

#### 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 Nor	rth / South Line of Section		
City:	State: Zip:+		Feet from Eas	st / West Line of Section		
Contact	Person:	County:				
Phone:	()	Lease Name:	Well	#:		
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	each interval:				
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
<ul><li>□ 3.</li><li>□ 4.</li></ul>	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 affidation	of the lessee of record or opera	ator.	es 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				
<u> </u>	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 commi	ingled.			
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 comis true and proper and I have no information or knowledge, which istent with the information supplied in this application.	Sul	omitted Electroni	ically		
l —	C Office Use Only			in the application. Protests must be filed wihin 15 days of publication of		

Date: \_

Approved By:

15-Day Periods Ends: \_

## **POSTROCK**



# **Current Completion**

**WELL** : Stich, William A 13-2

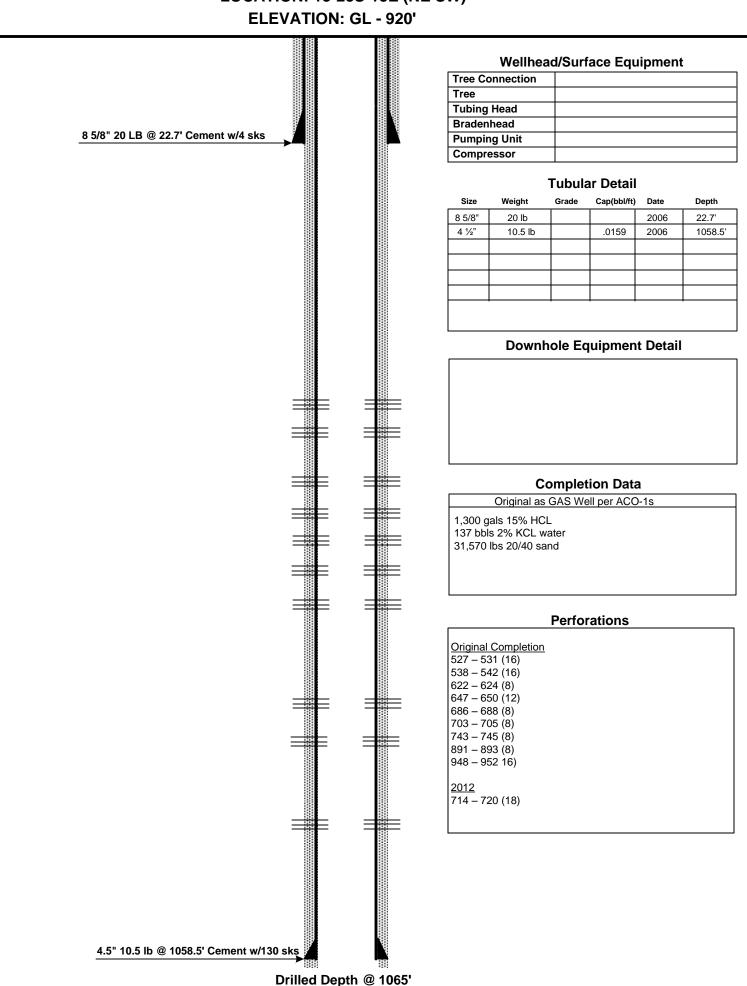
**FIELD** : Cherokee Basin

**STATE** : Kansas **COUNTY** : Neoso

**SPUD DATE: 2/13/2006** COMP. Date: 2/22/2006

API: 15-133-26387

**LOCATION: 13-28S-18E (NE SW)** 



PREPARED BY: POSTROCK

APPROVED BY: \_

**DATE:** June, 2012

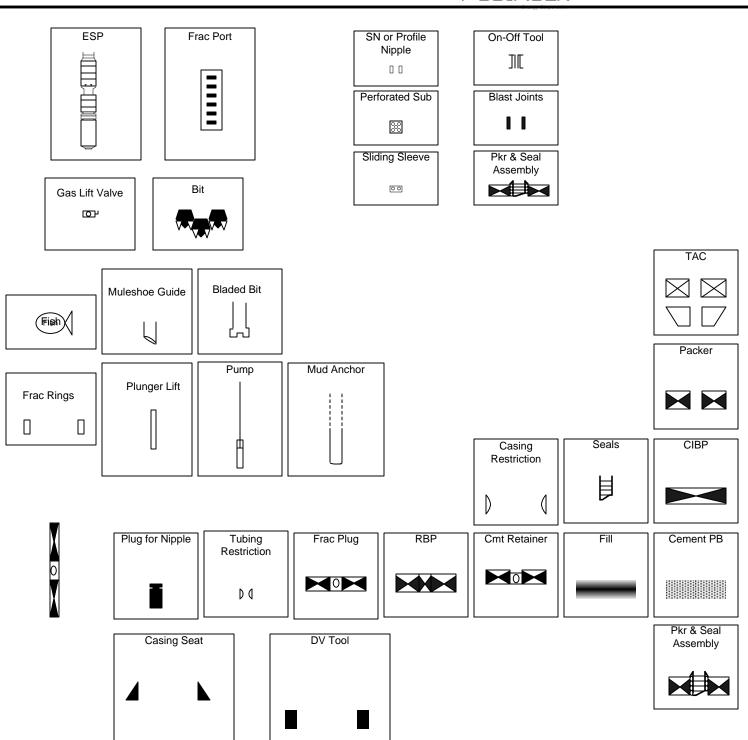
DATE:

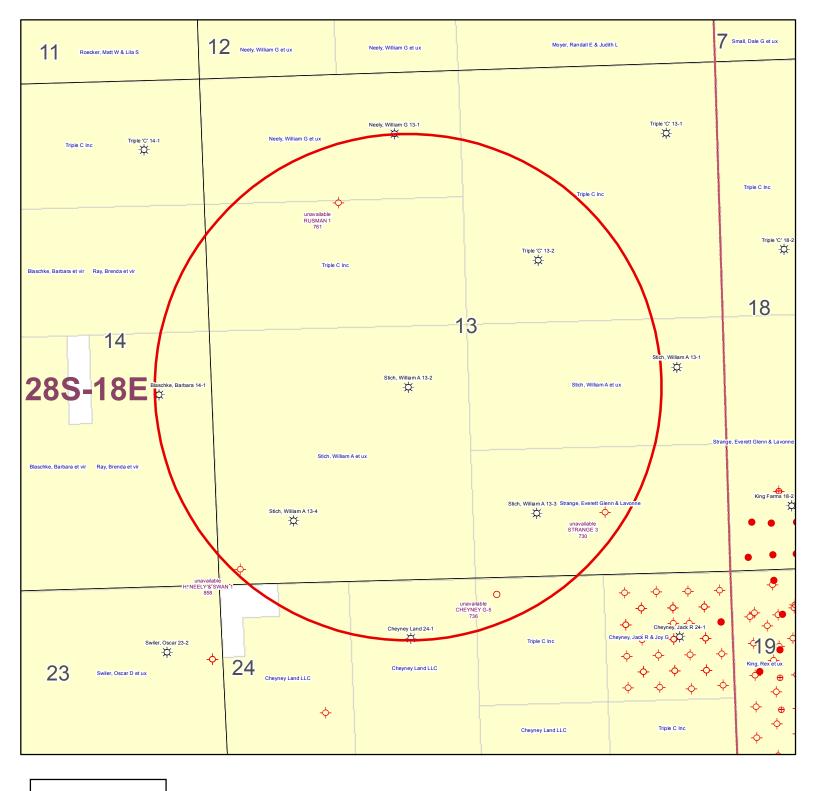
# **POSTROCK**



#### **LEGEND**

## PostRock<sup>®</sup>





## **KGS STATUS**

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

Stich, William A 13-2 13-28S-18E 1" = 1,000'

# KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

# ORIGIN Aco-1 September 1999 Must Be Typed

### **WELL COMPLETION FORM**

#### **WELL HISTORY - DESCRIPTION OF WELL & LEASE**

Operator: License # 33344	API No. 15 - 133-26387-100-100
Name: Quest Cherokee, LLC	County: Neosho
Address: 211 W. 14th Street	
City/State/Zip: Chanute, KS 66720	1980 feet from S/ N (circle one) Line of Section
Purchaser: Bluestem 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: Blue Ribbon Drilling, LLC	Lease Name: Stich, William A. Well #: 13-2
License: 33081	Field Name: Cherokee Basin CBM
Wellsite Geologist: Julie Shaffer	Producing Formation: Multiple
Designate Type of Completion:	Elevation: Ground: 920 Kelly Bushing: n/a
New Well Re-Entry Workover	Total Depth: 1065 Plug Back Total Depth: 1058.55
Oil SWD SIOWTemp. Abd.	Amount of Surface Pipe Set and Cemented at 22' 7" Feet
Gas ENHR SIGW	Multiple Stage Cementing Collar Used?
Dry Other (Core, WSW, Expl., Cathodic, etc)	If yes, show depth setFeet
If Workover/Re-entry: Old Well Info as follows:	If Alternate II completion, cement circulated from 1058.55
Operator:	feet depth to surface w/ 130 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 BackPlug Back Total Depth	Dewatering method used
Commingled Docket No.	
Dual Completion Docket No	Location of fluid disposal if hauled offsite:
Other (SWD or Enhr.?) Docket No	Operator Name:
2/13/06 2/14/06 2/22/06	Lease Name: License No.:
Spud Date or Date Reached TD Completion Date or	Quarter Sec TwpS. R East West
Recompletion Date Recompletion Date	County: Docket No.:
INSTRUCTIONS: An original and two copies of this form shall be filed with 1 Kansas 67202, within 120 days of the spud date, recompletion, workover Information of side two of this form will be held confidential for a period of 12 107 for confidentiality in excess of 12 months). One copy of all wireline logs a TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells.	or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. It months if requested in writing and submitted with the form (see rule 82-3-11) and geologist well report shall be attached with this form. ALL CEMENTING Submit CP-111 form with all temporarily abandoned wells.
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: Dunnily R. Ammonn	KCC Office Use ONLY
New Well Development Coordinator 6/12/06	Modella. Co.
Thie. Date:	Letter of Confidentiality Received  If Denied, Yes Date: RECEIVED COMMISSION  Wireline Log Received  Geologist Report Received  UIC Distribution  WIC Distribution
Subscribed and sworn to before me this 12 day of ULL	If Denied, Yes Date:
20.06.	wireline Log Received
Notary Public: Dely U. Venneman	THE Distribution
Date Commission Expires: 7-1-08 A DENISE V. VENNI	Wireline Log Received  Wireline Log Received  US Geologist Report Received  UIC Distribution  CONSERVATION DATE:  CONSERVATION
Date Commission Expires: 7-7-0 NOTARY PUBL STATE OF KANS	
MY APPT. EXPIRES 7-1-2	SMQI P

