

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

Form ACO-4 Form must be typed March 2009

Commingling ID # CO061211 APPLICATION FOR COMMINGLING OF PRODUCTION (K.A.R. 82-3-123) OR FLUIDS (K.A.R. 82-3-123a)

OPERATOR: License #_33343	API No. 15 - 15-	-133-27082-00-01	
Name: PostRock Midcontinent Production LLC	Spot Description: _		
Address 1; Oklahoma Tower	NE SW SW NE	Sec. 1 Twp. 30 S.	R. 18 East West
Address 2: 210 Park Ave, Ste 2750	2309	·	/ South Line of Section
City: OKLAHOMA CITY State: OK Zip: 73102 +	2306	•	/ West Line of Section
Contact Person: CLARK EDWARDS	County: Neosh		
Phone: (620) 4324200	•	AMER, LOIS Well #:	1-3
,			
1. Name and upper and lower limit of each production interval to	be commingled:		
Formation: RIVERTON	(Perfs):	951-954	
Formation: NEUTRAL	(Perfs):	896-898	
Formation: ROWE	(Perfs):	890-892	
Formation: FLEMING	(Perfs):	670-672	
Formation: CROWEBURG	(Perfs):	633-636	
2. Estimated amount of fluid production to be commingled from e	ach interval:	0	_{видр.} 5
Formation: RIVERTON	BOPD: 3	MCFPD: 0	BWPD: 5
Formation: NEUTRAL	BOPD: 3	MCFPD: 0	BWPD: 5
Formation: ROWE	ворр: <u>3</u>	MCFPD: U	BWPD: 5
Formation: FLEMING	ворр: <u>3</u>	MCFPD: 0	_{BWPD:} <u>5</u>
Formation: CROWEBURG	BOPD: 3	MCFPD: <u>U</u>	_{BWPD:} <u>5</u>
 3. Plat map showing the location of the subject well, all other well the subject well, and for each well the names and addresses of 4. Signed certificate showing service of the application and affida 	f the lessee of record or ope	erator.	within a 1/2 mile radius of
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	_		
For Commingling of FLUIDS ONLY, include the following:			
7. Well construction diagram of subject well.			
8. Any available water chemistry data demonstrating the compati	bility of the fluids to be com	mingled.	
AFFIDAVIT: I 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.	Su	ubmitted Electronica	ally
KCC Office Use Only	in writing and comply with K	y party having a valid interest in tl (.A.R. 82-3-135b and must be file	
Denied Approved	the notice of application.		
15-Day Periods Ends: 7/10/2012			
Approved By: Rick Hestermann Date: 07/10/2012			

