity Caclulated ECations= LAnlons= Calc TDS= Inhibitor Selection  | (B/D) ues for tempera (F) (psia) (psia) 1-Yes;0-No API grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv /I) (equiv /I) (mg/I) Input                   | 100 ures and press 66.0 66.0 25.0 25.0 0 0                       | 100 ures in Cells (F 71.0 71.0 25.0 25.0                      | 40-H43) 70.0 70.0 25.0 25.0  | 41.0<br>41.0<br>25.0<br>25.0   | 49.0<br>49.0<br>25.0<br>25.0   | 4 500 (Enter H40-H43) 60,0 89,0 25,0 120,0 30,00 0,60 0   | Barite 0.00  F 5.69  Viscosity ( 1.196  Heat Capaci 0.955  Inhibitor in Gypsum 0.00  Anhydrite 0.00  | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54<br>55<br>56<br>57<br>58<br>60<br>61<br>62   | Water/Day For mixed brines, enter val 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) † OH (Strong base) † Ouality Control Checks at H <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time  | (B/D) 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)                      | 100 ures and press 66.0 66.0 25.0 0 0                            | 100 ures in Celts (# 71.0 71.0 25.0 25.0                      | 40-H43) 70.0 70.0 25.0 25.0 1nhibitor NTMP                               | Unit Converte  | 49.0<br>49.0<br>25.0<br>25.0<br>(From metric   | 4 500 (Enter H40-H43) 60.0 89.0 25.0 120.0 0.60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                 | Barite 0.00  p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor in 0.00 Anhydrite 0.00   | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>50<br>51<br>52<br>53<br>54<br>55<br>56<br>57<br>58<br>59<br>60<br>61<br>62<br>63   | Water/Day For mixed brines, enter val 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 <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated Alkalinity Caclulated ECations= EAnlons= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer  | (B/D) ues for tempera (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) (equiv /I) (mg/I) Input 120    | 100 tures and press 66.0 66.0 25.0 0 0 0 Unit min                | 100 ures in Celts (# 71.0 71.0 25.0 25.0                      | 40-H43) 70.0 70.0 25.0 25.0 25.0 Inhibitor NTMP BHPMP                    | Unit Converte  | 49.0<br>49.0<br>25.0<br>25.0<br>25.0<br>Value<br>80  | 4 500 (Enter H40-H43) 60.0 89.0 25.0 120.0 30.00 0.60 0 0 0 to English) To Unit                                 | Barite 0.00  p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor m 0.00 Anhydrite 0.00  Value 176   | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>55<br>56<br>57<br>58<br>59<br>60<br>61<br>62<br>63<br>64   | Water/Day For mixed brines, enter val 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 <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated Alkalinity Caclulated ECations= LAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you?  | (B/D) ues for tempera (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) (equiv /I) (mg/I) Input 120    | 100 tures and press 66.0 66.0 25.0 25.0 0 0 Unit min             | 100 ures in Celts (# 71.0 71.0 25.0 25.0 25.0 1 25.0 3        | 40-H43) 70.0 70.0 25.0 25.0 25.0 Inhibitor NTMP BHPMP PAA                | Unit Converte From Unit Converte From Unit   | 49.0<br>49.0<br>25.0<br>25.0<br>25.0<br>Value<br>80<br>100   | 4 500 (Enter H40-H43) 60.0 89.0 25.0 120.0 30.00 0.60 0 0 to English) To Unit °F ft <sup>3</sup>                | Barite 0.00  p 5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor m 0.00 Anhydrite 0.00  Value 176 3,531                                   | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>55<br>55<br>56<br>66<br>66<br>66<br>66<br>66<br>66<br>66<br>66<br>66<br>66                         | Water/Day For mixed brines, enter val 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 <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated Alkalinity Caclulated PCO2 Calculated Alkalinity Caclulated PCO2 Calculated Alkalinity Caclulated PCO2 Calculated PCO2 Calculated Alkalinity Caclulated PCO2 Calculated PCO2 Calculated PCO3 Calculated PCO4 Calculated PCO5 Calculated PCO5 Calculated PCO6 Calculated PCO6 Calculated PCO7 Calculated PCO7 Calculated PCO7 Calculated PCO8 Calculated PCO8 Calculated PCO8 Calculated PCO8 Calculated PCO9 Calculated PCO9 Calculated PCO9 Calculated PCO9 Calculated PCO1 Calculated PCO1 Calculated PCO1 Calculated PCO1 Calculated PCO1 Calculated PCO1 Calculated PCO2 Calculated PCO3 Calculated PCO3 Calculated PCO3 Calculated PCO4 Calculated PCO6 Calculated PCO6 Calculated PCO7 Calculated PCO8 Calculated PCO8 Calculated PCO9 Calculated PCO9 Calculated PCO9 Calculated PCO1 Calculated PCO1 Calculated PCO1 Calculated PCO1 Calculated PCO2 Calculated PCO3 Calculated PCO3 Calculated PCO3 Calculated PCO3 Calculated PCO4 Calculated PCO6 Calculated PCO6 Calculated PCO7 Calculated PCO7 Calculated PCO8 Calculated PCO8 Calculated PCO8 Calculated PCO9 Calculate | (B/D) ues for tempera (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) (equiv /I) (mg/I) Input 120    | 100 tures and press 66.0 66.0 25.0 0 0 0 Unit min                | 100 ures in Cells (E 71.0 71.0 25.0 25.0 25.0 1 25.0 25.0 3 4 | 40-H43) 70.0 70.0 25.0 25.0 25.0 Inhibitor NTMP BHPMP PAA DTPMP          | Unit Converte From Unit Converte From Unit The Converte T | 49.0<br>49.0<br>25.0<br>25.0<br>25.0<br>Value<br>80<br>100   | 4 4 5040 (Enter H40-H43) 60.0 89.0 