

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)

OPERA	TOR: License #	API No. 15								
Name:_		Spot Description: _								
Address	31:		_ Sec Twp	_S. R East West						
Address	3 2:		Feet from No	orth / South Line of Section						
City:	State: Zip:+		ast / West Line of Section							
Contact	Person:	County:								
Phone:	()_	Lease Name:	Wel	II #:						
1.	Name and upper and lower limit of each production interval to	be commingled:								
	Formation:	(Perfs):								
	Formation:	(Perfs):								
	Formation:	(Perfs):								
	Formation:	(Perfs):								
	Formation:	(Perfs):								
2.	Estimated amount of fluid production to be commingled from e									
	Formation:			BWPD:						
	Formation:	BOPD:	MCFPD:	BWPD:						
	Formation:			BWPD:						
	Formation:	BOPD:	MCFPD:	BWPD:						
	Formation:	BOPD:	MCFPD:	BWPD:						
□ 3.□ 4.	Plat map showing the location of the subject well, all other well the subject well, and for each well the names and addresses of Signed certificate showing service of the application and affide	of the lessee of record or ope	erator.	ses within a 1/2 mile radius of						
For Cor	mmingling 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	_								
0.	Complete Form 7000 F (World Completion Tollin) for the Subject	won.								
For Con	mmingling of FLUIDS ONLY, include the following:									
7.	Well construction diagram of subject well.									
8.	Any available water chemistry data demonstrating the compat	ibility of the fluids to be com-	mingled.							
current in mingling	VIT: I am the affiant and hereby certify that to the best of my nformation, knowledge and personal belief, this request for compistrue and proper and I have no information or knowledge, which sistent with the information supplied in this application.	Sı	ubmitted Electron	nically						
KCC	C Office Use Only			it in the application. Protests must be te filed wihin 15 days of publication of						
∐ De	enied Approved	the notice of application.								

Mail with all required attachments and files to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Date: _

Denied Approved 15-Day Periods Ends: _

Approved By:

