

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1097408

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)

OPERAT	OR: License #					
Name:_						
Address	1:					
Address	2:		Feet from North /	South Line of Section		
City:	State: Zip:+		Feet from East / [West Line of Section		
Contact	Person:	County:				
Phone:	()	Lease Name:	Well #:			
1.	Name and upper and lower limit of each production interval to be co	mmingled:				
	Formation:	ŭ				
	Formation:	, ,				
	Formation:	(Perfs):				
	Formation:	(Perfs):				
	Formation:	(Perfs):				
		, ,				
2.	Estimated amount of fluid production to be commingled from each in	nterval:				
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
□ 3.□ 4.	Plat map showing the location of the subject well, all other wells on the subject well, and for each well the names and addresses of the location certificate showing service of the application and affidavit of	lessee of record or opera	ator.	nin a 1/2 mile radius of		
For Con						
	mmingling of PRODUCTION ONLY, include the following: Wireline log of subject well. Previously Filed with ACO-1: Yes	□No				
□ 5.□ 6.	Complete Form ACO-1 (Well Completion form) for the subject well.					
0.	Complete Form ACO-1 (Well Completion form) for the subject well.					
For Con	nmingling of FLUIDS ONLY, include the following:					
	Well construction diagram of subject well.					
8.	Any available water chemistry data demonstrating the compatibility of	of the fluids to be commi	ngled.			
current ir mingling	/IT: I am the affiant and hereby certify that to the best of my information, knowledge and personal belief, this request for comistrue and proper and I have no information or knowledge, which istent with the information supplied in this application.	Sub	omitted Electronically	/		

Protests may be filed by any party having a valid interest in the application. Protests must be 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.

Date: _

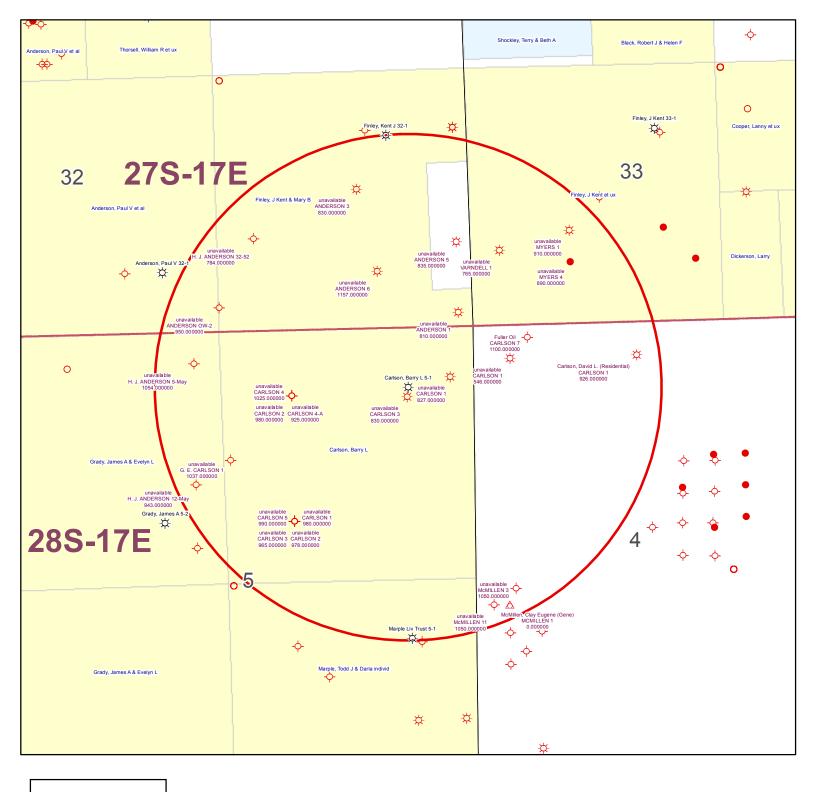
KCC Office Use Only

15-Day Periods Ends: __

Approved

Denied

Approved By:



KGS STATUS

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

Carlson, Barry L 5-1 5-28S-17E 1" = 1,000'

-	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	
	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{\text{Catluated}}\$ Exhions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is:	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (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 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) (B/D) (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 Converte 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