Operator Name: Qu	iest Cherokee, LL	<u>.C.</u>		Lea	se Name:	Stich, Williar	n A.	Well #: _13-2	2
Sec. 13 Twp.	28 S. R. 18	✓ Eas	st West	Cou	nty: Neos	ho	· · · · · · · · · · · · · · · · · · ·		
tested, time tool ope temperature, fluid re	Show important tops on and closed, flowing ocovery, and flow rate gs surveyed. Attach	g and shu s if gas to	t-in pressures, surface test, a	whether dong with	shut-in pro	essure reached	l static level, hyd	rostatic pressure	es, bottom hole
Drill Stem Tests Tak			∕es ✓ No		<b>✓</b> L	.og Forma	tion (Top), Depth	and Datum	Sample
Samples Sent to Ge	ological Survey		res ✓ No		Nam See	ne Attached		Тор	Datum
Cores Taken Electric Log Run (Submit Copy)		<u> </u>	∕es ✓ No ∕es ☐ No						
List All E. Logs Run	:								
Dual Induction	y/Neutron Log		OACINO	DECOR					
		Repo	ort all strings set-	RECORI conductor,	-	ew Used ermediate, produ	ction, etc.		
Purpose of String	Size Hole Drilled		ze Casing et (In O.D.)		Veight os. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12-1/4"	8-5/8"		20#		22' 7"	"A"	4	
Production	6-3/4"	4-1/2"		10.5#		1058.55	"A"	130	
			ADDITIONAL	CEMEN	TING / SOI	JEEZE RECOR	D		
Purpose: Perforate Protect Casing Plug Back TD Plug Off Zone	Depth Top Bottom	Тур	e of Cement		cks Used			Percent Additives	
Shots Per Foot			RD - Bridge Plug Each Interval Per		pe		acture, Shot, Ceme Amount and Kind of A		d Depth
4	891-893/948-95	2/622-62	4/647-650/68	36-688/	703-705	400gai 15% HCL w/ 24	bbls 2% kcl water, 354bbls wa	ter w/ 2% KCL, Biocide 7600	# 20/40 sand 891-893/948-95
4	743-745/527-53	1/538-54	12		A	500gal 15% HCL w/ 39 t	obls 2% kcl water, 531bbls water	er w/ 2% KCL, Biocide 12970	
									686-688/703-70
						ADDreit 15% HCL w/64 i	obis 2% kcl water, 458bbis wate	Day of Col. Picaldo 44000	743-745
TUBING RECORD	Size	Set At		Packe	r At	Liner Run	AND ZARO WEED, 400LING WEEL	# W 2% NOL, BIOGGE 11000	# 20/40 sand 527-531/538-54
	3/8"	1015	T	n/a			Yes ✓ N	0	
Date of First, Resumer 4/7/06	rd Production, SWD or E	Enhr.	Producing Met	hod	Flowing	g 📝 Pump	ing Gas L	.ift Othe	r (Explain)
Estimated Production Per 24 Hours	oil n/a	Bbls.	Gas 15mcf	Mcf	Wate 23.81	_	Bbls.	Gas-Oil Ratio	Gravity
Disposition of Gas	METHOD OF 0	COMPLETION	N		L	Production Inte	rval		
Vented ✓ Sold (If vented, St	Used on Lease ubmit ACO-18.)		Open Hole Other (Speci	<b>√</b> Pe	erf. [ C	Dually Comp.	Commingled .		