-	Α	В	С	D	Е	F	G	Н	1		K
1	Produced Fluids #	В	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.	————		
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	0.00		Click
9	Field		CBM	CBM	Bartles	Bartles	Bartles	calculations.			
10	Na ⁺	(mg/l)*	19,433.00	27,381.00	26,534.00	25689.00	24220.00	24654.20	Initial(BH)	Final(WH)	SI/SR
11	K ⁺ (if not known =0)	(mg/l)						0.00	Saturation Index	values	(Final-Initial)
	Mg ²⁺	(mg/l)	1,096.00	872.00	1,200.00	953.00	858.00	995.91		lcite	
	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⁺		1,050.00	2,432.00	2,044.00	1720.00	1740.00				0.13
	Ba ²⁺	(mg/l)						0.00	Da	rite	
.,		(mg/l)						0.00			
	Fe ²⁺	(mg/l)	40.00	21.00	18.00	82.00	90.00	50.21		lite	
	Zn ²⁺	(mg/l)						0.00	-1.77	-1.80	-0.03
18	Pb ²⁺	(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 ₄ ²⁻	(mg/l)	1.00	1.00	8.00	1.00	1.00	2.40	Hemil	ıydrate	
21	F.	(mg/l)						0.00	-3.96	-3.90	0.06
	Br'	(mg/l)						0.00		ydrite	
	SiO2	(mg/l) SiO2						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)	170.00	434.00	237,00	200.00	234.00	241.03	Cen		
_	Carboxylic acids**	(mg/l)						0.00	Inor 6	Sulfide	
27	Ammonia	(mg/L) NH3						0.00	-0.16	-0.22	-0.06
											-0.00
	Borate	(mg/L) H3BO3						0.00	Zinc	Sulfide	
	TDS (Measured)	(mg/l)	4.040	4.0=4				72781	~		
	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	1.047	Calcium	fluoride	
	- ,	(%)		0.0292			33.79	26.16	I C.	-l	
	H ₂ S Gas Analysis*** Total H2Saq	(%)	0.0289	1.00	0.0296	0.0306	0.0151 0.50	0.0269	-0.74	rbonate -0.51	0.23
_	_	(mgH2S/l)	1.00 5.67	5.76	1.00 5.72	1.00 5.54	5.55	5.63		eeded (mg/L)	0.23
34	pH, measured (STP)	pH 0-CO2%+Alk,	5.07	5./0	5.72	5.54	5.55	5.03	Calcite	NTMP	
	Choose one option								Calcite	NIMI	
35	to calculate SI?	2-CO2%+pH	0	0	0	0	0				
36	Gas/day(thousand cf/day)	(Mcf/D)						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	
	For mixed brines, enter val			mag in Calle (H	(40 H42)						
-	Initial T			`		44.0	40.0	(Enter H40-H43)		Н	
		(F)	66.0	71.0	70.0	41.0	49.0	60.0	5.69	5.60	1
	Final T	(F) (F)	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)	
42	Final T Initial P	(F) (F) (psia)	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/ ⁰ C)	
42 43 44	Final T Initial P Final P Use TP on Calcite sheet?	(F) (F) (psia) (psia) I-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/ ⁰ C) 0.959	
42 43 44 45	Final T Initial P Final P	(F) (F) (psia) (psia)	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 Heat Capaci 0.955	5.60 CentiPoise) 0.826 ty (cal/ml/ ⁰ C)	
42 43 44 45 46	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav.	(F) (F) (psia) (psia) I-Yes;0-No API grav.	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no	5.60 CentiPoise) 0.826 ty (cal/ml/ ⁰ C) 0.959 eeded (mg/L)	
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) (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 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	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)	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 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)	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) (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 ₂ S Gas	(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 54	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP)	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/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	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH' (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated	(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. API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP)	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/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	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations=	(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 (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 ₂ S Gas Total H ₂ Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated SCations= EAnions=	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/l) as HCO3 (equiv./I) (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 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 ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= ECations= Calc TDS=	(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 (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	41.0 25.0 25.0	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	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 ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textit{\Sigma}\$ (STP) Exhions= \$\textit{\Sigma}\$ (STD)= Inhibitor Selection	(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 (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	49.0 25.0 25.0	60.0 89.0 25.0 120.0 30.00 0 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 ₂ 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) (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	41.0 25.0 25.0 Unit Converter	49.0 25.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60 0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor 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 60 61 62 63	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textstyle \text{Calcite}\$ acid \$\text{Lacite}\$ acid \$\text	(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 (equiv./I) (equiv./I) (mg/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 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 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated 2Cations= £Anions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you?	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120	66.0 66.0 25.0 25.0 0 0 0	# 1 2 3	Inhibitor NTMP BHPMP PAA	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 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. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textstyle \text{Calcite}\$ acid \$\text{Lacite}\$ acid \$\text	(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 (equiv./I) (equiv./I) (mg/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 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 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 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 ₂ S Gas Total H ₂ Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\mathbb{\textit{Z}}\text{Aligner}\text{Limits} = \mathbb{\text{Limits}} = \mathbb{L}\text{Inions} = \mathbb{L}\text{Limits} = \mathbb{L}\text{Inions} = \mathbb{L}\text{Inions} = \mathbb{L}\text{Limits} = \mathbb{L}\text{Inions}	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120	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 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 ₂ S Gas Total H2Saq (STP) pH Calculated Alkalinity Caclulated Alkalinity Caclulated ECations= 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) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120 1 4	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 m MPa Bar	49.0 25.0 25.0 25.0 	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit "F ft ³ 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	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H ₂ Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed,	(F) (F) (Psia) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/l) as HCO3 (equiv./I) (equiv./I) (mg/l) Input 120 1 4 1 50	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	
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) * OH* (Strong base) * Ouality Control Checks at H ₂ 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) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120 1 4	0 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 m MPa Bar	49.0 25.0 25.0 25.0 	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit "F ft ³ 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	

Saturation Index Calculations

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

Brine 1: Ward Feed Yard 34-1
Brine 2: Ward Feed Yard 4-1
Brine 3: Clinesmith 5-4
Brine 4: Clinesmith 1
Brine 5: Clinesmith 2