COMMISSION ORIGINAL

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

Form ACO-1 September 1999 Form Must Be Typed

WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

Operator: License # 33344	API No. 15 - 205-26792-00-00
Name: Quest Cherokee, LLC	County: Wilson
Address: 211 W. 14th Street	
City/State/Zip: Chanute, KS 66720	660 feet from S / (N)(circle one) Line of Section
Purchaser: Bluestem Pipeline, LLC	660 feet from (E) W (circle one) Line of Section
Operator Contact Person: Jennifer R. Ammann	Footages Calculated from Nearest Outside Section Corner:
Phone: (620) 431-9500	(circle one) NE SE NW SW
Contractor: Name: Michael Drilling	Lease Name: Carlson, Barry L. Well #: 5-1
License: _33783	Field Name: Cherokee Basin CBM
Wellsite Geologist: Ken Recoy	Producing Formation: Multiple
Designate Type of Completion:	Elevation: Ground: 988 Kelly Bushing: n/a
New Well Re-Entry Workover	Total Depth: 1235 Plug Back Total Depth: 1228.34
Oil SWD SIOWTemp. Abd.	Amount of Surface Pipe Set and Cemented at 21' 6" Feet
Gas ENHR SIGW	Multiple Stage Cementing Collar Used? ☐ Yes ✓ No
Dry Other (Core, WSW, Expl., Cathodic, etc)	If yes, show depth set Feet
If Workover/Re-entry: Old Well Info as follows:	If Alternate II completion, cement circulated from 1228.34
Operator:	feet depth to surface w/ 120 sy cmt
Well Name:	ALT2-De-12/3/08
Original Comp. Date: Original Total Depth:	Drilling Fluid Management Plan (Data must be collected from the Reserve Pit)
Deepening Re-perf Conv. to Enhr./SWD	Chloride contentppm Fluid volumebbls
Plug Back Plug Back Total Depth	Dewatering method used
Commingled Docket No.	
Dual Completion Docket No	Location of fluid disposal if hauled offsite:
Other (SWD or Enhr.?) Docket No	Operator Name:
7/7/06 7/8/06 7/21/06	Lease Name: License No.:
Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date	QuarterSecTwpS. REast West County:Docket No.:
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 1	the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, er 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.
All requirements of the statutes, rules and regulations promulgated to regulation are complete and correct to the best of my knowledge.	ate the oil and gas industry have been fully complied with and the statements
Signature: Jennifu D. ammann	KCC Office Use ONLY
Title: New Well Development Coordinator Date: 11/6/06	Letter of Confidentiality Received
Subscribed and sworn to before me this Lay of November	If Denied, Yes Date:
20 <u>Le</u> .	Wireline Log Received
10	Geologist Report Received CEIVED
	Public-State of Kansas
Date Commission Expires: 8-4-2010 My Appt, Expir	KCC WICHITA

Operator Name: Quest Cherokee, LLC			Lease Name: Carlson, Barry L.			Well #: <u>5-1</u>	
	8 S. R. 17		County: Wilso	on		······································	
tested, time tool ope temperature, fluid red	n and closed, flowir	and base of formations p og and shut-in pressures, es if gas to surface test, final geological well site	, whether shut-in pr along with final cha	essure reached	static level, hyd	rostatic pressure	s, bottom hole
Drill Stem Tests Take (Attach Additional		Yes ✓ No	∑ 1		tion (Top), Depth		Sample
Samples Sent to Ge	ological Survey	Yes ✓ No	Nan See	ne attached		Тор	Datum
Cores Taken		Yes ✓ No		4.1.4.5.7.5.2			
Electric Log Run (Submit Copy)		✓ Yes No	i :				
List All E. Logs Run:			ı				
Compensated Gamma Ray	-		RECORD N	ew Used			
			conductor, surface, in		ction, etc.		
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12-1/4	8-5/8"	20	21' 6"	"A"	4	
Production	6-3/4	4-1/2	10.5#	1228.34	"A"	120	
		ADDITIONAL	L CEMENTING / SQ	UEEZE RECOR	D	1	
Purpose: Perforate Protect Casing Plug Back TD Plug Off Zone	Depth Top Bottom	Type of Cement	#Sacks Used		Type and	Percent Additives	
Shots Per Foot		ION RECORD - Bridge Plu Footage of Each Interval Pe			acture, Shot, Ceme		j Depth
4	1128-1130/938-			!	bis 2%kcl water, 475bbis water		
4	692-696/681-68	95		400gal 15%HCLw/ 46bl	ols 2%kol water, 590bbls wate	rw/ 2% KCL, Biocide, 13600#	20/40 sand 692-696/681-685
TUBING RECORD 2-	Size 3/8*	Set At 1149.14	Packer At n/a	Liner Run	Yes 7 N	lo	
Date of First, Resumer 8/29/06				ıg √ ∶Pumr			r (Explain)
Estimated Production	Oil	Bbls. Gas	Mcf War		Bbls.	Gas-Oil Ratio	Gravity
Per 24 Hours	n/a	6.8mcf	78bl				-
Disposition of Gas	METHOD OF	COMPLETION		Production Inte	erval		
Vented Sold (If vented, St	Used on Lease ubmit ACO-18.)	Open Hole Other (Spec		Dually Comp.	Commingled		