Rice

_	A	В	C	D	Ē	F	G	н	11	J	<u> </u>
ᆜ	Produced Fluids #	** **	1	2	3	4	5				Click
⊢	Parameters	Units	Input	Input	Input	Input	Input		Click he		O.I.CK
ı.	Select the brines	Select Ruid	!]					Mixed brine:	to run SS	SP	Click
4	Sample 1D	by checking the bax(es),	3/19/2012	3/4/2012	3/14/2012	1/20/2012	1/20/2012	Cell H28 is STP calc. pH.			J.I.O.N
5 6	Date Operator	Row 3	PostRock	PostRock	PostRock	PostRock	PostRock	Cells H35-38			Click
_	Well Name	1011 5	Ward Feed	Ward Feed	Clinesmith	Clinesmith	Clinesmith	are used in	Cont Cook	een	Click
8	Location		#34-1	#4-1	#5-4	#1	#2	mixed brines	Goal Seek	33F	1
_	Fleid		CBM	CBM	Bartles	Bartles	Bartles	calculations.			Click
10	Na*	(mg/l)*	19,433,00	27,381.00	26,534.00	25689,00	24220.00	24654.20	Initial(BH)	Final(WH)	1 1
11	K* (if not known =0)	(mg/l)							Saturation Index		SI/SR (Final-Initial)
	Mg ²⁺		1 004 00	872.00	1,200.00	053.00	858,00	995.91		lcite	1,2
<u> </u>	Ca ²⁺	(mg/l)	1,096.00			953.00				· -	1 049
13	Sr ²⁺	(mg/l)	1,836.00	2,452.00	2,044.00	1920.00	1948.00	2040,23	-0.73	-0.60	0,13
_	Ba ²⁺	(mg/l)						0.00	Ва	rite 	-fi
<u>ٿ</u>		(mg/l)						0.00			↓
16	Fe ²⁺	(mg/l)	40.00	21.00	18.00	82.00	90.00	50.21	Hs	lite	<u>. </u>
<u> </u>	Zn ²⁺	(mg/l)				_		0.00	-1.77	-1.80	-0.03
18	Pb ²⁺	(mg/l)				_		0.00	Gyı	psum	
19	CI"	(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 ₄ ²	(mg/l)	1.00	1.00	8.00	1.00	1.00	2.40	Hemil	hydrate	
21	F	(mg/l)			=			0.00	-3.96	-3.90	0.06
-	Br*	(mg/l)					· · · · · · · · · · · · · · · · · · ·	0.00		ydrite	
23	SIO2	(mg/l) SiO2						0.00	-3.47	-3.36	0.12
24	HCO3 Alkalinity**	(mg/l as HCO3)	190.00	234.00	259.00	268.00	254.00	241.03		estite	 • • • • • • • • • • • • • • • • • • •
25	CO3 Alkalinity	(mg/) as CO3)	_150.00	234.00	237,00	208.00	234.00	241.03	Cer	estite	1
26	Carboxylic acids**								3	Le.a.	+
27	Ammonia	(mg/l)						0.00		Sulfide -0.22	-0.06
		(mg/L) NH3						<u> </u>	-0.16		-0.00
	Borate	(mg/L) H3BO3						0.00	Zinc	Sulfide I	-{ [
	TDS (Measured)	(mg/l)		-				72781		<u>' </u>	
30 31	Calc. Density (STP) CO ₂ Gas Analysis	(g/ml)	1.038	1.051	1,050 22,41	1.048	1.045 33.79	1.047	Calcium	n Nuoride	-