	Α	В	С	D	Е	F	G	Н	1		K
1	Produced Fluids #	Б	1	2	3	4	5	11	•	<u> </u>	
	Parameters	Units	Input	Input	Input	Input	Input		Click he	re	Click
3	Select the brines	Select fluid		Ī	V		Ī	Mixed brine:	to run SS	-	
4	Sample ID	by checking						Cell H28 is	to ruii oc		Click
5	Date	the box(es),	3/19/2012	3/4/2012	3/14/2012	1/20/2012	1/20/2012	STP calc. pH.	<b>—</b>		
6	Operator	Row 3	PostRock	PostRock	PostRock	PostRock	PostRock	Cells H35-38			Click
7	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
9	Field		CBM	CBM	Bartles	Bartles	Bartles	calculations.			
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)	SI/SR
11	K <sup>+</sup> (if not known =0)	(mg/l)						0.00	Saturation Index	values	(Final-Initial)
	Mg <sup>2+</sup>	(mg/l)	1,096.00	872.00	1,200.00	953.00	858.00	995.91		lcite	
	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>		1,050.00	2,432.00	2,044.00	1720.00	1740.00				0.13
	Ba <sup>2+</sup>	(mg/l)						0.00	Da	rite	
.,		(mg/l)						0.00			
	Fe <sup>2+</sup>	(mg/l)	40.00	21.00	18.00	82.00	90.00	50.21		lite	
	Zn <sup>2+</sup>	(mg/l)						0.00	-1.77	-1.80	-0.03
18	Pb <sup>2+</sup>	(mg/l)						0.00	Gyp	sum	
19	Cl	(mg/l)	36,299.00	48,965.00	47,874.00	45632.00	43147.00	44388.44	-3.19	-3.18	0.00
20	SO <sub>4</sub> <sup>2</sup> ·	(mg/l)	1.00	1.00	8.00	1.00	1.00	2.40	Hemil	ydrate	
	F.	(mg/l)						0.00	-3.96	-3.90	0.06
	Br <sup>-</sup>	(mg/l)						0.00		ydrite	3.00
	SiO2	(mg/l) SiO2						0.00	-3.47	-3.36	0.12
_			100.00	224.00	250.00	200 00	254.00				0.12
	HCO3 Alkalinity**	(mg/l as HCO3)	190.00	234.00	259.00	268.00	254.00	241.03	Cele	estite	
	CO3 Alkalinity	(mg/l as CO3)						_			
	Carboxylic acids**	(mg/l)						0.00		Sulfide	
27	Ammonia	(mg/L) NH3						0.00	-0.16	-0.22	-0.06
28	Borate	(mg/L) H3BO3						0.00	Zinc	Sulfide	
29	TDS (Measured)	(mg/l)						72781			
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			
	H <sub>2</sub> S Gas Analysis***	(%)	0.0289	0.0292	0.0296	0.0306	0.0151	0.0269		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	Inhibitor ne	eded (mg/L)	
	Chassa and antion	0-CO2%+Alk,							Calcite	NTMP	
35	Choose one option to calculate SI?		0	0	0	0					
	Gas/day(thousand cf/day)	(Mcf/D)					U	0	0.00	0.00	
	Oil/Day	(B/D)	0	0	1	1	1	4	Barite	BHPMP	-
	Water/Day	(B/D)	100	100	100	100	100	500	0.00	0.00	
39	For mixed brines, enter val										
-		lues for tempera	tures and pressi	<u>ires in Cells</u> (H	(40-H43)			(Enter H40-H43)	p	Н	
41	Initial T	(F)	66.0	71.0	70.0	41.0	49.0	60.0	5.69	5.60	
	Final T		66.0 66.0	71.0 71.0	70.0 70.0	41.0	49.0	60.0 89.0	5.69 Viscosity (	5.60 CentiPoise)	
		(F)	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	5.69 Viscosity ( 1.196	5.60 CentiPoise) 0.826	
42 43	Final T Initial P Final P	(F) (F) (psia) (psia)	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 ty (cal/ml/ <sup>0</sup> C)	
42 43 44	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/ <sup>0</sup> C) 0.959	
42 43 44 45	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav.	(F) (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/ <sup>0</sup> C) 0.959 eeded (mg/L)	
42 43 44 45 46	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav.	(F) (psia) (psia) 1-Yes;0-No API grav. Sp.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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne	5.60 CentiPoise) 0.826 ty (cal/ml/ <sup>0</sup> C) 0.959 seded (mg/L) HDTMP	
42 43 44 45 46 47	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. McOH/Day	(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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00	
42 43 44 45 46 47 48	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day	(F) (psia) (psia) 1-Yes;0-No API grav. Sp.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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne	5.60 CentiPoise) 0.826 ty (cal/ml/ <sup>0</sup> C) 0.959 seded (mg/L) HDTMP	
42 43 44 45 46 47 48 49	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) †	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D)	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51	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) †	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N)	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51	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	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP:	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53	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	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N)	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55	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 H2Saq (STP) pH Calculated	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/l) (pH)	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56	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 H2Saq (STP) pH Calculated PCO2 Calculated	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) (N) STP: (%) (mgH2S/I) (pH) (%)	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57	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 H2Saq (STP) pH Calculated Alkalinity Caclulated	(F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	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 H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textstyle{\textstyle{\textstyle{2}}}\$	(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)	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59	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 H2Saq (STP) pH Calculated Alkalinity Caclulated	(F) (F) (psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3	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 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	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 H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated Scations= \$\times\$	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/l) as HCO3 (equiv./l) (equiv./l)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0 25.0	49.0 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 ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61	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 H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= ECations= CAlci TDS=	(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) (mg/I)	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 ne Gypsum 0.00 Anhydrite 0.00	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62	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 H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\text{\$\cupe{C}\$}\te	(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	66.0 66.0 25.0 25.0 0 0	71.0 71.0 25.0 25.0	70.0 70.0 25.0 25.0	41.0 25.0 25.0 Unit Converter From Unit	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 ne Gypsum 0.00 Anhydrite 0.00	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62	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 H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time	(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	66.0 66.0 25.0 25.0 0 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 ne Gypsum 0.00 Anhydrite 0.00	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 60 61 62 63	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 H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textit{Z}\text{Calculated}\$ Alkalinity Caclulated \$\text{Lactions}\$ EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer	(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) (equiv./I) Input 120	66.0 66.0 25.0 25.0 0 0	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 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 ne Gypsum 0.00 Anhydrite 0.00	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65	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 H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated 2Cations= \$\times\$ \text{Lanions}\$ Lanions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you?	(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) (equiv./I) (mg/I) Input 120	66.0 66.0 25.0 25.0 0 0 0	# 1 2 3	Inhibitor NTMP BHPMP PAA	41.0 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	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne 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	
42 43 44 45 46 47 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65	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 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:	(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) (equiv./I) (mg/I) Input 120	66.0 66.0 25.0 25.0 0 0 0	71.0 71.0 25.0 25.0 1 1 1 2 3 4	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	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne 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	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 60 61 62 63 64 65 66	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 H2Saq (STP) pH Calculated Alkalinity Caclulated Alkalinity Caclulated Alkalinity Caclulated PCO2 Calculated Alkalinity Caclulated FOCO Calculated FOCO Calculated Alkalinity Caclulated FOCO Calculated Alkalinity Caclulated FOCO Calculated FOCO Cal	(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) (mg/I) Input 120  1 4	0 0 0 Unit min 1-Yes;0-No #	## 1 2 3 4 5 5	Inhibitor NTMP BHPMP PAA DTPMP PPCA	Unit Converter From Unit °C m³ m³ MPa	49.0 25.0 25.0 25.0 (From metric Value 80 100 1,000	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit °F ft³ bbl(42 US gal) psia	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00  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	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67	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 H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated SCations= ZAnions= 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) (mg/I) Input 120  1 4	0 0 0 Unit min 1-Yes;0-No #	## 1 2 3 4 5 6	Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA	Unit Converter From Unit C	49.0 25.0 25.0 25.0 (From metric Value 80 100 1,000 496	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit "F ft <sup>3</sup> bbl(42 US gal) psia	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	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 44 45 46 47 48 49 50 51 52 53 54 55 56 60 61 62 63 64 65 66 67 68 69	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 H2Saq (STP) pH Calculated 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,  1st inhibitor # is: % of 1st inhibitor is:	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/l) as HCO3 (equiv./l) (equiv./l) (mg/l) Input 120  1 4 1 50	0 0 0 0 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 Value 80 100 1,000 496 10,000	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit °F ft³ bbl(42 US gal) psia psia psia	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	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 <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**