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

Saturation Index

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

PTB

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

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

ORIGINAL Form ACO-1
September 1999
Form Must Be Typed

WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

Operator: License #_33344	API No. 15 - 133-26584-00-00
Name: Quest Cherokee, LLC	County: Neosho
Address: 211 W. 14th Street	
City/State/Zip: Chanute, KS 66720	1980 feet from (\$\infty\) / N (circle one) Line of Section
Purchaser: Bluestem Pipeline, LLC	1980 feet from E / (W) circle one) Line of Section
Operator Contact Person: Gary Laswell	Footages Calculated from Nearest Outside Section Corner:
HECEIVED	•
Contractor: Name: MOKAT Drilling	MMISSION (Since Strip) The Lease Name: Brungardt Rev. Trust Well #: 27-1
License: 5831	Field Name: Cherokee Basin CBM
	ONProducing Formation: Multiple
Designate Type of Completion: WICHITA, KS	Elevation: Ground: 960 Kelly Bushing: n/a
New Well Re-Entry Workover	Total Depth: 988 Plug Back Total Depth: 981.04
Oil SWD SIOW Temp. Abd.	Amount of Surface Pipe Set and Cemented at 21' 5" Feet
Gas ENHR SIGW	Multiple Stage Cementing Collar Used? ☐ Yes ✓ No
Dry Other (Core, WSW, Expl., Cathodic, etc)	If yes, show depth setFeet
If Workover/Re-entry: Old Well Info as follows:	If Alternate II completion, cement circulated from 981.04
Operator:	feet depth to surface w/ 126 sx,cmt.
Well Name:	A1+2-D10_1117
Original Comp. Date: Original Total Depth:	Drilling Fluid Management Plan
Deepening Re-perf Conv. to Enhr./SWD	(Data must be collected from the Reserve Pit)
Plug Back Plug Back Depth	Chloride contentppm Fluid volumebbls
	Dewatering method used
Commingled Docket No.	Location of fluid disposal if hauled offsite:
Dual Completion Docket No	Operator Name:
Other (SWD or Enhr.?) Docket No	Lease Name: License No.:
3/21/06 3/28/06 3/28/06	Quarter Sec Twp S. R
Spud Date or Date Reached TD Completion Date or Recompletion Date	County: Docket No.:
INSTRUCTIONS: An original and two copies of this form shall be filed with Kansas 67202, within 120 days of the spud date, recompletion, workove Information of side two of this form will be held confidential for a period of 12 107 for confidentiality in excess of 12 months). One copy of all wireline logs a TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. All requirements of the statutes, rules and regulations promulgated to regulate.	r or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. 2 months if requested in writing and submitted with the form (see rule 82-3-and geologist well report shall be attached with this form. ALL CEMENTING Submit CP-111 form with all temporarily abandoned wells.
herein are complete and correct to the best of my knowledge.	
Signature: / / access	KCC Office Use ONLY
Title: Head of Operations Date: 7/18/06	Letter of Confidentiality Received
Subscribed and sworn to before me this 18th day of Quely	If Denied, Yes Date:
	, Wireline Log Received
20_00	Geologist Report Received
Notary Public: Usunyu K. Almmann	UIC Distribution
Date Commission Expires: Ouly 30, 2008	JENNIFER R. AMMANN
	Iotary Public - State of Kansas L. Expires 7-30-09

Operator Name: Qu	est Cherokee, LL	.C				Brungardt R	ev. Trust	Well #: <u>27-</u> 1	<u>'</u>	•
Sec Twp	²⁹ S. R. 19	. ✓ East	West	Coun	ity: Neos	ho				
INSTRUCTIONS: Stested, time tool operature, fluid re Electric Wireline Log	n and closed, flowin covery, and flow rate	g and shut s if gas to	-in pressures, surface test, a	whether a	shut-in pre	essure reached	static level, hydi	rostatic pressure	es, bottom hole	
Drill Stem Tests Take			es √ No		√ L		tion (Top), Depth		Sample	
Samples Sent to Ge	ological Survey		es 🗹 No		Nam See	e attached		Тор	Datum	
Cores Taken		Ye	es 🔽 No							
Electric Log Run (Submit Copy)		 ✓ Ye	es 🗌 No							
List All E. Logs Run:	:									
Dual Induction Comp. Density	_									
		Repo		RECORD conductor,	_	w Used ermediate, produ	ction, etc.			
Purpose of String	Size Hole Drilled		e Casing (In O.D.)		eight s. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Perc Additives	
Şurface	12-1/4"	8-5/8"	. (0.0.)	20#		21' 3"	"A"	4	radiivos	
Production	6-3/4"	4-1/2		10.5#		981.04	"A"	126		
			ADDITIONAL	CEMENT	TING / SOI	JEEZE RECOR	<u></u>			
Purpose: —— Perforate —— Protect Casing —— Plug Back TD —— Plug Off Zone	Depth Top Bottom	Туре	of Cement	1	ks Used	JEEZE NEGON		Percent Additives		
Shots Per Foot	PERFORAT Specify	ON RECOR	D - Bridge Plug Each Interval Per	gs Set/Typ	e		acture, Shot, Cemer		d Dep	
4	884-887/826-82					300gal 15%HCLw/ 28 b	obis 2%kci water, 431bbis wate	r w/ 2% KCL, Biocide, 7500		
4	608-610/578-58	1/554-55	6			300gal 15%HCLw/ 33 b	ibis 2%kci water, 495bbis wate	or w/ 2% KCL, Blockde, 9000	# 30/50 sand 608-610/5	
4	464-468/453-45	6				300gal 15%HCLw/ 32 b	bts 2%kcl water, 532bbts water	w/ 2% KCL, Blocide, 11000		
TUBING RECORD 2-	Size 3/8"	Set At 902.75		Packer n/a	At	Liner Run	Yes V	0		
	rd Production, SWD or I	7	Producing Met	hod	Flowing	g 📝 Pump	oing Gas L	ift Othe	or (Explain)	
Estimated Production Per 24 Hours	Oil n/a	Bbis.	Gas 9.2mcf	Mcf	Wate		Bbls.	Gas-Oil Ratio	Gravi	ity
Disposition of Gas	METHOD OF	COMPLETIC				Production Inte	erval			
Vented ✓ Sold (If vented, S	Used on Lease		Open Hole Other (Speci	✓ Pe	orf C	Dually Comp.	Commingled .			