16	i	

Michael Drilling, LLC P.O. Box 402 Iola, KS 66749 620-365-2755

Com	pany:
	ran,

Quest Cherokee LLC

Address:

9520 North May Ave, Suite 300

Oklahoma City, Oklahoma 73120

Ordered By: Donnie Meyers

Date:	07/08/06
Mic:	A SI ORAGO

Lease: Carison, Barry L.

County: wilson

Well#: 5-1

API#: 15-205-26792-00-00

Drilling Log

FEET	DESCRIPTION	FEET	DESCRIPTION
)-22	Overburden.	635-638	Black Shale
22-104	Lime	638-663	Shale
104-188	Wet Sand	663-664	Coal
188-208	Lime	664-684	Line
208-223	Shale	683	Gas Test 0" at 1/4" Choke
223-301	Lime	684-691	Black Shale
301-307	Shale	691-696	Lime
307-330	Lime	694	Gas Test 0" at 1/4" Choke
330-343	Sandy Shale	596-698	Binck Shale
343-350	Black Shale	698-699	Coal
350-388	Lime	699-708	Sandy Shale
3 88 -410	Shale with Lime streaks	708	Gas Test 30" at 3/4" Choice
410-420	Sandy Shele	708-720	Shale
420-452	Black Shale	720-730	Send
452-478	Sandy Skale	730-763	Shale
478-488	Shale with Lime streaks	763-765	Coal
488-504	Line	765-775	Shele
504-530	Shale with Lime streaks	775-778	Coal
530-540	Steed	778-784	Send
540-560	Sandy Shale	784-794	Shale
560-602	Shale	794-819	Sand RECEIVED KANSAS CORPORATION COMMIS
602-605	Lime	819-820	Coni IAN 1 0 2008
605-609	Cosi	820-8 68	Sænd
609-635	Lime	264-968	Shale CONSERVATION DIVISION WICHITA, KS

Michael Drilling, LLC P.O. Box 402 Iola, KS 66749 620-365-2755

162		

Company:

Quest Cherokee LLC

Address:

9520 North May Ave, Suite 300

Okishoma City, Okishoma 73120

Ordered By: Donnie Meyers

Date: 07/04/06

Lease: Cartson, Barry L.

County: Wilson

Well#: 5-1

API#: 15-205-26792-00-00

Drilling Log

FEET	DESCRIPTION		
968-970	Cost	FEET	DESCRIPTION
970-974	Shale		
974-976	Coal		
976-990	Sandy Shale		
984	Gas Test 13" at 1-1/2" Choke		
990-1038	Sand		
1038-1039	Cost		
1039-1104	Sand		
104-1108	Shale		· · · · · · · · · · · · · · · · · · ·
108-1110	Coal		
110-1128	Shale		
128-1130	Coal		
130-1141	Shale		
135	Gas Test 12" at 1-1/2" Choke		
141-1235	Missippi Lime		
235	Gas Test 12" at 1-1/2" Choke		
235	то		
	Surface 21'-6"		
			RECEIVED KANSAS CORPORATION CO
			JAN 10 2008
			CONSERVATION DIVISION WICHITA, KS