_	H ₂ S Gas Analysis***	(%)	19.97	18.76 0.0292	0.0296	35.53 0.0306	0.0151	26.16 0,0269	Januar Co		+
_	Total H2Saq	(mgH2S/I)	0.0289	1.00	1.00	1.00	0.50	0.0269	-0.74	-0.51	0.23
lacksquare	pH, measured (STP)	pH	5.67	5,76	5.72	5.54	5.55	5.63		eeded (mg/L)	0.23
۳	pis, measured (311)	0-C02%+Alk,	5.07	3,70	3.12	5.54	3.33	3.03	Calcite	NTMP	- 1
,	Choose one option							!	- Callin		}]
35	to calculate S1?	-	0	0	0	0	0				_1 1
_	Gas/day(thousand cf/day)	(Mcf/D)						0		0.00]
_	Oil/Day	(B/D)	0	0	1	1	1	4	Barite	ВНРМР	-l l
38	Water/Day	(B/D)	100	100	100	100	100	500	0.00	0.00	-l l
	For mixed brines, enter val Initial T	(F)	66.0	71.0	40-H43) 70.0	41.0	49.0	(Enter H40-H43) 60.0	5.69	5.60	-
	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	1
43	Final P	(psia)	25,0	25.0	25.0	25.0	25.0	120.0	Heat Capaci	ity (cal/ml/°C)	7 I
44	Use TP on Calcite sheet?	1-Yes;0-No		_			-		0.955	0.959	<u>-</u>]
	API Oil Grav.	API grav.						30.00		eeded (mg/L)]
	Gas Sp.Grav.	Sp.Grav.						0.60	-77]
	McOH/Day MEG/Day	(B/D) (B/D)	0							0.00 HDTMP	-(i
	Conc. Multiplier	(8/0)	——— <u>"</u>				_	 -	Anhydrite 0,00	0.00	-{
	H* (Strong acid)	(N)			- -	_		l 	9,00	1 0.00	- I
	OH (Strong base)	(N)									
	Quality Control Checks at						L				
	H ₂ S Gas	(%)									
	Total H2Saq (STP)	(mgH2S/l)									1
55	pH Calculated	(pH)									J
	PCO2 Calculated	(%)									į
	Alkalinity Caclulated ECations=	(mg/l) as HCO3									Ţ
	LCauons= ΣAnions=	(equiv./l) (equiv./l)				,					İ
	Cale TDS=	(equiv <i>11)</i> (mg/l)				İ			1		ł
	Inhibitor Selection	Input	Unit	#	Inhibitor	Unit Converter	(From metric	to English)			
62	Protection Time	120	min	1	NTMP	From Unit	Value	To Unit	Value		I
63	Have ScaleSoftPitzer			2	ВНРМР	°C	80	°F	176		
64	pick inhibitor for you?	1	1-Yes;0-No	3	PAA	m ³	100	ſt³	3,531		I
65	If No, inhibitor # is:	4	#	4	DTPMP	m³	100	bbl(42 US gal)	629		
	If you select Mixed,			5	PPCA	MPa	1,000	psia	145,074		
67	1 ^{tt} inhibitor # ls:	1	#	6	SPA	Bar	496	psia	7,194		ļ
68	% of 1 st inhibitor is:	50	%	7	HEDP	Тогт	10,000	psia	193		1
69	2 nd inhibitor # fs:	2	Ħ	8	HDTMP	Gal	10,000	bbl(42 US gal)	238		
70	Display act. coefs?	0	I-Yes;0-No	9	Average	Liters	10,000	bbl(42 US gal)	63		ļ
71				10	Mixed	1					