211 W. 14TH STREET, CHANUTE, KS 66720 620-431-9500

FIELD TICKET REF # ______

FOREMAN ______ / Craig

TREATMENT REPORT & FIELD TICKET CEMENT

DATE	<u> </u>		WEL	L NAME & NUMB	BER		SECTION	TOWNSHIP	RANG	E COUNTY
3. 28.00	Br	OHO	acdt	Pev.	TRUST 2	7-1	27	29	19	NO
FOREMAN / OPERATOR	TIM	E	TIME	LESS LUNCH	TRUCK #		TRAILER #	TRU0 HOU	RS	EMPLOYEE SIGNATURE
Joe . B	12	.15	2.30		903388	·		2.2	5	An Bly Ch.
Craig. G Tim. A					903197				1	Lucy
Russell. A					90320	4				13 -fr
david. c	-				903139	93	2452			! Cla.
Je (1/1) . H					903106					lerzifi
MAVERICIC		/	. 4	1	1 extra					mrz. J.
JOB TYPE LONG	,				HOLE DEPTH	988	CASI	NG SIZE & V	WEIGHT_	41/2 10.
CASING DEPTH 9			PIPE		TUBING		OTHE	ER		
SLURRY WEIGHT	<u>14.5</u> s	LURR	Y VOL		WATER gal/sk		CEMI	ENT LEFT in	CASING	0
DISPLACEMENT_/5	5.64 D	ISPLA	CEMENT F	PSI	MIX PSI		RATE	3.8) 	
REMARKS:										
Installed	Cemer	<i>H</i>	nead	RAN 25	KS prema	e æ	× 9 9	551 d	ye of	L 135 5K
of concu	+ +0	ae+	- due	to Surfa	cc. Flugh	punc	. Pum	sed w	PER	plug to
botton	4 5-	<u> </u>	Float	Shor		· '				·
								F	VECEIV	'FD
			1							N-COMMISSION
		r							JL 19	
	9	181	.04	F4 41/	2 CASING			CONSE	RVATION	DIVISION

	981.04	F1 41/2 Casing CONSERVATION	DIVISION
	4 @	Centralizera	ks
931300	1.5 hr	Casina tracter	
753	1.5 hr	Centralizera Wichita, Casing tractor Casing trailor	
ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION OF SERVICES OR PRODUCT	TOTAL AMOUNT
903388	2.25 hr	Foreman Pickup	
903197	2.25 hr	Cement Pump Truck	
903206	2.25 hr	Bulk Truck	
1104	126 SK	Portland Cement	
1124	2	50/50-POZ-Bland Coment CALIPS 312 + 3"	
1126		SOURCE Bland Comment LIVI's iper plug	
1110	13 SK	Gilsonite	
1107	1.55K	Flo-Seal	
1118	256	Premium Gel	
1215A	1901	KCL	
1111B	, 3 SK	Seminate Cal (blavide	
1123	7000 gcl	City Water	
903139	2.25 hr	Transport Truck	
932 452	2.25 hr	Transport Trailer	
703/06	2.25 W	80 Vac	
Ravin 4513	,	4112 Float Shoe	

Air Drilling Specialist



M.O.K.A.T. DRILLING Office Phone: (620) 879-5377



P.O. Box 590 Caney, KS 67333

Oil and Gas Wells	<u></u>							1/4 1/4	1/4		c Iv		Rge, ,
		Wall Ba.		T 6 5 2 6		106.		1/4	171	• • •	· 27 · · ·	298	Rge. 19E
o y e (e (v)	QUEST CHEROKEE LLC.	27-1		BRU	NGARDT			-	- 1	I IN	ate Started		e Completed
		County	-	State		Type/Well		Depth	Hour	יטן s	ate Started	Dan	, completes
		NEOS	HO	3	ks			9881			3-21-06	\	
		, NEOO.			it Record	<u> </u>				Coring	Record		
Job No.	Casing Used 21'	5" 8 5/8"	Bit No.	Туре	8ìZ6	From	To	Bit No.	type	Size	From	To	% Rec.
Driller	Cement Used								İ				
	OTIE	4			6 3/4"					 	 	-	
Driller	Rig No.		1		1]				
1					 					+		┪───	_
Driller	Hammer No.		1					•		1	1		
									<u> </u>				