CONSOLIDATED OIL WELL SERVICES, IP.O. BSX 884, CHANUTE, KS 66720 620-431-9210 OR 800-467-8676

TICALT NUMBER	07275
LOCATION Bart	PKVILLE
FOREMAN Traci	11. Williams

TREATMENT REPORT & FIELD TICKET

مسترسين الأنهاب المتهاطيل الجناب أرف	• • •	CEMEN	i I		•	
DATE SE CUSTOMER #	WELL NAME & NUM	BER	SECTION	TOWNSHIP	RANGE	COUNTY
2-21-06	Barry Conson -	5-1	5	285	128	Wilson
CUSTOMER	/					
(Vuest			TRUCK#	DRIVER	TRUCK#	DRIVER
MAILING ADDRESS			492	Tim		
355I 6158	?00		491799	RocerM		
CITYO local section in the section is	STATE ZIP CODE		428	Dusty		
the state of the s			Quest Tro	nsports		
JOB TYPE くん	HOLE SIZE 6 3/4	HOLE DEPTH	1 1235	CASING SIZE & W	EIGHT 4/9	10.5
CASING DEPTH 1228	DRILL: PIPE	_TUBING			OTHER	
SLURRY WEIGHT	SLURRY VOL	WATER gal/s	k	CEMENT LEFT in	CASING	
DISPLACEMENT 19.58	DISPLACEMENT PSI 2400	MIX PSI	0	RATE		-
REMARKS Lined do	iun loigint-	ofcas	ing + ra	2-k<0f	Cael. R.	aced 10
to coment Ros	a 2 cks of neli	+ 14 bh	1 of due.	Ran 120	osks of	N Duickse
cement with	1401/conital 51	nut do	in twach	ed up boh	ind plus	Pumpeo
Customers Duct	- M 11 - 2	st circ	culation +	never our	tit bad	k Did
circulated cem						
			<u>d</u> .			
structions of sign and						
The state of the s	•	i				

ACCOUNT :	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401	na se jang ang ang ang ang ang ang ang ang ang	PUMP CHARGE Production Casino		200,00
540b	20	MILEAGE		63.00
	1000	Footage		208,16
Laborate School	103611 Ton	Ton Mileace		517,24
5501C	34 KZ	- 80 Vac		22000
	Miles of Carlos	,		
	al Blair Van v. 6600			
557.28 S				
1100 A	180 [#]	Phenoseal		120,ce
1110	LCC#	Gilsonite		216:00
11183	åCo [±]	Premium Gel RECEIVED		28,00
1126A	130 sks	Quickset		1758,00
· 10 100 100 100 100 100 100 100 100 100	the state of the s	NOV 0.7 2006		
		LOC MICHIT		
N.S. O. WALLEY THE COLUMN		KCC WICHITZ	7	
and a second sec				
	\$ 1.4 to 1. A to 3.1			
	135 1.5 A 1 A 1	6.38	SALES TAX	132.42
,			ESTIMATED	1



7-21-06

FOREMAN /

OPERATOR

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

Tarlson

TIME

IN

		4	C .	4	\sim
ICKET	NUMBER	1	b .	L	ರ

FIELD TICKET REF # __

TOWNSHIP

28

TRUCK

HOURS

SECTION

5

TRAILER

#

TREATMENT REPORT & FIELD TICKET CEMENT

TRUCK

WELL NAME & NUMBER

LESS

LUNCH

Barry

TIME

OUT

EDREMAN Joe OVER SOM COUNTY

RANGE

EMPLOYEE

SIGNATURE

			1.11
OR TYPE 1	ALC: AHOLE SIZE C	HOLE DEPTH 1235 CASING SIZE & WEIGHT TUBING OTHER	41/2 10.
MOING DEBTH	3 Q 34 BILL PIPE	TUBING OTHER	
ULDDV WEICHT	14.5 SLUBBY VOI	WATER gal/sk CEMENT LETT IN CACING	^
SLUKKY WEIGHT _	DISPLACEMENT P	SI RATE	
	DISPEACEMENT	<u> </u>	
REMARKS:			
	(,,,,,,	Cemented Well.	
		<u> </u>	
		COS Supplied Tools	
		OS SOPPIECO ASSE	
			•
	20 211	EL HID CALL	
	1228.34	Ft 41/2 Casing Centralizers	
		41/2 Floatshoe	
	\	wiper plug	
			TOTAL
ACCOUNT	QUANTITY or UNITS	DESCRIPTION OF SERVICES OR PRODUCT	TOTAL AMOUNT
CODE		Foreman Pickup	
		Cement Pump Truck	
		Bulk Truck	
1104		Portland Cement	100
1124		50/50 POZ Blend Cement RECEIVED	
1126		OWC - Blend Cement	
1110		Gilsonite NOV 0 7 2005	
		Flo-Seal KCC WICHITA	
1107		Premium Gel	
1107 1118		1100000	
		KCL	
1118		KCL Sodium Silicate .	
1118 1215A		KCL Sodium Silicate City Water	
1118 1215A 1111B	2 hr 2 hr	KCL Sodium Silicate .	