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	Ō
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/Ā	N/A	N/A	N/A	Ñ/Ä

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 Kramer, Lois 1-3 located in Neosho County, Kansas.

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

You, and each of you, are hereby notified that Postrock Midcontinent Production, LLC has fied an application to commingie the Riverton, Neutral, Rowe, Cattleman, Fleming, Croweburg, Bovler, Multy and Summit producing formations at the Kramer, Lole 1-3, located in the NE SW BW NE, S1-T305-R18E, Approximately 2309 FNI & 2305 FEL, Necsho County, Kanses.

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 Knass within lifteen (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 title 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 counset or as individuals, appearing on their own behalf.

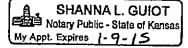
Postrock Midcontinent Production, LLC 210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102 (405) 860-7704

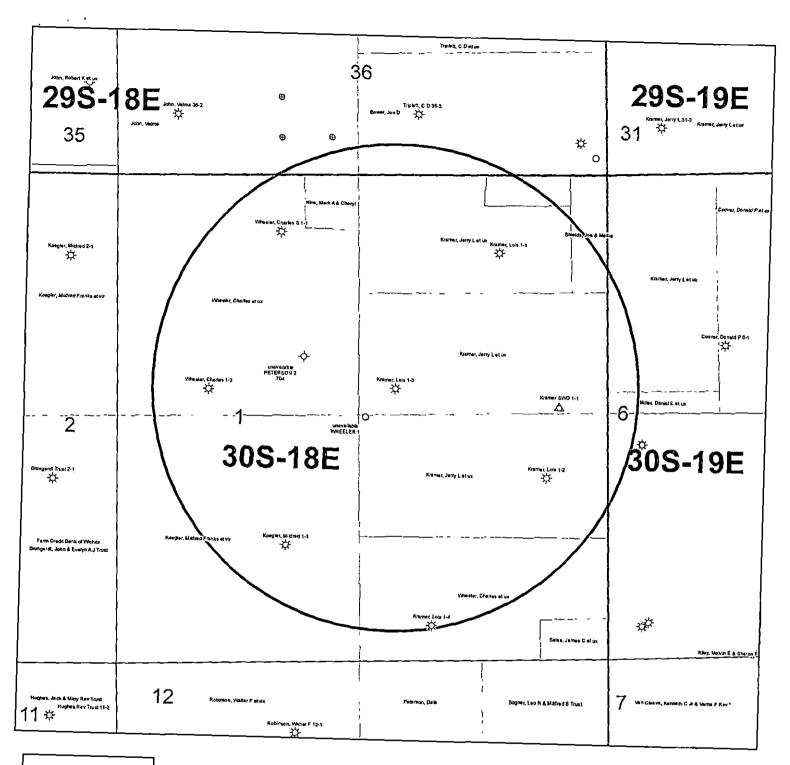
Affidavit of Publication 🖘

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, the first publication thereof being made as aforesaid on the day of 2012, with subsequent publications being made on the following dates:
, 2012, 2012
, 2012, 2012
Rhonda Howetter
Subscribed and sworn to and before me this
My commission expires: January 9, 2015
Printer's Fee
Affidavit, Notary's Fee\$ 3.00
Additional Copies\$
Total Publication Fees\$67.18





KGS STATUS

- ♦ DA/PA
- ⊕ EOR
- ☆ GAS
- △ INJ/SWD
- OIL
- **☀** OIL/GAS
- OTHER

Kramer, Lois 1-3 1-30S-18E 1" = 1,000'

KRAMER, LOIS 1-3 - APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS

47=	I and Beautiful att annihiti	
Name: YAN W & DEBRA J COOVER	Legal Description of Leasehold: Tract in SW/4 of 6-30S-19E	
TAN W & DEBRAS COOVER	11ac(iii 399/4 01 0-303-19E	
		_
	·	
		_
	 -	
		•
by certify that the statements made herein are true and correct to the	he best of my knowledge and helief.	
	Quity BD Beal	
	Applicant br Duty Anthorized Agent	
Subcaribat and su	vorn before me this 15TH day of JUNE ,201	2
DENISE V. VENNEMAN Subscribed and sw FFECIAL MY COMMISSION EXPIRES		
SEAL 3 MIT COMMISSION EXTINGS	My Commission Expires: 7-1-12	
Mile Maria	Notary Public	
	My Commission Expires:	
· · · · · · · · · · · · · · · · · · ·		
	•	

POSTROCK



Current Completion

SPUD DATE: 8/7/2007

COMP. Date: 8/15/2007 API: 15-133-27082-00-00

WELL

: Kramer, Lois 1-3

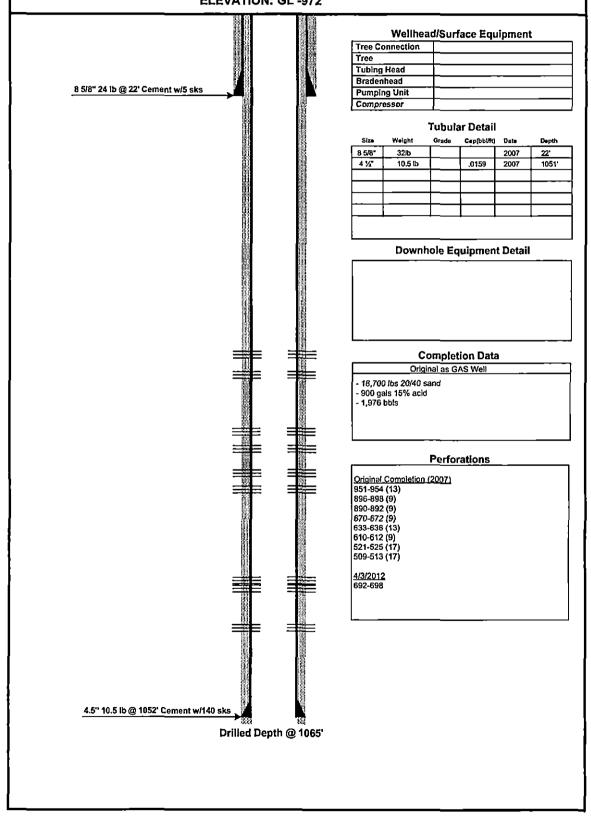
FIELD STATE : Cherokee Basin

COUNTY

: Kansas : Neosho

LOCATION: 1-30S-18E (SW, NE)