25.0 120.0 0.60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                              | Barite 0.00  F 5.69  Viscosity ( 1.196  Heat Capaci 0.955  Inhibitor m Gypsum 0.00  Anhydrite 0.00  Value 176 3,531 629                    | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54<br>55<br>55<br>56<br>57<br>58<br>58<br>60<br>60<br>60<br>60<br>60<br>60<br>60<br>60<br>60<br>60 | Water/Day For mixed brines, enter val 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 <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated Alkalinity Caclulated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed,  | (B/D) ues for tempera (F) (F) (psia) (psia) I-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        | 100 tures and press 66.0 66.0 25.0 0 0 Unit min 1-Yes;0-No #     | 100 ures in Cells (# 71.0                                     | 40-H43) 70.0 70.0 25.0 25.0 25.0 Inhibitor NTMP BHPMP PAA DTPMP PPCA     | Unit Converte From Unit Converte From Unit O MPa   | 49.0<br>49.0<br>25.0<br>25.0<br>25.0<br>Value<br>80<br>100<br>100<br>1,000                         | 4 40-00 (Enter H40-H43) 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                  | Barite 0.00  F 5.69  Viscosity ( 1.196  Heat Cupaci 0.955  Inhibitor m Gypsum 0.00  Anhydrite 0.00  Value 176 3,531 629 145,074            | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>50<br>51<br>52<br>53<br>55<br>55<br>55<br>57<br>89<br>60<br>61<br>62<br>63<br>64<br>65<br>66<br>67                                     | Water/Day For mixed brines, enter val 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) 1 OH (Strong base) 1 Quality Control Checks at H <sub>2</sub> S Gas Total H2Saq (STP) pH Calculated Alkalinity Caclulated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed, 1 <sup>41</sup> inhibitor # is:   | (B/D) ues for tempera (F) (F) (psia) (psia) I-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (\$) (mgH2S/I) (pH) (equiv./I) (equiv./I) (mg/I) Input 120  1 4                     | 100 tures and press 66.0 66.0 25.0 25.0 0 0 Unit min             | 100 ures in Cells (E 71.0 71.0 25.0 25.0 25.0 1 25.0 25.0 3 4 | 40-H43) 70.0 70.0 25.0 25.0 25.0 Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA | Unit Converte From Unit C m³ m³ MPa Bar  | 49.0<br>49.0<br>25.0<br>25.0<br>25.0<br>49.0<br>49.0<br>49.0<br>49.0<br>49.0<br>49.0<br>49.0<br>49 | 4 5000 (Enter H40-H43) 60.0 89.0 25.0 120.0 30.00 0.60 0 10 To Unit Fr 113 bbl(42 US gal) psia                  | Barite 0.00  F 5.69  Viscosity ( 1.196  Heat Capaci 0.955  Inhibitor m Gypsum 0.00  Anhydrite 0.00  Value 176 3,531 629                    | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39<br>40<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51<br>52<br>53<br>54<br>55<br>55<br>56<br>57<br>58<br>58<br>60<br>60<br>60<br>60<br>60<br>60<br>60<br>60<br>60<br>60 | Water/Day For mixed brines, enter val 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 <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated Alkalinity Caclulated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed,  | (B/D) ues for tempera (F) (F) (psia) (psia) I-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        | 100 ures and press 66.0 66.0 25.0 25.0 0 0 Unit min 1-Yes;0-No # | # 1 2 2 3 4 4 5 6 6   | 40-H43) 70.0 70.0 25.0 25.0 25.0 Inhibitor NTMP BHPMP PAA DTPMP PPCA     | Unit Converte From Unit Converte From Unit O MPa   | 49.0<br>49.0<br>25.0<br>25.0<br>25.0<br>Value<br>80<br>100<br>100<br>1,000                         | 4 500 (Enter H40-H43) 60.0 89.0 25.0 120.0 30.00 0.60 0 0 0 to English) To Unit °F ft³ bbl(42 US gal) psia psia | Barite 0.00  F 5.69  Viscosity ( 1.196  Heat Capaci 0.955  Inhibitor m Gypsum 0.00  Anhydrite 0.00  Value 176 3,531 629 145,074 7,194      | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (mg/L) HDTMP 0.00 HDTMP     |                          |
| 39 40 41 42 43 44 45 46 47 48 49 50 51 55 56 57 58 59 60 62 63 64 65 66 67 68 69   | Water/Day For mixed brines, enter val 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 H¹ (Strong acid)¹ OH (Strong base)¹ Quality Control Checks at H₂S Gas Total H₂Saq (STP) pH Calculated Alkalinity Caclulated Alkalinity Caclulated ECations= EAnlons= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed,  1 <sup>a</sup> inhibitor # is: % of 1 <sup>st</sup> inhibitor is:   | (B/D) ues for tempera (F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH1) (mg/I) as HCO3 (equiv /I) (equiv /I) (mg/I) Input 120  1 4 1 50 | Unit min  1-Yes;0-No #  76.00  100  100  100  100  100  100  100 | ## 1 2 3 3 4 5 5 6 7 7  | Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA HEDP                             | Unit Converte From Unit °C m³ MPa Bar Torr   | 49.0<br>49.0<br>25.0<br>25.0<br>25.0<br>25.0<br>25.0<br>25.0<br>25.0<br>25                         | 4 5000 (Enter H40-H43) 60.0 89.0 25.0 120.0 30.00 0.60 0 10 To Unit Fr 113 bbl(42 US gal) psia                  | Barite 0.00  F 5.69  Viscosity ( 1.196  Heat Capaci 0.955  Inhibitor in Gypsum 0.00  Anhydrite 0.00  Value 176 3,531 629 145,074 7,194 193 | BHPMP 0.00 H 5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 seded (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      | <b>J</b>    |
| 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 <sub>2</sub> 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**

