

#### 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)

OPERAT	OR: License #	API No. 15				
Name:_		Spot Description:				
Address	1:		Sec Twp	_S. R Bast West		
Address	2:		Feet from No	orth / South Line of Section		
City:	State: Zip:+		Feet from Ea	ast / West Line of Section		
Contact	Person:	County:				
Phone:	()	Lease Name:	We	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			DWDD		
	Formation:			BWPD:		
	Formation:			BWPD:		
	Formation:			BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
	Formation:	BOPD:	MCFPD:	BWPD:		
<ul><li>□ 3.</li><li>□ 4.</li></ul>	Plat map showing the location of the subject well, all other well the subject well, and for each well the names and addresses of Signed certificate showing service of the application and affida	of the lessee of record or o	perator.	ses within a 1/2 mile radius of		
For Con	nmingling 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 Con	nmingling of FLUIDS ONLY, include the following:					
<b>7</b> .	Well construction diagram of subject well.					
8.	Any available water chemistry data demonstrating the compati	ibility of the fluids to be cor	mmingled.			
current in mingling	<b>/IT:</b> I am the affiant and hereby certify that to the best of my nformation, 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.	Ş	Submitted Electror	nically		
	C Office Use Only			st in the application. Protests must be ne filed wihin 15 days of publication of		

Date: \_

Approved By:

15-Day Periods Ends: \_

-	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.	<b>————</b>		
6	Operator	Row 3	PostRock	PostRock	PostRock	PostRock	PostRock	Cells H35-38			Click
7	Well Name		Ward Feed	Ward Feed	Clinesmith	Clinesmith	Clinesmith	are used in	Goal Seek	SSP	
8	Location		#34-1	#4-1	#5-4	#1	#2	mixed brines	0.00		Click
9	Field		CBM	CBM	Bartles	Bartles	Bartles	calculations.			
10	Na <sup>+</sup>	(mg/l)*	19,433.00	27,381.00	26,534.00	25689.00	24220.00	24654.20	Initial(BH)	Final(WH)	SI/SR
11	K <sup>+</sup> (if not known =0)	(mg/l)						0.00	Saturation Index	values	(Final-Initial)
	Mg <sup>2+</sup>	(mg/l)	1,096.00	872.00	1,200.00	953.00	858.00	995.91		lcite	
	Ca <sup>2+</sup>	(mg/l)	1,836.00	2,452.00	2,044.00	1920.00	1948.00	2040.23	-0.73	-0.60	0.13
	Sr <sup>2+</sup>		1,050.00	2,432.00	2,044.00	1720.00	1740.00				0.13
	Ba <sup>2+</sup>	(mg/l)						0.00	Da	rite	
.,		(mg/l)						0.00			
	Fe <sup>2+</sup>	(mg/l)	40.00	21.00	18.00	82.00	90.00	50.21		lite	
	Zn <sup>2+</sup>	(mg/l)						0.00	-1.77	-1.80	-0.03
18	Pb <sup>2+</sup>	(mg/l)						0.00	Gyp	sum	
19	Cl	(mg/l)	36,299.00	48,965.00	47,874.00	45632.00	43147.00	44388.44	-3.19	-3.18	0.00
20	SO <sub>4</sub> <sup>2-</sup>	(mg/l)	1.00	1.00	8.00	1.00	1.00	2.40	Hemil	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 <sub>2</sub> 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 <sub>2</sub> 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/ <sup>0</sup> 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/ <sup>0</sup> 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/ <sup>0</sup> 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/ <sup>0</sup> 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 <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> S Gas Total H2Saq (STP) pH Calculated	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/l) (pH)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H <sub>2</sub> S Gas Total H2Saq (STP)	(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 <sub>2</sub> 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 <sub>2</sub> S Gas Total H <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time	(F) (F) (Psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (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 <sub>2</sub> 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 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 <sub>2</sub> 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 <sub>2</sub> 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 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 <sub>2</sub> S Gas Total H <sub>2</sub> Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\mathbb{\text{Catluated}}\$ Alkalinity Caclulated \$\mathbb{\text{Catluated}}\$ Eanions= 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 59 60 61 62 63 64 65 66 67	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH (Strong base) * Quality Control Checks at H <sub>2</sub> S Gas Total H2Saq (STP) pH Calculated 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  m³  m³  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 <sup>3</sup> bbl(42 US gal) psia	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00  Value 176 3,531 629 145,074 7,194	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 44 45 46 47 48 49 50 51 52 53 54 55 56 60 61 62 63 64 65 66 67 68	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H <sub>2</sub> S Gas Total H <sub>2</sub> 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 <sub>2</sub> S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed,  1st inhibitor is: % of 1st inhibitor is:	(F) (F) (Psia) (psia) (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  m³  m³  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 <sup>3</sup> bbl(42 US gal) psia	5.69 Viscosity ( 1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00  Value 176 3,531 629 145,074 7,194	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	