ELEVATION: GL-972'



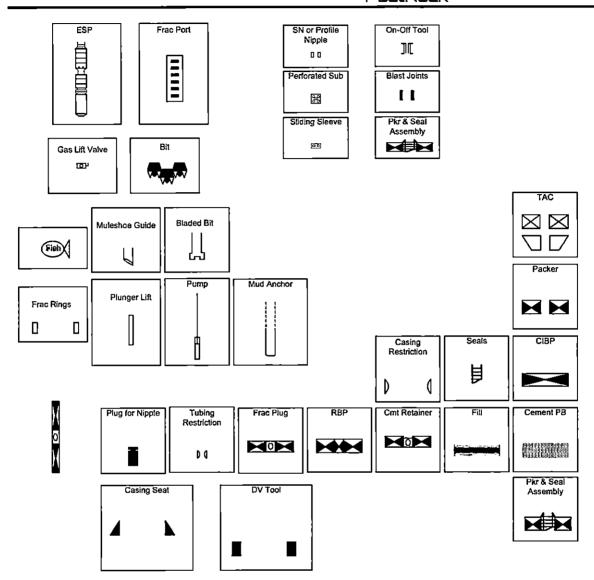
PREPARED	BY:	POSTROCK	_	

APPROVED BY: _

POSTROCK



LEGEND



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 国国 Notary Public - State of Kans My Appt. Expires

Notary Public Sedgwick County, Kansas

Printer's Fee : \$132.40

LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EABLE
JUNE 1, 2012 (198778).
BEFORE THE STATE CORPORATION:
COMMISSION OF THE STATE OF PORATION:
COMMISSION OF THE STATE OF KANSAS.
NOTICE OF FILLING APPLICATION
RE In. The Malter of Postrock in Midcentham
Production, LLC Application for Commingling
of Production in the Kramer, Lob 1-3 located
in Neono County, Kansas.
TO: All Oil: 8 Gait Producers; Unleased Mineral
interest Cowners, Landowiners; and all persons;
whomever concerned.
You, and each of you are hereby notified
that Postrock Midcontinent Production, LLC
has: filled an application to commingle the
Riverton, Berley, Widcontinent Production, LLC
has: filled an application to commingle the
Riverton, Neutral, Rowe, Catilemaa, Flemton,
Croweburn, Berley, Widcontinent, Lofs 1-4,
located in the NE SW SW NE; St. TaoS.RIEE,
Approximately 200 F.RL & 2005 FEL, Nechbo
County, Kansas.
Any, persons who object 1o or protest
this noblication shall be required to the the

County, Kanses.

Any persons who object to at profess
this application shall be required to file their
objections or; profest with the Conservation
Division of the State Corporation Commission objections or, profest, with the Conservation Division of the State Corporation Commission (i) the State of Kansas within, filtern (15) days from the date of this publication, these profests shall be filled pursuant to Commission regulations and must state specific reasons why granting the application may cause wasterviolate correlative from so pollute the natural resources of the State of Kantasas.

All persons interested or concerned shall take natice of the tregates and shall govern themselves accordingly. All person and/or companies wishing to profest this application are required to file a written profest with the Conservation Division of the Kansas Ol; and Gas Commission. All convene a hearths and professions with the conservation of the receipt of any profess, the Commission will be expected to enter an appearance, either, through property legal counsel or as individuals, appearing on her low the ball.