Formation Record

[[]	To	Formation	From	То	Formation	From		Formation	From	To	Formation
From		011110201						SHALE			
 				470	LIME			COAL	ļ		
				501	D13/10/10	872		SIIALE	-		
	<u> 12 </u>		488		GAS TEST (SAME)			COAL	 		
		SHALE		502	COAL			SHALE			\$ 6
		LIME		550				CHAT (MISSISSIPPI)			0 8 8 E
	133	SHALE		551	COAL (BEVIER)		988	LIME	 		N S P P S
	137	LIME		573	SHALE	913		GAS TEST (5# 1/2")			F 60 84
	160	SHALE / LIME STREAKS		576	LIME (VERDIGRIS)		<u> </u>		}		08 - E
	206	SANDY SHALE	576	577	COAL (CROWBERG)			T,D. 988'			
	212	LIME	577	581	SHALE				1		
212	238	SANDY SHALE		582	COAL		↓		 	-	8 6
	264	LIME	582	608	SHALE	L	ļ				<u> </u>
	280	SHALE	608	610	COAL (FLEMING)		<u> </u>				- 3
280	283	BLACK SHALE	610	665	SHALE		<u> </u>		+		
283	284	COAL	665	670	BLACK SHALE						
	349	SANDY SALE	672	673	COAL (MINERAL)	<u> </u>			 		
	351	COAL (MULBERRY)	673	733	SHALE	<u> </u>				 	
	373	LIME (PAWNEE)	733	735	COAL (TEBO)	↓			1		
373	382	LIME	735	748	SHALE	ļ	 		+	-	
	385	COAL	748	749	COAL (WEIR)		-		┼		
	393	BLACK SHALE (LEXINGTON)	749	810	SANDY SHALE (BARTLESVILLE)	<u> </u>		<u> </u>	┥		
	426	SANDY SHALE	810	811	COAL	<u> </u>	_		+		
426	427	COAL	811	815	SHALE	!	<u> </u>		+		
	431	SHALE	813		GAS TEST (SAME)	 	├ ──		+		
	449	LIME (OSWEGO)	815	818	COAL		↓		+	 	
436	 	GAS TEST (NO GAS)	818	823	SHALE	↓			+	 	
	458	BLACK SHALE / COAL	823	826	COAL	╂	+		+		
	464	LIME	826	841	SHALE	↓	+		+	1	
461	1	GAS TEST (LIGHT BLOW)	838		GAS TEST (3# 1/2")	 	+		+		
464	467	BLACK SHALE / COAL (MULKEY)	841	844	COAL (ROWE)	ــــــــــــــــــــــــــــــــــــــ	ــــــــــــــــــــــــــــــــــــــ				

POSTROCK



Current Completion

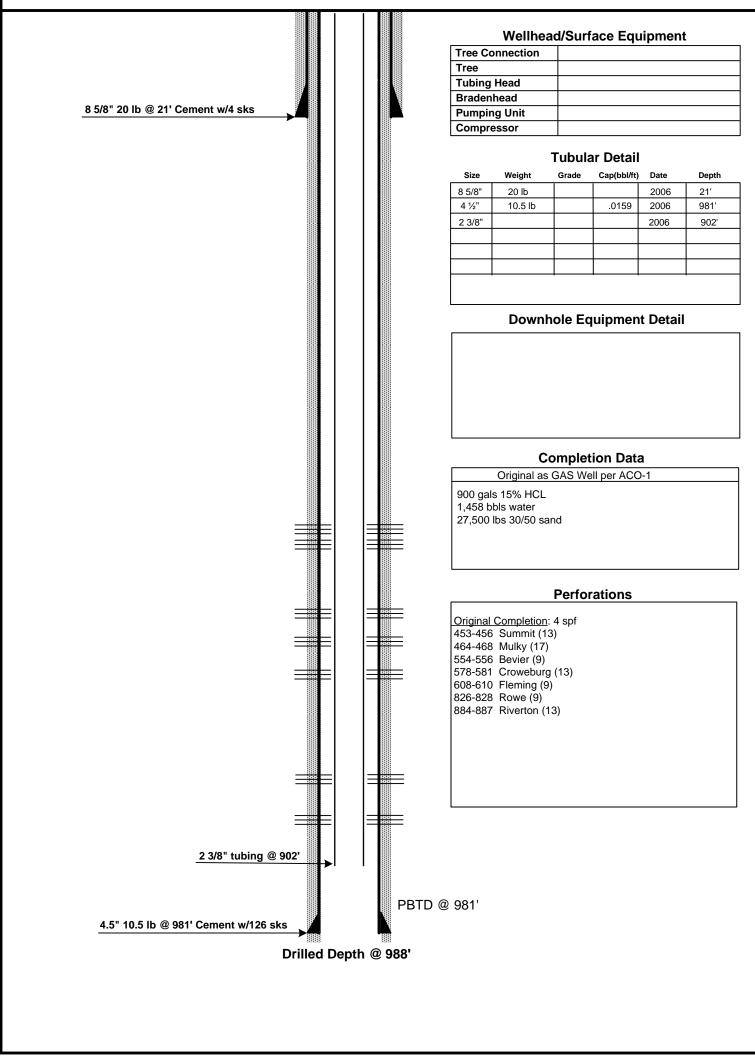
WELL : Brungardt Rev Trust 27-1

FIELD : Cherokee Basin

STATE : Kansas **COUNTY** : Neosho SPUD DATE: 3/21/2006 COMP. Date: 3/28/2006 API: 15-133-26584-00-00