#### **Saturation Index Calculations**

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

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

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

#### **Saturation Index**

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

#### PTB

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

## KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

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

Form ACO-1 September 1999 Form Must Be Typed

ORIGINAL

Operator: License # 33344	API No. 15 - 133-26378-0000
Name: Quest Cherokee, LLC	County: Neosho
Address: 211 W. 14th Street	NZ_52_ne_nw_Sec20_ Twp28_S. R19_ ✓ East Wes
City/State/Zip: Chanute, KS 66720 KANSAS CORPORATION COMMISSION	N sec iwp S. Hio
Purchaser. Bluestem Pipeline, LLC	1980 feet from E / (W) (circle one) Line of Section
Operator Contact Person: Gary Laswell APR 1 9 2006	Footages Calculated from Nearest Outside Section Corner:
Phone: (620 ) 431-9500 CONSERVATION DIVISION	
Contractor: Name: Michaels Drilling, LLC WICHITA, KS	(circle one) NE SE (NW) SW  Lease Name: Swiler, Doris J. Well #: 20-1
License: 33783	Field Name: Cherokee Basin CBM
Wellsite Geologist: n/a	Producing Formation: Multiple
Designate Type of Completion:	Elevation: Ground: 932 Kelly Bushing: n/a
New Well Re-Entry Workover	Total Depth: 1008 Plug Back Total Depth: 1000
Oil SWD SIOW Temp. Abd.	Amount of Surface Pipe Set and Cemented atFeet
Gas ENHR SIGW	14 W 1 G
Dry Other (Core, WSW, Expl., Cathodic, etc)	Market show that the state of
If Workover/Re-entry: Old Well Info as follows:	If yes, show depth setFeet If Alternate II completion, cement circulated from 1000
Operator:	
Well Name:	feet depth to surface w/ 131 sx cmt.
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)
	Chloride content ppm Fluid volume bbls
Plug BackPlug Back Total Depth	Dewatering method used
Commingled Docket No.	Location of fluid disposal if hauled offsite:
Dual Completion	Operator Name:
Other (SWD or Enhr.?) Docket No	
12/27/05 12/29/05 1/6/06	Lease Name: License No.:
Spud Date or Date Reached TD Completion Date or Recompletion Date	Quarter Sec. Twp. S. R. East West
	County: Docket No.:
INSTRUCTIONS: An original and two copies of this form shall be filed with t Kansas 67202, within 120 days of the spud date, recompletion, workover Information of side two of this form will be held confidential for a period of 12 107 for confidentiality in excess of 12 months). One copy of all wireline logs a TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells.	or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply.  months if requested in writing and submitted with the form (see rule 82-3- and geologist well report shall be oftended with the form.
All requirements of the statutes, rules and regulations promulgated to regulate herein are complete and correct to the best of my knowledge.	the oil and gas industry have been fully complied with and the statements
Signature: de l'assulf	KCC Office Use ONLY
Title: Head of Operations Date: 4/8/06	Letter of Confidentiality Received
Subscribed and sworn to before me this Standay of April	If Denied, Yes Date:
20 OG.	
	Geologist Report Received
Notary Public: Sunger R. (Semmann	UIC Distribution
Date Commission Expires: July 30, 2009	JENNIFER R. AMMANN
	tary Public - State of Kansas