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

ORMATION:	CROWEBURG	(PERFS):	647 -	- 650			
ORMATION:	BEVIER	(PERFS):	622 -	624			
ORMATION:	MULKY	(PERFS):	538 -	542			
ORMATION:	SUMMIT	(PERFS):	527 -	- 531			
ORMATION:	CATTLEMAN	(PERFS):	714 -	720			
ORMATION:		(PERFS):	-	-			
ORMATION:		(PERFS):					
ORMATION:		(PERFS):					
ORMATION:		(PERFS):	-	-			
ORMATION:		(PERFS):	-	-			
ORMATION:		(PERFS):					
FORMATION: ESTIMATED AI	MOUNT OF FLUID PRODUCTION	(PERFS):	EACH INT				
ESTIMATED AI FORMATION:	CROWEBURG	N TO BE COMMINGLED FROM BOPD:	0	MCFPD:	4 4	BWPD:	4.44
ESTIMATED AIFORMATION:	CROWEBURG BEVIER	N TO BE COMMINGLED FROM BOPD: BOPD:	0	MCFPD:	4	BWPD:	4.44
ESTIMATED AI FORMATION:	CROWEBURG	N TO BE COMMINGLED FROM BOPD: BOPD: BOPD:	0	MCFPD: MCFPD:	4	BWPD: BWPD:	4.44 4.44
ESTIMATED AIFORMATION: FORMATION: FORMATION:	CROWEBURG BEVIER MULKY	N TO BE COMMINGLED FROM BOPD: BOPD:	0 0 0	MCFPD:	4	BWPD:	4.44
ESTIMATED AIFORMATION: FORMATION: FORMATION: FORMATION:	CROWEBURG BEVIER MULKY SUMMIT	N TO BE COMMINGLED FROM BOPD: BOPD: BOPD: BOPD: BOPD:	0 0 0 0	MCFPD: MCFPD: MCFPD: MCFPD:	4 4	BWPD: BWPD: BWPD:	4.44 4.44 4.44
ESTIMATED AI FORMATION: FORMATION: FORMATION: FORMATION:	CROWEBURG BEVIER MULKY SUMMIT	N TO BE COMMINGLED FROM BOPD: BOPD: BOPD: BOPD: BOPD: BOPD:	0 0 0 0	MCFPD: MCFPD: MCFPD: MCFPD: MCFPD:	4 4	BWPD: BWPD: BWPD:	4.44 4.44 4.44
ESTIMATED AIFORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION:	CROWEBURG BEVIER MULKY SUMMIT	BOPD:	0 0 0 0	MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD:	4 4	BWPD: BWPD: BWPD: BWPD:	4.44 4.44 4.44
ESTIMATED AIFORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION:	CROWEBURG BEVIER MULKY SUMMIT	BOPD:	0 0 0 0	MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD:	4 4	BWPD: BWPD: BWPD: BWPD: BWPD:	4.44 4.44 4.44
ESTIMATED AI FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION:	CROWEBURG BEVIER MULKY SUMMIT	BOPD:	0 0 0 0	MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD:	4 4	BWPD: BWPD: BWPD: BWPD: BWPD: BWPD:	4.44 4.44 4.44
ESTIMATED AI FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION:	CROWEBURG BEVIER MULKY SUMMIT	BOPD:	0 0 0 0	MCFPD:	4 4	BWPD: BWPD: BWPD: BWPD: BWPD: BWPD: BWPD:	4.44 4.44 4.44