LOCATION: 27-29S-19E (NE,SW)

ELEVATION: 960'



PREPARED BY: POSTROCK

APPROVED BY: _

DATE:_

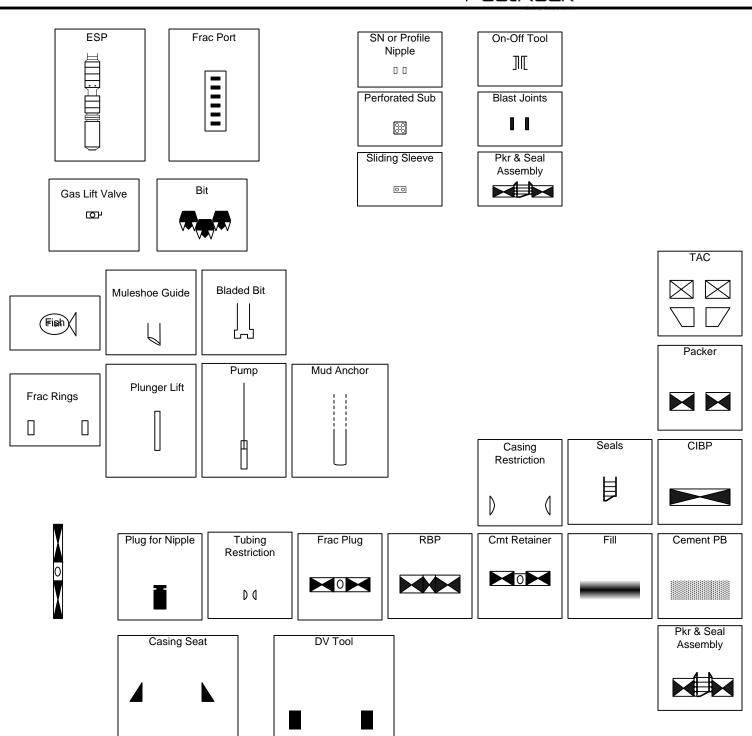
DATE: Dec, 2012

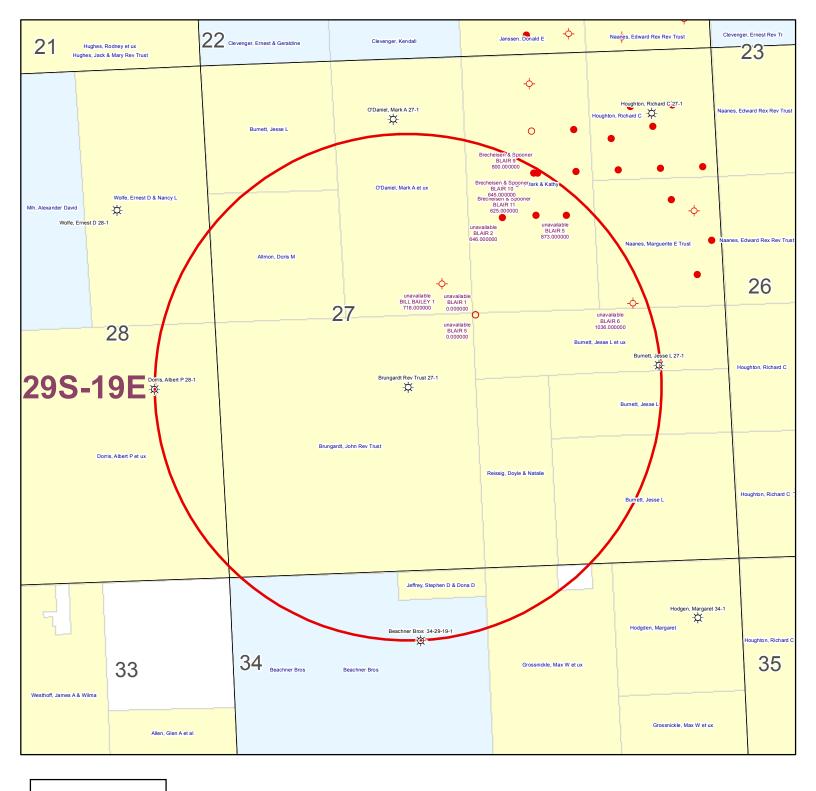
POSTROCK



LEGEND

PostRock[®]