POSTROCK



Current Completion

WELL : Carlson, Barry L 5-1

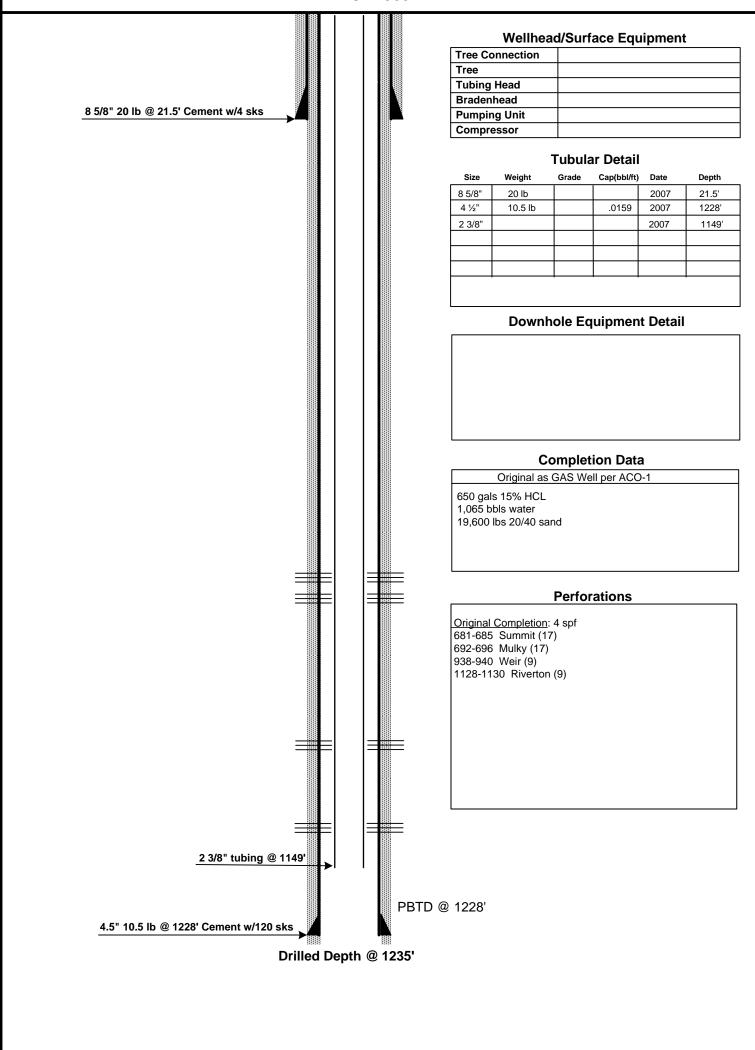
FIELD : Cherokee Basin

STATE : Kansas COUNTY : Wilson

SPUD DATE: 7/7/2006 COMP. Date: 7/21/2006 API:15-205-26792-00-00

LOCATION: 5-28S-17E (NE,NE)

ELEVATION: 988'



