

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION 1085798

Form ACO-4 Form must be typed March 2009

APPLICATION FOR COMMINGLING OF Commingling ID # CO071208 PRODUCTION (K.A.R. 82-3-123) OR FLUIDS (K.A.R. 82-3-123a)

OPERATOR: License # 33343	API No. 15 - 15-133-26387-00-01
Name: PostRock Midcontinent Production LLC	Spot Description:
Address 1: Oklahoma Tower	SW NE NE SW Sec. 13 Twp. 28 S. R. 18 East West
Address 2: 210 Park Ave, Ste 2750	
City: OKLAHOMA CITY State: OK Zip: 73102 +	
Contact Person: CLARK EDWARDS	County: Neosho
Phone: (620) 432-4200	Lease Name: STICH WILLIAM A Well #: 13-2
,	
1. Name and upper and lower limit of each production interval to	
Formation: RIVERTON	(Perfs): 948-952
Formation: ROWE/NEUTRAL	(Perfs): 891-893
Formation: WEIR	(Perfs): 743-745
Formation: FLEMING	(Perfs): 703-705
Formation: FLEMING	(Perfs): 686-688
2. Estimated amount of fluid production to be commingled from	Λ
Formation: RIVERTON	WOPPD. A AAA
Formation: ROWE/NEUTRAL	BOPD: $\frac{0}{0}$ MCFPD: $\frac{4}{4}$ BWPD: $\frac{4.44}{4.44}$
Formation: WEIR	BOPD: MCFPD: BWPD: BWPD:
Formation: FLEMING	BOPD: $\frac{0}{2}$ MCFPD: $\frac{4}{4}$ BWPD: $\frac{4.44}{4.44}$
Formation: FLEMING	BOPD: 0 MCFPD: 4.44
 Plat map showing the location of the subject well, all other with the subject well, and for each well the names and addresses Signed certificate showing service of the application and affice 	·
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	ot well.
•	
For Commingling of FLUIDS ONLY, include the following:	
7. Well construction diagram of subject well.	
8. Any available water chemistry data demonstrating the compa	atibility of the fluids to be commingled.
AFFIDAVIT: I am the affiant and hereby certify that to the best of m 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 the notice of application.
15-Day Periods Ends: 7/14/2012	
Approved By: Rick Hestermann Date: 07/16/2012	2

Postrook **Current Completion POSTROCK WELL** : Stich, William A 13-2 SPUD DATE: 2/13/2006 **FIELD** : Cherokee Basin COMP. Date: 2/22/2006 API: 15-133-26387 STATE : Kansas COUNTY : Neoso **LOCATION: 13-28S-18E (NE SW) ELEVATION: GL - 920'** Wellhead/Surface Equipment Tree Connection Tree Tubing Head Bradenhead 8 5/8" 20 LB @ 22.7' Cement w/4 sks Pumping Unit Compressor **Tubular Detail** Weight Depth 8 5/8" 20 lb 2006 22.7 4 % 10.5 lb .0159 2006 1058.5 Downhole Equipment Detail **Completion Data** Original as GAS Well per ACO-1s 1,300 gals 15% HCL 137 bbls 2% KCL water 31,570 lbs 20/40 sand Perforations Original Completion 527 – 531 (16) 538 – 542 (16) 622 – 624 (8) 647 – 650 (12) 686 – 688 (8) 703 – 705 (8) 743 – 745 (8) 891 – 893 (8) 948 – 952 (6) 948 – 952 16) <u>2012</u> 714 – 720 (18) 4.5" 10.5 lb @ 1058.5' Cement w/130 sks

Drilled Depth @ 1065'

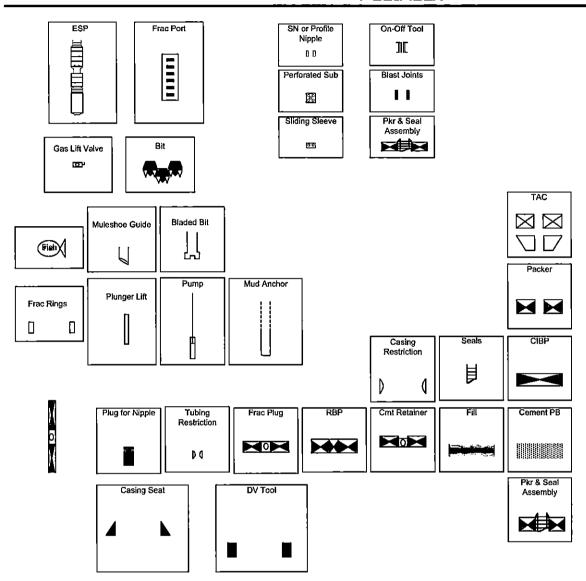
PREPARED BY: POSTROCK
APPROVED BY: ______