Operator Name: Qu	est Cherokee, LL	.C		Leas	e Name:	Swiler, Doris	J.	Well #: _20-1	1	
	<sup>28</sup> S. R. 19		West	Coun	ty: Neos	ho				
INSTRUCTIONS: S tested, time tool ope temperature, fluid re Electric Wireline Log	en and closed, flowin covery, and flow rate	g and shut es if gas to	in pressures, surface test, a	whether s along with	shut-in pre	essure reached	l static level, hyd	rostatic pressure	es, botto	m hole
Drill Stem Tests Take		Y	es 📝 No		<b>✓</b> L	og Forma	tion (Top), Depth	and Datum		Sample
Samples Sent to Ge	ological Survey	_ Y	es 🗹 No		Nam See	e attached		Тор	İ	Datum
Cores Taken		Y	es 🗸 No					>= <pre>&gt;=</pre>		
Electric Log Run (Submit Copy)		<b>✓</b> Y	es No					RECEIVED CORPORATION CO	OISSINMAK	IN
List All E. Logs Run:	:						A	NPR 1 9 200	16	
Comp. Density Dual Induction Gamma Ray/N	Log						со	NSERVATION DIVI WICHITA, KS	SION	
		Repo		RECORD	-	ew Used	ction, etc.			
Purpose of String	Size Hole Drilled	Siz	ze Casing	We	eight s. / Ft.	Setting Depth	Type of Cement	# Sacks Used		and Percent
Surface	Dillied	8-5/8"	t (In O.D.)	20#	s. / Ft.	21.4	"A"	Useu		taditives
Production	6-3/4"	4-1/2		10.5#		1000	"A"	131		
			ADDITIONA	L CEMENT	TING / SQI	JEEZE RECOR	ND			
Purpose:  —— Perforate  —— Protect Casing  —— Plug Back TD  —— Plug Off Zone	Depth Top Bottom	Туре	of Cement	#Sack	ks Used		Type and	Percent Additives	i	
Shots Per Foot	PERFORAT Specify	TON RECOF	RD - Bridge Plu Each Interval Pe	gs Set/Typerforated	e		acture, Shot, Ceme		rd	Depth
4	896-900/839-84				594-597		obis 2%kci water, 500bbis wat		cs 20/40 sand	896-900/839-841
4	569-571/485-49	0/475-47	<b>'</b> 9			400gai 15%HCLw/ 24 b	obls 2%kci water, 600bbls wate	er w/ 2% KCL, Biocide, 82sk	s 20/40 sand	741-743/632-634
			- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1							648-650/594-597
										569-571
					***************************************	400gal 15%HCLw/ 31 i	obis 2%kci water, 215bbis wat	er w/ 2% KCL, Biocide, 15sk	us 20/40 sand	485-490/475-479
TUBING RECORD 2-	Size -3/8"	Set At 981.88		Packer n/a	At	Liner Run	Yes V	lo		
Date of First, Resume 2/27/06	rd Production, SWD or	Enhr.	Producing Me	thod	Flowin	g 🗹 Pump	oing Gas l	_ift Othe	er (Explain	1)
Estimated Production Per 24 Hours	oil n/a	Bbls.	Gas Omcf	Mcf	Wat 77.9		Bbls.	Gas-Oil Ratio		Gravity
Disposition of Gas	METHOD OF	COMPLETION	L		11.3	Production Inte	erval			
Vented ✓ Sold (If vented, S	Used on Lease		Open Hole Other (Spec	✓ Pe	rf. 🔲 l	Dually Comp.	Commingled			