Postreck Midentitient Production, LLC.

own behalt.
Postrock Middontinent Production, LLC
210 Park Avenue, Suite 2750
Oklahoma City, Oklahoma 73102

(405) 660-7704

FORMATION: BEVIER (PERFS): 610 - 612	
FORMATION, MILITAL (DEDCC). FOR FOR	
FORMATION: <u>MULKY</u> (PERFS): <u>521</u> - <u>525</u>	
FORMATION: SUMMITT (PERFS): 509 - 513	
FORMATION: CATTLEMAN (PERFS): 692 - 698	
FORMATION: (PERFS):	
FORMATION: (PERFS):	
FORMATION: (PERFS):	
FORMATION: (PERFS): -	
FORMATION: (PERFS):	
FORMATION: (PERFS): -	
FORMATION: (PERFS): -	
FORMATION: (PERFS):	
2 ESTIMATED AMOUNT OF FLUID PRODUCTION TO BE COMMINGLED FROM EACH INTERVAL	
FORMATION: BEVIER BOPD: 0 MCFPD: 3 BWPD:	5
FORMATION: MULKY BOPD: 0 MCFPD: 3 BWPD:	5
FORMATION: SUMMITT BOPD: 0 MCFPD: 3 BWPD:	5
FORMATION: CATTLEMAN BOPD: 3 MCFPD: 0 BWPD:	20
FORMATION: BOPD: MCFPD: BWPD:	<u> </u>
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FORMATION: BOPD: MCFPD: BWPD:	
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Affidavit of Notice Served	<u> </u>
Re: Application for: APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS - ACO-4	
Well Name: KRAMER, LOIS 1-3 Legal Location: NESWSWNE S1-T	30S-R18E
The undersigned hereby certificates that he / she is a duly authorized agent for the applicant, and that on the day 25TH of JUI	NE
2012 , a true and correct copy of the application referenced above was delivered or mailed to the following parties:	
Note: A copy of this affidavit must be served as a part of the application.	
Name Address (Attach additional sheets if necessary)	
POSTROCK MIDCONTINENT PRODUCTION, LLC 210 PARK AVENUE, SUITE 2750, OKLAHO	OMA CITY, OK 73102-5641
BRYAN W COOVER DEBRA J COOVER 6165 JACKSON RD, GALES	BURG, KS 66740
	•
CHANLITE TOIDLINE	
1 further altest that notice of the filing of this application was published in the CHANUTE TRIBUNE of NEOSHO county. A copy of the affidavit of this publication is attach-	, the official county publication
	e a.
Signed this 25TH day of JUNE , 2012	
Applicant or Duly Authorized Agent	
Subscribed and sworn to before me this 25TH day of JUNE	, 2012
11 244. F. ANY DEIAIDE A' AEIMAEMAN II	
SEAL MY COMMISSION EXPIRES July 1, 2012 My Commission Expires: 7-1-12	
	Í

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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 10, 2012

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

RE:

Approved Commingling CO061211

Kramer, Lois 1-3, Sec.1-T30S-R18E, Neosho County

API No. 15-133-27082-00-01

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well 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. This application, which was received by the KCC on June 25, 2012, concerns approval to simultaneously produce from the following sources of supply through the same tubing string in the same wellbore:

		Estimated	<u> </u>	
		Current		
		Production_		
Course of Cupply				Perf
Source of Supply	BOPD	MCFPD	BWPD	Depth
Riverton	0.00	3.00	5.00	951-954
Neutral	0.00	3.00	5.00	896-898
Rowe	0.00	3.00	5.00	890-892
Fleming	0.00	3.00	5.00	670-672
Croweburg	0.00	3.00	5.00	<u>63</u> 3-636
Bevier	0.00	3.00	5.00	610-612
Mulky	0.00	3.00	5.00	521-525
Summitt	0.00	3.00	5.00	509-513
Cattleman	3.00	0.00	20.00	692-698
Total Estimated Current Production	3.00	24.00	60.00	

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 CO061211 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