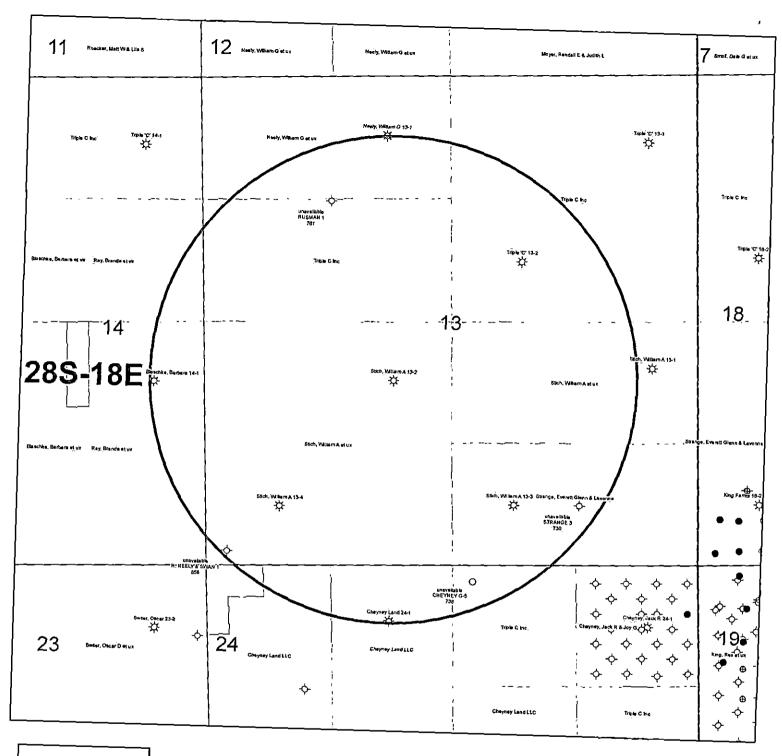
POSTROCK



LEGEND

PostRock





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

ORIGINA Germ Must Be Typed

WELL COMPLETION FORM

WELL HISTORY - DESCRIPTION OF WELL & LEASE

Operator: License # 33344	API No. 15 - 133-26387-00-90
Name: Quest Cherokee, LLC	County: Neosho
Address: 211 W. 14th Street	ne_sw_Sec. 13 Twp. 28 S. R. 18 V East West
City/State/Zip: Chanute, KS 66720	1000
Purchaser; Bluestem Pipeline, LLC	1980 feet from S/N (circle one) Line of Section 1980 feet from E / W (circle one) Line of Section
Operator Contact Person: Jennifer R. Ammann	poet from E 7 (17) (circle one) Line of Section
Phone: (620_) 431-9500	Footages Calculated from Nearest Outside Section Corner:
Contractor: Name: Blue Ribbon Drilling, LLC	(circle one) NE SE NW (SW) Lease Name: Stich, William A. Well #: 13-2
33094	Field Name: Cherokee Basin CBM
Wellsite Geologist: Julic Shaffer	
	Producing Formation: Multiple Elevation: Ground: 920 Kelly Bushing: n/a
Designate Type of Completion:	· · · · · · · · · · · · · · · · · · ·
New Well Re-Entry Workover	Total Depth: 1065 Piug Back Total Depth: 1058.55
Oil SWD Temp. Abd.	Amount of Surface Pipe Set and Cemented at 22' 7" Feet
GasENHRSIGW	Multiple Stage Cementing Collar Used? ☐Yes ☑No
Dry Other (Core, WSW, Expl., Cathodic, etc)	If yes, show depth setFeet
If Workover/Re-entry: Old Well Info as follows:	If Alternate II completion, cement circulated from 1058,55
Operator:	feet depth to surface w/ 130 sx cmt.
Well Name;	Drilling Fluid Management Plan
Original Comp. Date: Original Total Depth:	(Data must be collected from the Reserve Pit)
Deepening Re-perf Conv. to Enhr./SWD	Chloride contentppm Fluid volumebbls
Plug Back Total Depth	Dewatering method used
Commingled Docket No	Location of fluid disposal if hauled offsite:
Dual Completion Docket No	Location of Italia disposal it flatiled 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
Recompletion Date Recompletion Date	County: Docket No.:
Kansas 67202, within 120 days of the spud date, recompletion, worker Information of side two of this form will be held confidential for a period of	th the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, ver or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply, 12 months if requested in writing and submitted with the form (see rule 82-3-13) is and geologist well report shall be attached with this form. ALL CEMENTING is. Submit CP-111 form with all temporarily abandoned wells.
All requirements of the statutes, rules and regulations promulgated to regu herein are complete and correct to the best of my knowledge.	late the oil and gas industry have been fully complied with and the statements
Signature: Aunulu R. Ammann	KCC Office Use ONLY
Now Wall Dayslanmed Coardington 6/43/00	
Title: New Well Development Coordinator Date: 6/12/06	Letter of Confidentiality Received CENTROWN
Subscribed and sworn to before me this 12 day of June	KCC Office Use ONLY Letter of Confidentiality Received RECENTION COMMISSION If Denied, Yes Date: RECENTION COMMISSION Wireline Log Received Wireline Log R
20.06.	Wireline Log Received
(), (), (), ()	Geologist Report Received What Complete
Notary Public: Notary	UIC Distribution WSERMATIA WS
Date Commission Expires: 7-1-08 自 DENISE V. VEN	Wireline Log Received Geologist Report Received WM 13 LOU UIC Distribution CONSERVATION S BLIC
STATE OF VA	
MY APPT. EXPIRES 7-L	2008