PREPARED BY: POSTROCK

APPROVED BY: _

DATE: Oct, 2012

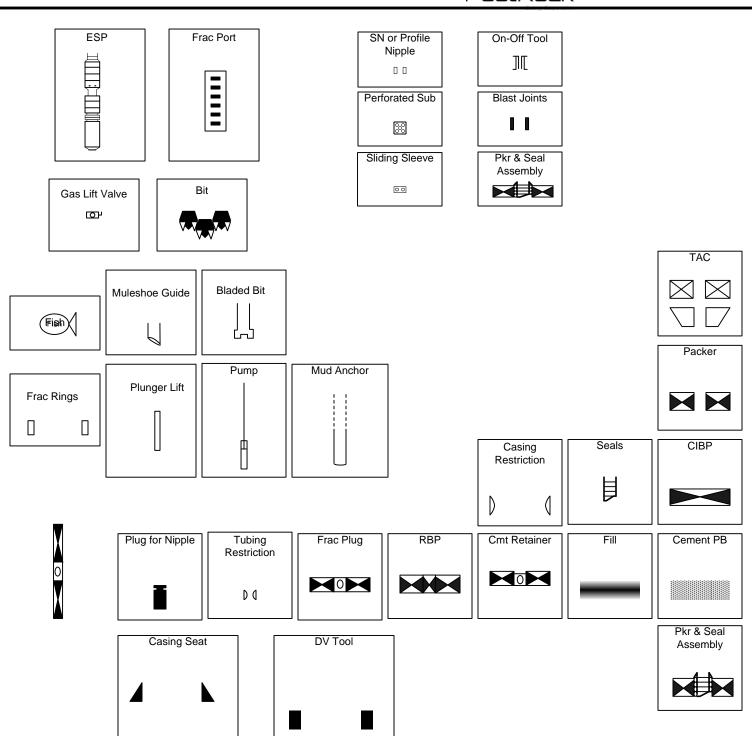
DATE:_

POSTROCK



LEGEND

PostRock[®]



1 NAME & UPPE	R & LOWER LIMIT OF EACH PROD	UCTION INTERVAL TO	BE COMMING	LED		
FORMATION:	BARTLESVILLE	(PERFS):	970 -	976		
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2 ESTIMATED AN FORMATION:	MOUNT OF FLUID PRODUCTION TO BARTLESVILLE	O BE COMMINGLED FF BOPD:	ROM EACH INT 1.5	ERVAL MCFPD:	0 0 BWPD:	10
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	<u> </u>	=		_		

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 27th of

October A.D. 2012, with

subsequent publications being made on the following dates:

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

Subscribed and sworn to before me this

29th day of October, 2012

PENNY L. CASE Notary Public State of Kansas My Appt. Expires:

Notary Public Sedgwick County, Kansas

Printer's Fee: \$137.20

Published in The Wichita Eagle October 27, 2012 (3214831) BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

OF THE STATE OF KANSAS

NOTICE OF FILING APPLICATION
RE: In the Matter of Postrock
Midcontinent Production, LLC Application
for Cerminipiling of Production in the
Carlson, Barry L 5-1 located in Wilson
County, Kansas.
TO: All Oil & Gas Producers, Unleased
Mineral Interest Owners L andowners and

Mineral Interest Owners, Landowners, and

Mineral Inferest 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, Weir, Riverton and Bartlesville producing formations at the Carlson, Barry L 5-1, located in the SE NW NE NE, S5-T285-R17E, Approximately 622 FNL & 682 FEL, Wilson County, Kansas,

Any persons who object to or profest this application shall be required to file their Its application shall be required to file their objections or protest with the Conservation Division of the State Corporation Division of the State of Kansas within fiffeen (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.

profess with the Conservation Division or the Kansas Oil and Gas Commission. Upon the receipt of any profest, the Commission will convene a hearing and profestants will be expected to enter an appearance either through proper legal counsel or as individuals, appearing on their own behalf.

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

Affidavit of Notice Served	
Re: Application for: APPLICATION FOR COMMING	LING OF PRODUCTION OR FLUIDS ACO-4
Well Name: CARLSON, BARRY L 5-1	Legal Location: SENWNENE S5-T28S-R17E
The undersigned hereby certificates that he / she is a duly authorized at	gent for the applicant, and that on the day OCTOBER of OCTOBER
00.40	ced above was delivered or mailed to the following parties:
A server of this effect with much be neveral as a part of the application	
Note: A copy of this affidavit must be served as a part of the application	
Name CADLCON DAVID I	Address (Attach additional sheets if necessary)
CARLSON, DAVID L	18915 WICHITA RD, CHANUTE, KS 66720
FULLER OIL	1312 E CARPENTER, IOLA, KS 66749
MCMILLEN, CLAY EUGENE	RR2, BOX 269, CHANUTE, KS 66720
SEE ATTACHED	
I further attest that notice of the filing of this application was published in	the THE WILSON COUNTY CITIZEN , the official county publication
of WILSON	county. A copy of the affidavit of this publication is attached.
Signed thisday of OCTOBER,	2012
	1/1/5/11
	Applicant or Duly Authorized Agent
Subscribed and sworn	n to before me this 30 the day of OCTOBER
	Q 1 Q 2 (1)
JENNIFER P. BEAL	Notary Public T. DON
SEAL MY COMMISSION EXPIRES	My Commission Expires: July 20, 20/6
a grade	