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

#### APR 1 9 2006

CONSERVATION DIVISION WICHITA, KS

FIELD TICKET REF # \_\_\_\_\_\_

## TREATMENT REPORT & FIELD TICKET CEMENT

DATE		WELL	L NAME & NUMBER			SECTION	TOWNSHIP	RANG	E	COUNTY	
1/6/06	Swile	r Obris	5 J.	26-1		20	285	19E		NO	
FOREMAN / OPERATOR	TIME	TIME OUT	LESS LUNCH	TRUCK #		TRAILER #	TRUCI HOUR			IPLOYEE ANATURE	
Duzyne	7:00	11:15	No	901640			4 4		-62	age	
Tim	6:45	11:15	No	903255				4.5	12	donas	
Mike W.	7:00	11:15	No	903 103			<b>3</b>	1.25	The second		
Lean	700	11:15									
David	7:00	11:15	NU 903296 T33 DEGG 4.25 U						<u>Don</u>	Ullanes -	
JOB TYPE Long CASING DEPTH	OB TYPE Long String Hole Size 63/1 Hole DEPTH 1008 CASING SIZE & WEIGHT 4 = 10,5 CASING DEPTH 1000 DRILL PIPE TUBING OTHER										
				VATER gal/sk				CASING	0		
				MIX PSI							
REMARKS:	er.						_				
WOSK 1	DOWN 4	'U' OF	COSI'NG 1	then Pump Dye Follo	2	SOCKS	Parm	Qc/	ے امر جھے	1 Flus:	
to Surface	e. Then	Pumo	10 BBr1	Due Follo	o we	A L	BV 131	Suck	- C	com ent	
to get	Due B.	ack"	540 an	d wesu	OU ?	+ Rin	w th	eN.	570	pard	
INASL OU	+ Pump	and T	There Pam	of wesh	PI	ua 76	Bo Ho	M Gi	1,-	Set	
Port Sloe.			/			0			las-		
902139	2	1,-	(05000	4uerter					~~~		
8-28	9	n/		s -1 roller					.,		
	4			al; zer5							
	/	Long Charles	4/=	Float 5	540	· e _		:			
	1	The state of the s	4/2	Rubber	PI	12					
	2		BAFF	le Plates	)	13/2"	* 3"				
ACCOUNT CODE	QUANTITY or U	JNITS		DESCRIPTION OF SE						TOTAL MOUNT	
901640	44	Lr F	oreman Pickup								
903 255	4.5 3.5	7.	ement Pump Truck	K							
903 103	4.25 3.5		ulk Truck								
1104	/2/		ortland Cement			-					
1124		5		ement Fre Cet	f{   1.0 <u>c</u>	<u> 27a</u>	<u> </u>				
1126	999.3	1 5K 0	WC - Blend Ceme	ent 54 41/a	C C	sing					
1110	13		lo-Seal	ann bhann the ann aid ann air aig an tha bhann the ann the ann ann ann an ann ann ann ann ann ann			<del></del>				
1118			remium Gel								
1215A	/		CL CL				· · · · · · · · · · · · · · · · · · ·				
ারীক্ষেম্ভ	3 5			Cal Cloride	<i>&gt;</i>		<del></del>		***************************************		
1123	7000 60		ity Water								
903294	4.25 3.25	5 AV T	ransport Truck								
	41,25 3.2.		ransport Trailer								
903/00	41.25	1 8	80 Vac								

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

RECEIVED KANSAS CORPORATION COMMISSION

APR 1 9 2006

CONSERVATION DIVISION WICHITA, KS

Company:

Quest Cherokee LLC

Address:

9520 North May Ave, Suite 300

Oklahoma City, Oklahoma 73120

Ordered By: Donnie Meyers

Date:

12/27/05

Lease:

Swiler, Doris J.