Side Two

Operator Name; Que	st Cherokee, 以	.C		Leas	se Name:	Stich, W	illiam <i>F</i>	\	Well #: <u>13-2</u>	<u> </u>	
Sec. 13 Twp. 28			t West	Cour	nty: Neos	ho					
INSTRUCTIONS: Sh tested, time tool open temperature, fluid rec Electric Wireline Logs	and closed, flowin overy, and flow rate	g and shu s if gas to	i-in pressures, s surface test, a	whether long with	shut-in pre	essure rea	ached st	atic level, hyd	irostatic pressure	es, bottom	hole
Drill Stem Tests Taker (Attach Additional S		□Y	′es ✓ No		۷L	og F	ormation	n (Top), Depti	n and Datum	□s	ample
Samples Sent to Geo	logical Survey	<u></u> □ Y	es 🗹 No		Nam See	e Attache	d		Тор	D	atum
Cores Taken		□Y	es 🗸 No		į						
Electric Log Run (Submit Copy)		∠ Y	es No							•	
List All E. Logs Run:											
Comp. Density Dual Induction Gamma Ray N	Log /		CASING	BECOBI	D M						
		Repo	ort all strings set-					n, etc.			
Purpose of String	Size Hole Drilled	Si Se	ze Casing t (in O.D.)		/eight s./Ft.	Setti Dep		Type of Cement	# Sacks Used		nd Percent ditives
Surface	12-1/4"	8-5/8*		20#		22' 7"		*A"	4		
Production	6-3/4"	4-1/2*		10.5#		1058.5	55	"A"	130		
			ADDITIONAL	CEMEN	TING / SQ	JEEZE RE	CORD				
Purpose: Perforate Protect Casing Plug Back TD Plug Off Zone	Depth Top Bottom	Турн	e of Cement	#Sac	ks Used			Type an	d Percent Additives		
Shots Per Foot			RD - Bridge Plug		pe	A			ent Squeeze Recor		
	Specify 891-893/948-95		Each Interval Per		700 705			ount and Kind of		T	Depth
	743-745/527-53			00-000/	103-103				eter w/ 2% KCL, Blooks 7600 dor w/ 2% KCL, Blocks 12970		91-893/948-6 22-824/847-6
-	1401401021-00	17000	···								86-688/703-7
					_						743-745
					-	400gal 15% H	CL w/84 bbts 2	7% kel water, 4585445 w	zier w/ 2% 1901., Blockie 11000	+	27-631/538-5
TUBING RECORD	Size	Set Al		Packe	r At	Liner Ru					
2-3	· · · · · · · · · · · · · · · · · · ·	1015	<u> </u>	n/a			<u>_</u> _	Yes 🔽	No		
Date of First, Resumend 4/7/06	Floanchion, SyvD Of t	34H,	Producing Meti	iiVU	Flowing		Pumping	☐ Gas	Lift Dihe	н (Explain)	
Estimated Production Per 24 Hours	oii n/a	Bbis.	Gas 15mcf	Mcf	Wate 23.81		Bbs	S.	Gas-Oil Ratio		Gravity
Disposition of Gas	METHOD OF	COMPLETIO	!- 		L		on Interve	al .	<u> </u>		· · -
☐ Vented ☑ Sold (If vented, Sub	Used on Lease		Open Hole	√ Pe	erf. 🔲 C	oually Com	р. [Commingled			