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Affidav	rit of Notice Served		
Re:	Application for: APPLICATION FOR COMMINGLING		
	Well Name: STICH, WILLIAM A 13-2	Legal Location: SWNENESW	S13-T28S-R18E
The und	ersigned hereby certificates that he / she is a duly authorized agent fo	or the applicant, and that on the day 29TH	of JUNE ,
2012	, a true and correct copy of the application referenced ab	ove was delivered or mailed to the following par	rties:
Note: A	copy of this affidavit must be served as a part of the application.		
	Name	Address (Attach additional sheets if nece	essary)
CANV	ILLE TWP TRUSTEES, C/O UMBARGER, PHILLIP	3450 150TH RD, CHAN	*
Ora	LLE TWF TROOTLES, OF CHILDRENG TO STATE OF THE STATE OF T	OTOU TOUTITIO, CITE	WIE, INC COLEC
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I further a	attest that notice of the filing of this application was published in the ${ m Cl}$	HANUTE TRIBUNE	, the official county publication
of NE	00110	county. A copy of the affidavit of this publication i	
of	30110	ounty. A copy of the ameavit of this publication is	is attached.
Signed th	is 29TH day of JUNE , 20	12	
		- - > 1 D/	20,
		Angel Agent	Deal_
		oplicant or Duly Authorized Agent	2012
r	Subscribed and sworn to be	efore me this <u>29TH</u> day of <u>JUNE</u>	, 2012
	DENISE V. VENNEMAN	1 Variano 1) Tel.	u n umaz
	OFFICIALS AN COLUMN TO THE PROPERTY OF THE PRO	otary Public	"CICETOI -
L	50 / MIC	Commission Expires:	
***************************************	ANALOS SANCES CONTRACTOR DE CO		

#### BEFORE THE STATE CORPORA-TION COMMISSION OF THE STATE OF KANSAS <u>NOTICE OF FILING</u> <u>APPLICATION</u>

RE: in the Matter of Postrock Midcontinent Production, LLC Application for Commingling of Production in the Stich, William A 13-2 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 Riverton, Rowe/Neutral, Welr, Cattleman, Fleming, Croweburg, Bevier, Mulky and Summit producing formations at the Stich, William A 13-2, located in the NE SW, S13-T28S-R18E, Approximately 2007 FSL & 2048 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 Corporation 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.

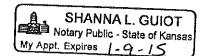
Postrock Midcontinent Production, LLC 210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102 (405) 660-7704

# 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 there published in the regular and entire issue of sa per for <u>l</u> consecutive time, the first thereof being made as aforesaid on the <u>Al</u> 2012, with subsequent publications being made	aid newspa- publication o day of
lowing dates:	e on the for-
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Rhonda Howert	٠
Subscribed and sworn to and before me this	
day of June ,2012	
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	Notary Public
My commission expires: January 9, 2015	
Printer's Fee\$ 63.30	
Affidavit, Notary's Fee\$ 3.00	
Additional Copies\$	
Total Publication Fees\$ 1010.30	



# STICH, WILLIAM A 13-2 - APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS Offset Operators, Unleased Mineral Owners and Landowners acreage (Attach additional sheets if necessary) Legal Description of Leasehold: SEE ATTACHED I hereby certify that the statements made herein are true and correct to the best of my knowledge and belief. Applicant of Duly Authorized Agent 2012 29TH Subscribed and sworn before me this, DENISE V. VENNEMAN ÖFFICIAL MY COMMISSION EXPIRES Notary Public July 1, 2012 My Commission Expires:

#### STICH, WILLIAM 13-2

TRACT IN NW4 NW4

24-28S-18E

CANVILLE TWP TRUSTEES %UMBARGER, PHILLIP 3450 150TH RD CHANUTE, KS 66720

#### **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 1st 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

1st day of June, 2012

PENNY L. CASE E的 Notary Public My Appt. Expires

Notary Public Sedgwick County, Kansas

Printer's Fee: \$132.40

#### LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGLE
JUNE 1, 2012 (3187788)
BEFORE THE STATE CORPORATION
COMMISSION OF THE STATE OF KANSAS
NOTICE OF FILING APPLICATION
RE. In: The Matter of Postrock Midcontinent
Production, LLC Application for Commingling
of Production in the Stich, William A 13-2
located in Neosho County, Kansas.
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Postrock Midcontinent Production, LLC 210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102

Conservation Division Finney State Office Building 130 S. Market, Rm. 2078 Wichita, KS 67202-3802



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

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

July 16, 2012

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

RE: Approved Commingling CO071208

Stich, William A. 13-2, Sec. 13-T28S-R18E, Neosho County

API No. 15-133-26387-00-01

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).

Commingling ID number CO71208 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