County: Neosho

Well#:

20-1

API#:

15-133-26378-00-00

#### **Drilling Log**

FEET	DESCRIPTION	FEET	DESCRIPTION
0-2	Overburden	333-361	Shale
2-40	Lime	361-369	Lime
40-43	Black Shale	369-371	Coal
43-50	Lime	371-374	Shale
50-57	Shale	374-408	Lime
57-87	Sand, Sandy Shale	373	Gas Test (11"at 1/4 Choke)
87-92	Lime	408-411	Black Shale
92-93	Coal	411-423	Shale
93-102	Lime and Shale	413	Gas Test (51"at 1/4 Choke)
102-179	Lime	423-424	Coal
179-	Wet Went To Water	424-432	Shale
179-182	Black Shale	432-449	Sandy Shale
182-184	Lime	449-451	Coal
184-195	Shale	451-472	Lime
195-207	Lime	457	Gas Test (23"at 1/4 Choke)
207-210	Black Shale	472-474	Shale
210-252	Shale .	474-477	Black Shale
252-254	Lime	477-478	Coal
254-281	Shale	478-480	Shale
281-288	Lime	480-485	Lime
288-303	Lime and Shale	482	Gas Test (53" at 1/4 Choke)
300	Gas Test (0" at 1/4 Choke)	485-488	Black Shale
303-329	Shale	488-489	Coal
329-333	Sand/Sandy Shale	489-557	Shale

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

RECEIVED\$
KANSAS CORPORATION COMMISSION

APR 1 9 2006

CONSERVATION DIVISION WICHITA, KS

Company:

Quest Cherokee LLC

Address:

9520 North May Ave, Suite 300

Oklahoma City, Oklahoma 73120

Ordered By: Donnie Meyers

Date:

12/27/05

Lease:

Swiler, Doris J.

County: Neosho

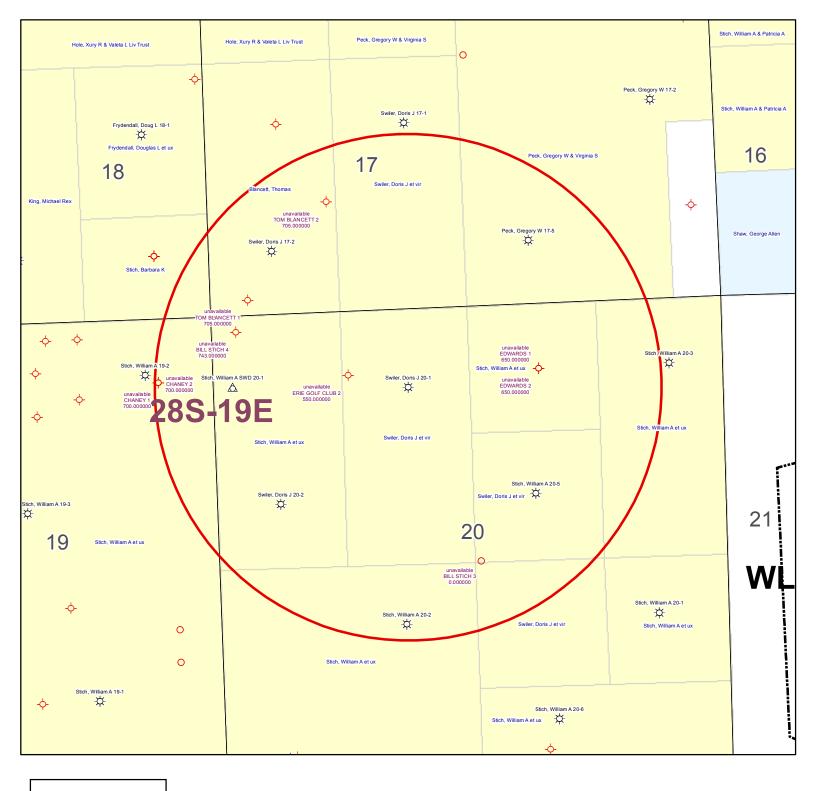
Well#: 20-1

API#:

15-133-26378-00-00

## **Drilling Log**

FEET	DESCRIPTION	FEET	DESCRIPTION
57-559	Lime	740-742	Lime
559-571	Shale	742-743	Coal
571-574	Lime	743-748	Shale
574-576	Shale	748-749	Coal
376-577	Coal	749-764	Shale
577-597	Shale	730	Gas Test (0" at 1/4 Choke)
597-598	Lime	764-766	Coal
598-601	Shale	766-790	Shale
601-602	Coal	790-791	Coal
602-625	Shale	791-797	Shale
625-626	Coal	797-799	Coal
626-633	Shale	799-815	Shale
633-634	Coal	815-816	Coal
634-650	Shale	816-825	Shale
650-651	Coal	825-841	Sandy Shale
651-663	Shale	841-843	Coal
663-664	Coal	843-897	Sandy Shale
664-668	Sandy Shale	897-899	Coal
668-680	Sand	899-912	Shale
680-694	Shale	912-1008	Mississippi Lime
694-695	Coal	933	Gas Test (10"at 1/4 Choke)
695-702	Sand Sandy Shale	1008	T.D.
702-712	Shale	1008	Gas Test (10"at 1/4 Choke)
712-740	Sandy Shale		



#### **KGS STATUS**

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

Swiler, Doris J 20-1 20-28S-19E 1" = 1,000'

#### **POSTROCK**



## **Current Completion**

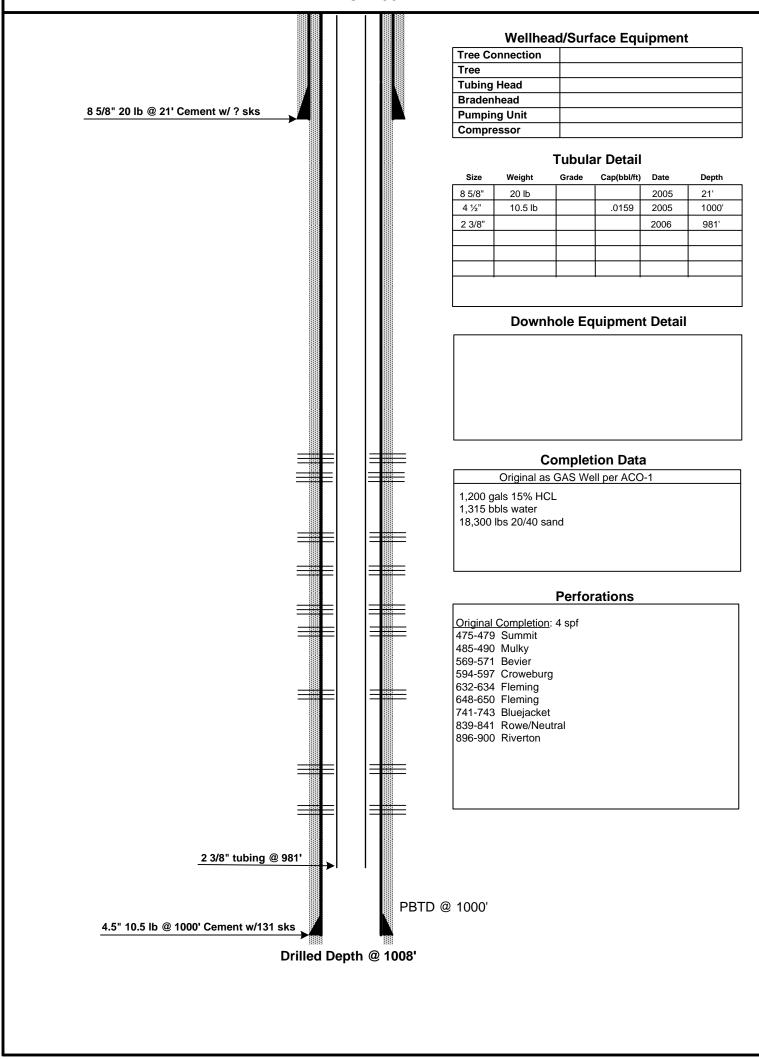
**WELL** : Swiler, Doris J 20-1

**FIELD** : Cherokee Basin

**STATE** : Kansas **COUNTY** : Neosho SPUD DATE: 12/27/2005 COMP. Date: 1/6/2006 API: 15-133-26378-00-00

LOCATION: 20-28S-19E (NE,NW)