	Ä	В	С	D	E	Ë	G	H T		J	К
1	Produced Fluids #		1	2	3	4	5			, ,	i K
	Parameters	Units	Input	Input	Input	Input	Input		Click he	re	Click
3	Select the brines	Select fluid	[]	<u> </u>	<u> </u>	Ĺ.	Ö.	Mixed brine:	to run SS		1
4	Sample ID	by checking						Cell H28 is		-	Cilck
5	Date	the box(es),	3/19/2012	3/4/2012	3/14/2012	1/20/2012	1/20/2012	STP calc. pH.			l
		Row 3	PostRock	PostRock	PostRock	PostRock	PostRock	Cells H35-38			Click
Ī	Well Name		Ward Feed	Ward Feed	Clinesmith	Clinesmith	Clinesmith	are used in	Goal Seek	SSP	I
	Location		#34-1 CBM	#4-1 CBM	#5-4 Bartles	#1 Bartles	#2 Bartles	mixed brines			Click
$\overline{}$	Field Na ⁺							calculations.	7 ' 1/D4E	E: 1/11/27)	
		(mg/l)*	19,433,00	27,381.00	26,534.00	25689.00	24220,00	24654.20	Initial(BH)	Final(WH)	SL/SR
	K* (if not known =0)	(mg/l)]		0.00	Saturation Index	values	(Final-Initial)
	Mg ²⁺	(mg/l)	1,096.00	872.00	1,200.00	953.00	858.00	995.91	Ca	cite	
	Ca ²	(mg/l)	1,836.00	2,452.00	2,044.00	1920.00	1948.00	2040.23	-0.73	-0.60	0.13
	Sr ²⁺	(mg/l)						0.00	Ba	rite	
15	Ba ²⁺	(mg/l)						0.00			
	Fe ²⁺	(mg/l)	40.00	21.00	18.00	82.00	90.00	50.21	Ha	lite	_
17	Zn ²⁺	(mg/l)						0.00	-1.77	-1.80	+0.03
18	Pb ²⁺	(mg/l)				·		0.00	Gvi	sum	
	C1 [*]	(mg/l)	36,299.00	48,965.00	47,874.00	45632.00	43147.00	44388,44	-3.19	-3.18	0,00
	SO ₄ ²	(mg/l)	1,00	1.00	8.00	1,00	1.00	2,40		ydrate	
21	F	(mg/l)						0.00	-3,96	-3.90	0.06
-	Br*	(mg/l)				<u> </u>		0.00		vdrite	5,50
772	SIO2	(mg/l) SiO2				<u> </u>		0.00	-3,47	-3.36	0.12
	HCO3 Alkalinity**	(mg/l as HCO3)	190.00	234.00	259.00	268.00	254.00	241.03		estite	0,12
_	CO3 Alkalinity	(mg/l as CO3)	190.00	±34.00	437.00	400.00	434.00	241.03	Cer		
	Carboxylic acids**	(mg/l)	-			·	-	0.00	Tean !	Sulfide	
	Ammonia	(mg/L) NH3						0.00	-0.16	-0.22	-0.06
-	Borate	(mg/L) H3BO3						0.00		Sulfide	-0.00
-	TDS (Measured)	(mg/L) H3BO3					-	72781	Zine;	Sumae	1
_		_	1 030	1001	1.050	1.040	1.045		G-1-I	6	
	Calc. Density (STP) CO ₂ Gas Analysis	(g/ml) (%)	1.038 19.97	1,051 18,76	1.050 22.41	1.048 35.53	1,045 33,79	1.047 26.16	Calciun	fluoride	-
	H ₂ S Gas Analysis***	(%)	0.0289	0.0292	0.0296	0.0306	0.0151	0.0269	Iron Ca	rbonate	†
_	Total H2Saq	(mgH2S/l)	1.00	1,00	1.00	1.00	0.50	0.90	-0.74	-0.51	0.23
-	pH, measured (STP)	pH	5.67	5.76	5.72	5.54	5.55	5.63		eded (mg/L)	1
		U-COZ%+Alk,							Calcite	NTMP	1
	Choose one option		_			_	_				1
35	to calculate SI?	•	0	0	0	0	0				- [
_	Gas/day(thousand cf/day) Oil/Day	(Mcf/D) (B/D)	0					0	0.00 Barite	0.00 BHPMP	-1
_	Water/Day	(B/D)	100		100	100	100	500	0.00	0.00	-1
	For mixed brines, enter val							(Enter H40-H43)		Н	1 1
	Initial T	(F)	66.0		70.0	41.0	49.0	60.0	5.69	5.60	1
_	Final T	(F)	66.0	71.0	70.0	41.0	49.0	89.0		CentiPoise)	
42	Initial P	(psia)	25.0	25.0	25.0	25.0	25.0	25.0	1.196	0.826	4
43	Final P	(psia)	25,0	25.0	25.0	25.0	250				
44 45	Use TP on Calcite sheet? API Oil Grav.	1-Yes;0-No					25.0	120.0		ty (cal/ml/°C)	_ i
	Art on Grav.	ADI orana					25.0		0.955	0.959	1
	Gas Sn. Grav.	API grav.			<u> </u>		25.0	30.00	0.955 Inhibitor n	0.959 eded (mg/L)	
47	Gas Sp.Grav. MeOH/Day	API grav. Sp.Grav. (B/D)	0		- <u>-</u>		25.0		0.955 Inhibitor ne Gypsum	0.959	
48	MeOH/Day MEG/Day	Sp.Grav.	0				23.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49	MeOH/Day MEG/Day Conc. Multiplier	Sp.Grav. (B/D)					۵.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00	0.959 eded (mg/L) HDTMP 0.00	
48 49 50	MeOH/Day MEG/Day Conc. Multiplier H* (Strong scid) †	Sp.Grav. (B/D) (B/D)					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51	MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH' (Strong base) †	Sp.Grav. (B/D) (B/D) (N)					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52	MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) ' OH' (Strong base) ' Quality Control Checks at	Sp.Grav. (B/D) (B/D) (N) (N) STP:					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52 53	MeOli/Day MEG/Day Conc. Multiplier H* (Strong scid) ' OH' (Strong base) ' Quality Control Checks at H,S Gas	Sp.Grav. (B/D) (B/D) (N) (N) (N) STP:					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52 53 54	MeOli/Day MEG/Day Conc. Multiplier H* (Strong scid) ' OH' (Strong base) ' Quality Control Checks at H,S Gas Total H2Saq (STP)	Sp.Grav. (B/D) (B/D) (N) (N) (N) STP: (%) (mgH2S/I)					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52 53 54 55 56	MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated	Sp.Grav. (B/D) (B/D) (N) (N) (N) STP: (%) (mgH2S/I) (pH) (%)					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52 53 54 55 56 57	MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † Out (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated	Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/d) (pH) (%) (mg/J) as HCO3					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52 53 54 55 56 57 58	MeOli/Day MEG/Day Conc. Multiplier H* (Strong scid) ' OH' (Strong base) ' Quality Control Checks at H,S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated PCO2 Calculated ZCations=	\$p.