KGS STATUS

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

Brungardt Rev Trust 27-1 27-29S-19E 1" = 1,000'

1 NAME & UPPE	R & LOWER LIMIT OF EACH PR	ODUCTION II	NTERVAL TO B	BE COMMING	LED			
FORMATION:	ROWE		(PERFS):	826	- 828			
FORMATION:	RIVERTON		(PERFS):	884	- 887			
FORMATION:	CATTLEMAN		(PERFS):	634	- 640			
FORMATION:			(PERFS):		-			
FORMATION:			(PERFS):		-			
FORMATION:			(PERFS):		-			
FORMATION:			(PERFS):		-			
FORMATION:			(PERFS):		-			
FORMATION:			(PERFS):		-			
FORMATION:			(PERFS):		-			
FORMATION:			(PERFS):					
FORMATION:			(PERFS):		-			
	MOUNT OF FLUID PRODUCTION ROWE	N TO BE COM	IMINGLED FRO	OM EACH INT 0	ERVAL MCFPD:	1.85(O BWPD:	5.71
FORMATION:	RIVERTON		BOPD:	0	MCFPD:	1.85	BWPD:	5.71
FORMATION:	CATTLEMAN		BOPD:	3	MCFPD:	0	BWPD:	20
FORMATION:		0	BOPD:		MCFPD:		BWPD:	
FORMATION:		0	BOPD:		MCFPD:		BWPD:	
FORMATION:		0	BOPD:		MCFPD:		BWPD:	
FORMATION:		0	BOPD:		MCFPD:		BWPD:	
FORMATION:		0	BOPD:		MCFPD:		BWPD:	
FORMATION:		0	BOPD:		MCFPD:		BWPD:	
FORMATION:		0	BOPD:		MCFPD:		BWPD:	
FORMATION:		0	BOPD:		MCFPD:		BWPD:	
FORMATION:		0	BOPD:		MCFPD:		BWPD:	

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 Brungardt Rev Trust 27-1 located in Neosho County, Kansas.

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

You, and each of you, are hereby notified that Postrock Midcontinent Production, LLC has filed an application to commingle the Summit, Mulky, Bevier, Croweburg, Fleming, Rowe, Riverton and Cattleman producing formations at the Brungardt Rev Trust 27-1, located in the NE SW NE SW, S27-T29S-R17E, Approximately 1910 FSL & 1972 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

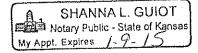
A COPY OF THE AFFIDAVIT OF PUBLICATION MUST ACCOM-PANY ALL APPLICATIONS

☐ Affidavit of Publication ☐

STATE OF KANSAS, NEOSHO COUNTY, ss: Rhonda Howerter, being first duly sworn, deposes and says: That she is Classified Manager of THE CHANUTE TRIBUNE, a daily newspaper printed in the State of Kansas, and published in and of general circulation in Neosho County, Kansas, with a general paid circulation on a daily basis in Neosho County, Kansas, and that said newspaper is not a trade, religious or fraternal publication.

Said newspaper is a daily published at least weekly 50 times a year: has been so published continuously and uninterruptedly in said county and state for a period of more than five years prior to the first publication of said notice; and has been admitted at the post office of Chanute, in said county as second class matter.

That the attached notice is a true copy thereo published in the regular and entire issue of sai per for consecutive time, the first percent being made as aforesaid on the flower thereof being made as aforesaid on the flower with subsequent publications being made lowing dates:	d newspa- publication day of
, 2012	, 2012
, 2012	, 2012
Phonda Dowert	ov -
Subscribed and sworn to and before me this	ntary Public
My commission expires: January 9, 2015	



Printer's Fee\$ 105.14

Affidavit, Notary's Fee\$ 3.00

Total Publication Fees\$ (p).

Additional Copies\$

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 17th of

January A.D. 2013, with

subsequent publications being made on the following dates:

And affiant further says that he has personal knowledge of the statements above set forth and that they are true.