4-28S-17E

SW/4

Betty McMillen 23424 1800 Rd Chanute, KS 66720

NW/4

Leonard G. Carlson, Life Estate

c/o David Carlson 18915 Wichita Rd. Chanute, KS. 66720

32-27S-17E

tract in SE/4 David L. & Mary S. Carlson

18915 Wichita Rd. Chanute, KS. 66720

CARLSON, BARRY L 5-1-APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS

	la constant de la con
Offset Operators, Unleased Mineral Owners and Landowners	s acreage L
(Attach additional sheets if necessary)	Level Description of Level body
Name:	Legal Description of Leasehold:
SEE ATTACHED	
	·
l hereby certify that the statements made herein are true and correct to	o the best of my knowledge and belief
, 10,00,00,00,00,00,00,00,00,00,00,00,00,0	
	CUELL
	Applicant or Duly Authorized Agent
Subscribed and	sworn before me thisday of OCTOBER
	and the second s
JENNIFER R. BEAL	Quanific R. Beal
11 2 Y	
MY COMMISSION EXPIRES	Notary Public
# FULL OCHE 195	O a na nava
MY COMMISSION EXPIRES 7-20-2016	My Commission Expires: Auly 20, 2019
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# Full OCAL 195	O a na nave
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7-20-3016	My Commission Expires: Auly 20, 2014
7-20-3016	My Commission Expires: Auly 20, 2014
7-20-3016	My Commission Expires: Auly 20, 2014
7-20-2016	My Commission Expires: Auly 20, 2014
7-20-3016	My Commission Expires: Auly 20, 2014
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7-20-3016	My Commission Expires: Aulty 20, 2010

LEGAL LOCATION SPOT CURR_OPERA

S4-T28S-R17E NW NE NW Carlson, David L. (Residential)

S4-T28S-R17E NE NW NW NW Fuller Oil

S4-T28S-R17E NW NW SW McMillen, Clay Eugene (Gene)

4-28S-17E

SW/4

Betty McMillen 23424 1800 Rd Chanute, KS 66720

NW/4

Leonard G. Carlson, Life Estate

c/o David Carlson 18915 Wichita Rd. Chanute, KS. 66720

32-27S-17E

tract in SE/4 David L. & Mary S. Carlson

18915 Wichita Rd. Chanute, KS. 66720

PROOF OF PUBLICATION

STATE OF KANSAS Wilson County - SS

JOSEPH S. and RITA M. RELPH, of lawful age, being duly sworn upon oath that they are the Owners and Publishers of the WILSON COUNTY CITIZEN:

THAT said newspaper has been published at least weekly fifty (50) times a year and has been so published for at least five years prior to the first publication of the attached notice:

THAT said newspaper is a general circulation on a daily, or weekly, or monthly, or yearly basis in;

WILSON COUNTY, KANSAS and is NOT a trade, religious or fraternal publication and has been PRINTED and PUBLISHED in Wilson County, Kansas.

THE ATTACHED was published on the following dates in a regular issue of said newspaper: 10/10, 1

1st publication was made on the	2770 day of
(Gitve	ber . 20 12
2nd publication was made on the	day of
	. 20——
3rd publication was made on the	day of
	. 20
4th publication was made on the	day of
	. 20
5th publication was made on the	day of
	. 20——
6th publication was made on the	day of
	-20
TOTAL PUBLICATION FEE: \$_	56
(Signed) Judeph J. Kel	ph
Subscribed and sworm to before me, this	304W day of
October	, 20/2
	(Notary Public)
a. Aya.	30 2014
My commission expires	10, 010 · ·

(Published in the Wilson County Citizen on Monday, October 29, 2012.)

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 Carlson, Barry L 5-1 located in Wilson 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, Weir, Riverton and Bartlesville producing formations at the Carlson, Barry L 5-1, located in the SE NW NE NE, S5-T28S-R17E, Approximately 622 FNL & 682 FEL, Wilson 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 themsolves 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 73 L epv



Rita M. Relph NOTARY PUBLIC State of Kansas STATE OF KANSAS | My Commission Expires 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

November 14, 2012

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

RE: Approved Commingling CO111206

Carlson, Barry L. 5-1, Sec. 5-T28S-R17E, Wilson County

API No. 15-205-26792-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on November 8, 2012, has been reviewed and approved by the Kansas Corporation Commission (KCC) per K.A.R. 82-3-123. Notice was examined and found to be proper per K.A.R. 82-3-135a. No protest had been filed within the 15-day protest period.

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

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

Commingling ID number CO111206 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