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I)					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52 53 54 55 56 57 58 59	MeOli/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH' (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Cactulated ECations= EAnions=	\$p.Grav. (B/D) (B/D) (N) (N) (N) (STP: (%) (mgH2S/I) (pH) (%) (mg/J) as HCO3 (equiv/J) (equiv/J)					25.0	30.00 0.60	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52 53 54 55 56 57 58 59 60	MeOli/Day MEG/Day Conc. Multiplier H* (Strong scid) ' OH' (Strong base) ' Quality Control Checks at H,S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated PCO2 Calculated ZCations=	\$p.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I)		#	Inhibitor	Unit Converte	25.U	30,00 0,60 0	0.955 Inhibitor no Gypsum 0.00 Anhydrite	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 52 53 54 55 56 57 58 59 61	MeOli/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS=	\$p.Grav. (B/D) (B/D) (N) (N) (N) (STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv.I) (equiv.I) (mg/I)	0		NTMP	From Unit		30,00 0.60 0 0 to English)	0.955 Inhibitor m Gypsum 0.00 Anhydrite 0.00	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 53 54 55 56 57 58 59 61 62	MeOli/Day MEG/Day Conc. Multiplier H* (Strong scid) * Out (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Cactulated ECations= EAnions= Calc TDS= Inhibitor Selection	\$p.Grav. (B/D) (B/D) (N) (N) (N) STP: (%) (mgH2SA) (pH) (%) (mgA) as HCO3 (equiv.I) (equiv.I) (mgA) Input	Unit	#		From Unit °C	- (From metric	30,00 0.60 0 0 to English) To Unit	0.955 Inhibitor n Gypsum 0.00 Anhydrite 0.00	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 53 54 55 56 57 58 59 61 62	MeOli/Day MEG/Day Conc. Multiplier H* (Strong acid) † Opt' (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Cactulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time	Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (PH) (%) (equiv./I) (equiv./I) (mg/I) Input 120	Unit	# 1	NTMP	From Unit °C m³	r (From metric Value	30,00 0.60 0 0 to English)	0.955 Inhibitor m Gypsum 0.00 Anhydrite 0.00	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
48 49 50 51 53 54 55 56 57 58 59 66 66 65	MeOli/Day MEG/Day Conc. Multiplier H* (Strong scid) ' OH' (Strong scid) ' OH' (Strong base) ' Quality Control Checks at H,S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Cactulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is:	Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (PH) (%) (equiv./I) (equiv./I) (mg/I) Input 120	Unit	# 1 2 3 4	NTMP BHPMP PAA DTPMP	From Unit °C m³ m³	- (From metric Value 80 100	to English) To Unit F ft ³ bbl(42 US gal)	0.955 Inhibitor m Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
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48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 66 66 67	MeOli/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH* (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated PCO2 Calculated EXations= Exanions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick Inhibitor for you? If No, Inhibitor # is: If you select Mixed, 1st inhibitor # is:	\$p.Grav. (B/D) (B/D) (N) (N) (N) (STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv.I) (equiv.I) (equiv.I) 110 14	Unit min	# 1 2 3 4 5 5 6	NTMP BHPMP PAA DTPMP PPCA SPA	From Unit °C m³ m³	F (From metric Value 80 100 100 1,000 496	to English) To Unit F ft ³ bbl(42 US gal)	0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	
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48 49 50 51 51 51 51 51 51 51 51 51 51	MeOli/Day MEG/Day Conc. Multiplier H* (Strong acid) † Oh' (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Cactulated 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: Thinhibitor # is: Display act. coefs?	Sp.Grav. (B/D) (B/D) (N) (N) (N) (STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv.I) (equiv.I) (equiv.I) 110 1 4	Unit min 1-Yes;0-No # #	# 1 2 3 4 5 6 7	NTMP BHPMP PAA DTPMP PPCA SPA HEDP	From Unit °C m³ m³ MPa Bar Torr	F (From metric Value 80 100 1,000 496 10,000	30.00 0.60 0 0 0 0 To Unit °F ft³ bbl(42 US gal) psia psia psia	0.955 Inhibitor no Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194 193	0.959 edrd (mg/L) HDTMP 0.00 HDTMP	