Fletchall

Subscribed and sworn to before me this

17th day of January, 2013

PENNY L_@ASE Notary Public My Appt. Expires

ick County, Kansas

Printer's Fee: \$134.80

LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGLE JANUARY 17, 2013 (3227032) BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

ANUARY 17, 2013 (3227032)

BEFORE THE STATE CORPORATION
COMMISSION OF THE STATE OF KANSAS
NOTICE OF FILING APPLICATION
RE: In the Maller of Postrock
Midcontinent Production, LLC
Application for Commingling of
Production in the Brungardt Rev
Trust 27-1 located in Neosho
County, Kansas.
TO: All Oil & Gas Producers, Unleased
Mineral Interest Owners,
Landowners, and all persons
whomever concerned.
You, and each of you, are hereby notified
that Postrock Midcontinent Production,
LLC has filed an application to commingle
the Summit, Mulky, Bevier, Croweburg,
Fleming, Rowe, Riverton and Cattleman
producing formations at the Brungardt Rev
Trust 27-1, located in the NE SW NE SW,
S27-T29S-R17E, Approximately 1910 FSL
& 1972 FWL, Neosho County, Kansas.
Any persons who object to or profest
this application shall be required to file their
objections or profest with the Conservation
Division of the State Corporation
Commission of the State of Kansas within
fifteen (15) days from the date of this
publication. These profests shall be filed
pursuant to Commission regulations and
must state specific reasons why granting
the application may cause waste, violate
correlative rights or politute 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 profest this
application are required to file a written
profest with the Conservation Division of
the Kansas Oil and Gas Commission.
Upon the recept of any profest, the
Commission will convene a hearing and
profestants will be expecied to enter an
appearance either through proper legal
counsel or as individuals, appearing on their
own behalt.
Postrock Midcontinent Production, LLC
210 Park Avenue, Suite 27102

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

BRUNGARDT REV TRUST 27-1-APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS

tach additional sheets if necessary)	
Name:	Legal Description of Leasehold:
E ATTACHED	
-	-
eby certify that the statements made herein are true and correct to the	best of my knowledge and belief.
•	OVEVI
	Applicant or Duly Authorized Agent
	3.6 A.
Subscribed and swor	rn before me this day of,
JENNIFER R. BEAL	A. L. P. Real
11 SAERICIALS NV COMMISSION EXPINED IN	Notary Public . Selat
SEAL SEAL OF SOLLO	V Ox 1. On Day
MARIAN CONTRACTOR OF THE PARTY	My Commission Expires:
 -	
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	0'0'

LEGAL LOCATION	SPOT	CURR_OPERA	ADDRESS
S27-T29S-R19E	S2 NW NE	Brecheisen & Spooner	PO BOX 40 GARNETT, KS 66032
S27-T29S-R19E	N2 SW NE	Brecheisen & Spooner	PO BOX 40 GARNETT, KS 66032
S27-T29S-R19E	SE NW NE	Brecheisen & Spooner	PO BOX 40 GARNETT, KS 66032

34-29S-19E

tract in W2 NE4 Max W. & Bonnie L. Grossnickle 12655 80th Rd Erie, KS 66733

Affidav	it of Notice Served	THE OF PROPULATION OF FUHRS ACC 4
Re:	Application for: APPLICATION FOR COMMINGLE	
	Well Name: BRUNGARDT REV TRUST 27-1	Legal Location: NESWNESW S27-T29S-R19E
	ersigned hereby certificates that he / she is a duly authorized age	ent for the applicant, and that on the day
2013	, a true and correct copy of the application reference	ed 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)
SEE	ATTACHED	
-	7(17,0.122	
	ttest that notice of the filing of this application was published in t	the CHANUTE TRIBUNE , the official county publication
of NE	OSHO	county. A copy of the affidavit of this publication is attached.
Signed th	s /6 th day of JANUARY	2013
-		MELL
		Applicant or Duly Authorized Agent
(Subscribed and sworn	to before me this
	JENNIFER R. BEAL CIAL MY COMMISSION EXPIRES	Origina D. Bond
St	7-20-2016	Notary Public)
	,	My Commission Expires: Selly 20, 20/4

34-29S-19E

tract in W2 NE4 Max W. & Bonnie L. Grossnickle 12655 80th Rd Erie, KS 66733

LEGAL LOCATION	SPOT	CURR_OPERA	ADDRESS
S27-T29S-R19E	S2 NW NE	Brecheisen & Spooner	PO BOX 40 GARNETT, KS 66032
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S27-T29S-R19E	SE NW NE	Brecheisen & Spooner	PO BOX 40 GARNETT, KS 66032

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 Shari Feist Albrecht, Commissioner

February 1, 2013

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

RE: Approved Commingling CO011312

Brungardt Rev Trust 27-1, Sec. 27-T29S-R19E, Neosho County

API No. 15-133-26584-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on January 23, 2013, has been reviewed and approved by the Kansas Corporation Commission (KCC) per K.A.R. 82-3-123. Notice was examined and found to be proper per K.A.R. 82-3-135a. No protest had been filed within the 15-day protest period.

Based upon the depth of the Riverton formation perforations, total oil production shall not exceed 100 BOPD and total gas production shall not exceed 50% of the absolute open flow (AOF).

File form ACO-1 upon re-completion of the well to commingle.

Commingling ID number CO011312 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