**ELEVATION: 932'** 



PREPARED BY: POSTROCK

APPROVED BY: \_

**DATE**: Sept, 2012

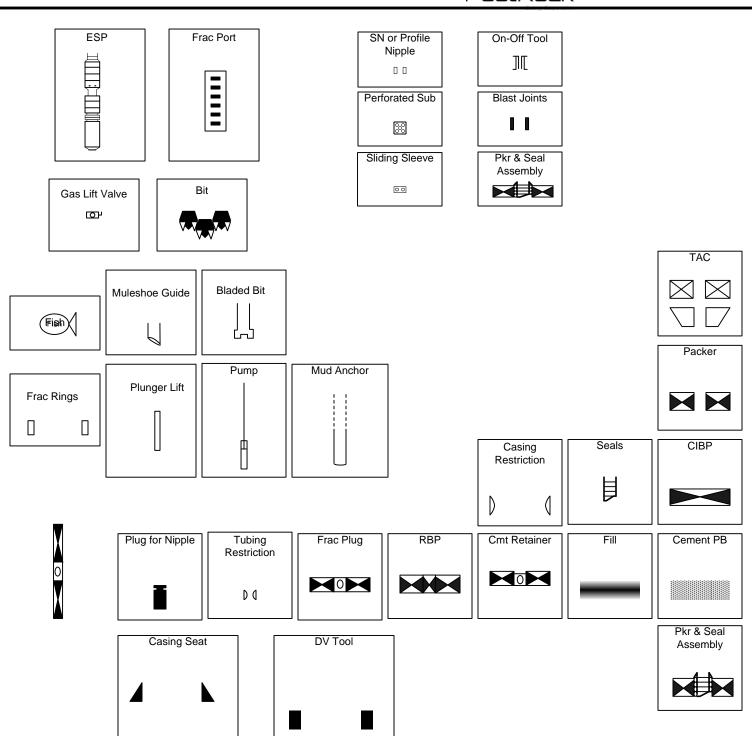
DATE:\_

## **POSTROCK**



#### **LEGEND**

### PostRock<sup>®</sup>



#### **SWILER, DORIS J 20-1**

1 NAME & UPPE	R & LOWER LIMIT OF EACH PRODU	CTION INTERVAL TO E	BE COMMING	LED			
FORMATION:	FLEMING	(PERFS):	648 -	650			
FORMATION:	BLUEJACKET	(PERFS):	741 -	743			
FORMATION:	ROWE/NEUTRAL	(PERFS):	839 -	841			
FORMATION:	RIVERTON	(PERFS):	896 -	900			
FORMATION:	CATTLEMAN	(PERFS):	615 -	621			
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
2 FSTIMATED AN	MOUNT OF FLUID PRODUCTION TO	BE COMMINGLED FRO	OM FACH INT	FRVAI			
FORMATION:	FLEMING	BOPD:	0	MCFPD:	4.78	BWPD:	0.77
FORMATION:	BLUEJACKET	BOPD:	0	MCFPD:	4.78	BWPD:	0.77
FORMATION:	ROWE/NEUTRAL	BOPD:	0	MCFPD:	4.78	BWPD:	0.77
FORMATION:	RIVERTON	BOPD:	0	MCFPD:	4.78	BWPD:	0.77
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:	