Saturation Index Calculations

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

Brine 1: Ward Feed Yard 34-1

Brine 2: Ward Feed Yard 4-1

Brine 3: Clinesmith 5-4

Brine 4: Clinesmith 1

Brine 5: Clinesmith 2

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

Saturation Index

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

PTB

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

FORMATION:	CROWEBURG	(PERFS):	647 -	650			
FORMATION:	BEVIER	(PERFS):	622 -				
FORMATION:	MULKY	(PERFS):	538 -				
FORMATION:	SUMMIT	(PERFS):	527 -	531			
FORMATION:	CATTLEMAN	(PERFS):	714 -	720			
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Affidav	it of Notice Served	·	
Re:	Application for: APPLICATION FOR COMMING	LING OF PRODUCTION OR FLUIDS - ACO-4	_
	Well Name: STICH, WILLIAM A 13-2	Legal Location: SWNENESW S13-T28S-R18E	
The unde	ersigned hereby certificates that he / she is a duly authorized ag	gent for the applicant, and that on the day 29TH of JUNE	
2012		ced above was delivered or malled to the following parties:	
Note: A d	copy of this affidavit must be served as a part of the application		
	Name	Address (Attach additional sheets if necessary)	
CANVI	LLE TWP TRUSTEES, C/O UMBARGER, PHILLIF	3450 150TH RD, CHANUTE, KS 66720	
		•	
	•		
I further at	test that notice of the filing of this application was published in	the CHANUTE TRIBUNE , the official county publication	n
of NEC	•	county. A copy of the affidavit of this publication is attached.	
		· · · · · ·	
Signed this	s 29TH day of JUNE	2012	
		Junger Kd Beal	
		Applicant of Duly Authorized Agent	
	AND THE PROPERTY OF THE PARTY O	to before me this 29TH day of JUNE , 2012	-
	DENISE V. VENNEMAN SEAL MY COMMISSION EXPIRES	Heure V Clennemas	_
	July 1, 2012	Notery Fublic	
		My Commission Expires:	-