| outaintion mack |       |       |       |       |       |       |
|-----------------|-------|-------|-------|-------|-------|-------|
| 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 |

|                | R & LOWER LIMIT OF EACH PRODU |                      |               |        |   |       |    |
|----------------|-------------------------------|----------------------|---------------|--------|---|-------|----|
| FORMATION:     | BEVIER                        | (PERFS):             | 401 -         |        | • |       |    |
| FORMATION:     | MULKY                         | (PERFS):             | 302           |        | - |       |    |
| FORMATION:     | SUMMITT                       | (PERFS):             | <u> 286</u> - |        | - |       |    |
| FORMATION:     | CATTLEMAN                     | (PERFS):             | 472 -         |        |   |       |    |
| FORMATION:     | BARTLESVILLE                  | (PERFS):             | 542           | 548    |   |       |    |
| FORMATION:     |                               | (PERFS):             |               |        |   |       |    |
| FORMATION:     |                               | (PERFS):             |               |        | - |       |    |
| FORMATION:     |                               | (PERFS):             |               | ·      | _ |       |    |
| FORMATION:     |                               | (PERFS):             |               | ·      | _ |       |    |
| FORMATION:     |                               | (PERFS):             |               |        | _ |       |    |
| FORMATION:     |                               | (PERFS):             |               | ·      | _ |       |    |
| FORMATION:     |                               | (PERFS):             |               | `      | _ |       |    |
| 2 ESTIMATED AN | MOUNT OF FLUID PRODUCTION TO  | O BE COMMINGLED FROM | EACH INT      | ERVAL  |   |       |    |
| FORMATION:     | BEVIER                        | BOPD:                | 0             | MCFPD: | 0 | BWPD: | 5  |
| FORMATION:     | MULKY                         | BOPD:                | 0             | MCFPD: | 0 | BWPD: | 5  |
| FORMATION:     | SUMMITT                       | BOPD:                | 0             | MCFPD: | 0 | BWPD: | 5  |
| FORMATION:     | CATTLEMAN                     | BOPD:                | 1.5           | MCFPD: | 0 | BWPD: | 5  |
| FORMATION:     | BARTLESVILLE                  | BOPD:                | 1.5           | MCFPD: | 0 | BWPD: | 20 |
| FORMATION:     |                               | BOPD:                |               | MCFPD: |   | BWPD: |    |
| FORMATION:     |                               | BOPD:                |               | MCFPD: |   | BWPD: |    |
| FORMATION:     | •                             | BOPD:                |               | MCFPD: |   | BWPD: |    |
| FORMATION:     |                               | BOPD:                |               | MCFPD: |   | BWPD: |    |
| FORMATION:     |                               | BOPD:                |               | MCFPD: |   | BWPD: |    |
| FORMATION:     |                               | BOPD:                |               | MCFPD: |   | BWPD: |    |
| FORMATION:     |                               | BOPD:                |               | MCFPD: |   | BWPD: |    |
|                |                               | <del>-</del>         |               |        |   |       |    |

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#### 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.