Affidavit of Notice Served		
Re: Application for: APPLICATION FOR COMMINGLIN	G OF PRODUCTION OR FLUIDS ACO-4	1.00000
Well Name: SWILER, DORIS J 20-1	Legal Location: N2S2NENW S20-T28	S-R19E
The undersigned hereby certificates that he / she is a duly authorized agent	for the applicant, and that on the day $\frac{1}{2}$ of $\frac{1}{2}$ of $\frac{1}{2}$	BER .
, a true and correct copy of the application referenced a	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, OKLAHOM	A CITY, OK 73102-5641
	·	
	•	
I further attest that notice of the filing of this application was published in the ${f Q}$	CHANUTE TRIBUNE	, the official county publication
NEORIO	county. A copy of the affidavit of this publication is attached.	
l m.l.l		
Signed this	112	,
	Les Morns	
A	pplicant or Duly Authorized Agent	
Subscribed and sworn to b	efore me this day of OCTOBER	
augus,	annufer R. Beal	<u> </u>
JENNIFER R. BEAL  OFFICIAL MY COMMISSION EXPIRES	otary Public	i and to the
4Fan Ochlan	y Commission Expires: July 30, 31	0/0
	v v	
	· ·	

,

## SWILER, DORIS J 20-1-APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS Offset Operators, Unleased Mineral Owners and Landowners acreage (Attach additional sheets if necessary) Name: Legal Description of Leasehold: POSTROCK MIDCONTINENT PRODUCTION, LLC POSTROCK HAS LEASED ALL ACREAGE IN THE 1/2 MILE RADIUS I hereby certify that the statements made herein are true and correct to the best of my knowledge and belief. Applicant or Duly Authorized Agent 2012 Subscribed and sworn before me this JENNIFER R. BEAL MY COMMISSION EXPIRES Notary Public My Commission Expires:

# 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 Swiler, Doris J 20-1 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, Bluejacket, Rowe/Neutral, Riverton and Cattleman producing formations at the Swiler, Doris J 20-1, located in the N2 S2 NE NW, S20-T28S-R19E, Approximately 817 FNL & 2030 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 &

apply programme and the contraction of the contract

STATE OF KANSAS, NEOSHO COUNTY, ss:

pedelt arm over

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.

published in the regular and entire issue of said newspa-
per for <u>lonsecutive timo</u> , the first publication
thereof being made as aforesaid on the <u>/O</u> day of
2012, with subsequent publications being made on the fol-
lowing dates:
, 2012, 2012
, 2012, 2012
Rhonda Howerton
Subscribed and sworn to and before me this
10 day of <u>Octoboc</u> ,2012
Notary Public
My commission expires: January 9, 2015
Printer's Fee\$ 600.98
Affidavit, Notary's Fee \$ 3.00
Additional Copies\$
Total Publication Fees \$ 109.98



#### 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 11th 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.

Iletchall

Subscribed and sworn to before me this

11th day of October, 2012

PENNY L. CASE Notary Public - State of Kansas My Appt. Expires\_ 4

Notary Public Sedgwick County, Kansas

Printer's Fee: \$132.40

#### LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGLE
OCTOBER 11, 2012 (3211685)
BEFORE THE STATE CORPORATION
COMMISSION
OF THE STATE OF KANSAS
NOTICE OF FILING APPLICATION
E: In the Mailer of Postrock Midcontinent
Production, LLC Application for
Commingling of Production in the Swiler,
Dorls J 20-1 located in Neosho County,
Kansas.

TO: All Oil & Gas Producers, Unleased Mineral

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, Croweburs, Fleming, Biuelacket, Rowe/Neutral, Riverton and Cattleman producing formations at the Switer, Dorts J. 20-1, localed in the NZ SZ NE NW, SZOTZSS-R19E, Approximately 817 FNL & 2030 FWL, Neosho County, Kansas.

Any persons who object to or protest his 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)

objections or protest with the Conservation of the State Corporation Commission of the State of Kansas within fifteen (15) days from the date of this publication. These protests shall be fifted 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 ake 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 professiants 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

210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102

(405) 660-7704

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

October 30, 2012

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

RE: Approved Commingling CO101207

Swiler, Dorir J. 20-1, Sec. 20-T28S-R19E, Neosho County

API No. 15-133-26378-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on October 16, 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 CO101207 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