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BEFORE THE STATE CORPORA-TION 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 Stitch, William A 13-2 located in Neosho County, Kanaas.

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, Welt, 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 or Kensas within filteen (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 Kensas.

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) 560-7704

№ 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 thereof and was published in the regular and entire issue of said newspaper for
lowing dates:
, 2012, 2012
, 2012, 2012
Phonda Howerter
Subscribed and sworn to and before me this
Notary Public
My commission expires: January 9, 2015
Printer's Fee
Affidavit, Notary's Fee \$ 3.00
Additional Copies\$
Total Publication Fees\$ 1010.30

A SHANNA L. GUIOT

Notary Public - Stale of Kansas

My Appt. Expires 1-9-15

STICH, WILLIAM A 13-2 - APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS

et Operators, Unleased Mineral Owners and Landown	ners acreage
ach additional sheets if necessary)	*
Name:	Legal Description of Leasehold:
E ATTACHED	
	<u> </u>
<u> </u>	
<u> </u>	
by certify that the statements made herein are true end corre	
	_ Berner & Beal
	Applicant of Duly Authorized Agent
	and sworn before me this 29TH day of JUNE ,2012
Subscribed	and sworn before me this 29TH day of JUNE ,2012
DENISE V. VENNEMAN	Leus Villageman
SEAL MY COMMISSION EXPIRES	Notary Public
July 1, 2012	7-1-12
,	My Commission Expires:
	•
•	
,	

STICH, WILLIAM 13-2

TRACT IN NW4 NW4
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.

Mark Fletchall

Subscribed and sworn to before me this

1st day of June, 2012

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

Notary Public Sedgwick County, Kansas

Printer's Fee: \$132.40

LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGLE

JUNE 1; 7012 (1187788).

BEFORE THE STATE CORPORATION.

COMMISSION OF THE STATE CORPORATION.

COMMISSION OF THE STATE CORPORATION.

REI.m. the Malter of Postrock Mideornitient Production, LLC Application for Commission, of Production in the Silety William A. 13-2 located in Nearth Columy, Kansas.

TO AIJ Oil & Gas Producers, Unleased Mineral Interest Owners; Londowners, and 81 persons withorneyic concerned.

You, and each, of you, are hereby notified that Postrack Mideoralment Production; LLC has filed an application to commingle, the Riverton, Rowel, Neutral, Weller, Cestiman, Flending, Crowburg, Bevier, Mulky and Stimmil producing formations at the Sitch, William A. 13-2, located in the NE SW, 513-7285-R18E, Approximately 2007 FSL & 2046 FM/L Neostra County, Kansas.

Any persons who object to or profess has application shell be required to file their objections are profess with the Conservation Division of the State Corporation Commission of the State of Kansas within afficen (15) days from the addition that the professis shall be filed bursuant to Commission reputations and must sale specific reasons why granting the application may cause waste, violate on the State of Kansas within afficen (15) days from the addition of the State of Kansas within afficen (15) days from the date of the Interpolation may cause waste, violate on the Joreologia, and must sale specific reasons why granting the application may cause waste, violate on the Interpolation of the State of Kansas.

All persons interested or concerned shall take notice of the Interpolation for the State of Kansas Changes and must sale specific reasons and are resources to the State of Kansas Changes and Experience of the State of Kansas Changes and Ex

Conservation: Division of the Kanaas or among as Commission.

Dison the receipt of any profest, the Commission will convene a hearing and professants will be exceeded to enter an appearance of their through proper less accomiss or as individuals, appearing on their own behalf.

Postrock Melcontinent Production, LLC 110 Park Avenue, Suite 1750.

Oklabioms City, Oklabioms 73102.

(405) 660-704

Conservation Division Finney State Office Building 130 S. Market, Rm. 2078 Wichitä, 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 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