Fletchall

Subscribed and sworn to before me this

**21st day of June, 2012** 

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

Notary Public Sedgwick County, Kansas

Printer's Fee: \$134.80

## LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGEE

JUNE 11, 2012 (3191647)

BEFORE THE STATE CORPORATION

COMMISSION OF THE STATE OF KANNAS

NOTICE OF PILING APPLICATION

RE In the Maller of Postruck Midcontinent

Production, LLC Application for

Commission of Production in the

Beaching Of Production in the

Beaching Bros 1, 31, 39-1, located in

Laberte County Kannas

TO, Alfolk Gas Producers, Unlessed Migeral

Inferest Owners, Landowners, and Jall

Persons whomever concerned.

You, and each of voluers in the beaching of the postruction of the later of the postruction of the postruction of the later of the postruction of the later of the publication. These protests shall be fide pursuant to commission of the State of Kansas within fifteen (15) days from the date of the publication of the later 
Gos Commission.

Upon the "receipt of any protest in Commission, will convene a hearing and profestants will be expected to enter an appearance letther. Through proper legal counsel of as Individuals, appearing on their own behalf.

Course! or/as Individuals, appearing on own behalf.
Postrock Mid-continent Production, L.L.C. 210 Park Avenue, Sulfe 2759
Distance City, Oklahoma 73102
(a05) 660-7704

| Affidavit of Notice Served  |   |
|---|---|
| Re: Application for: APPLICATION FOR COMMINGLING                                    | OF PRODUCTION OR FLUIDS - ACO-4                                 |
| Well Name: BEACHNER BROS 1-31-19-1  | Legal Location: NENENW S1-T31S-R19E                             |
| The undersigned hereby certificates that he / she is a duly authorized agent for    |   |
| 2012 , a true and correct copy of the application referenced ab                     |   |
| , a not and contest copy of the application feleration as                           | ove was universe of mailed to the following parties.            |
| Note: A copy of this affidavil must be served as a part of the application.         |   |
| Name  | Address (Atlach additional sheets if necessary)                 |
| MARJORIE TROY TRUST AGREEMENT & JOHN J TROY TRUST AGREEMENT                         | 117 COUNTRY CLUB LN, PARSON, KS 67354                           |
| LARRY MYERS   | 1477 27000 RD, PARSONS, KS 67357                                |
| BEACHNER BROS INC   | PO BOX 128, ST PAUL, KS 66771                                   |
|   | •   |
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| n   | ADDONO OLIV   |
| I further attest that notice of the filing of this application was published in the | ARSUNS SUN , the official county publication                    |
| of LABETTE a  | ounty. A copy of the affidavit of this publication is attached. |
| Signed this 2942 day of JUNE , 201  | 12  |
|   | Dinifu Bd Beal  |
| •   |   |
| Subscribed and sworn to bel   | fore me this 29th day of JUNE                                   |
| OFFICIAL DENISE V. VENNEMAN   | Leuse 7/ leneman  |
| SEAL MY COMMISSION EXPIRES  July 1, 2012  | lary Public '   |
| My  | Commission Expires:   |
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| et Operators, Unleased Mineral Owners and Landowners acreage ich additional sheets if necessary) |  |
|--|--|
| Name:  ARJORIE TROY TRUST AGREEMENT, JOHN J TROY &   | Legal Description of Leasehold:<br>SE/4 TRACT S1-T31S-R19E |
| RRY MYERS  | TRACT IN NE/4 S1-T31S-R19E                                 |
| ACHNER BROS INC  | S2 S2 S36-T30S-R19E  |
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| by certify thet the statements made herein are true and correct to the best of m                 | y knowledge and belief.                                    |
|  | Auntu B Beal   |
| Applicant  | t or/July Authorized Agent                                 |
|  | 0 m M = 11 M = 0040  |
| Subscribed and sworn before n  | me this 29# day of JUNE .2012                              |
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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/

Sam Brownback, Governor

Mark Sievers, Chairman Thomas E. Wright, Commissioner

July 16, 2012

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

RE:

Approved Commingling CO071224

Beachner Brothers 1-31-19-1, Sec.1-T31S-R19E, Labette County

API No. 15-099-24241-00-00

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 CO071224 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