

## 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	S. R East West
Address	2:		Feet from Nort	h / South Line of Section
City:			Feet from East	/ West Line of Section
Contact	Person:	County:		
Phone:	()	Lease Name:	Well #	<del>!</del> :
_				
1.	Name and upper and lower limit of each production interval to	· ·		
	Formation:	(Perfs): _		
	Formation:	(Perfs): _		
	Formation:	(Perfs):		
	Formation:	(Perfs): _		
	Formation:	(Perfs): _		
□ 2.	Estimated amount of fluid production to be commingled from e	each interval:		
	Formation:		MCEDD:	BWPD:
	Formation:			BWPD:
	Formation:			BWPD:
	Formation:			BWPD:
	Formation:	BOPD:	MCFPD:	BWPD:
3.	Plat map showing the location of the subject well, all other well the subject well, and for each well the names and addresses of	•	•	s within a 1/2 mile radius of
4.	Signed certificate showing service of the application and affida	avit of publication as required i	in K.A.R. 82-3-135a.	
For Con	nmingling of PRODUCTION ONLY, include the following:			
<u> </u>	Wireline log of subject well. Previously Filed with ACO-1:	Yes No		
☐ 6.	Complete Form ACO-1 (Well Completion form) for the subject	well.		
For Con	nmingling of FLUIDS ONLY, include the following:			
7.	Well construction diagram of subject well.			
8.	Any available water chemistry data demonstrating the compati	ibility of the fluids to be commi	ingled.	
current ir mingling	/IT: 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.	Sul	omitted Electronic	cally
KCC	Office Use Only	Protests may be filed by any r	party having a valid interest in	n the application. Protests must be
l —	nied Approved			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	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 <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 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{\textit{Z}}\text{Aligner}\text{Limits} = \mathbb{\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 <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 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 <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

ORIGINAL September 1999
Must Be Typed

CONSERVATION DIVISION

WICHITA, KS

CONFIDENTIAL WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

**6** 1/31/10

Operator: License #_33344	API No. 15 - 15-133-27075-0000
Name: Quest Cherokee, LLC	County: Neosho
Address: 211 W. 14th Street	SW_SE_Sec. 18 Twp. 27 S. R. 19
City/State/Zip: Chanute, KS 66720	770 feet from S/ N (circle one) Line of Section
Purchaser: Bluestem Pipeline, LLC	1980 feet from E W (circle one) Line of Section
Operator Contact Person: Jennifer R. Ammann CONFIDENTIAL	Footages Calculated from Nearest Outside Section Corner:
000 424 0500	(circle one) NE SE NW SW
Phone: ( 620 ) 431-9500 JAN 3 () 2008  Contractor: Name: TXD	Lease Name: Mih, A.D. Well #. 18-1
License: 33837 KCC	Field Name: Cherokee Basin CBM
Wellsite Geologist: Ken Recoy	Producing Formation: Multiple
Designate Type of Completion:	Elevation: Ground: 973 Kelly Bushing: n/a
New Well Re-Entry Workover	Total Depth: 1072 Plug Back Total Depth: 1063
Oil SWD SIOWTemp. Abd.	Amount of Surface Pipe Set and Cemented at 20 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 1063
Operator:	feet depth to surface w/ 150 sx cmt.
Well Name:	ALTIMATIONS
Original Comp. Date: Original Total Depth:	Drilling Fluid Management Plan AH JJ NJ & 509 (Data must be collected from the Reserve Pit)
Deepening Re-perf Conv. to Enhr./SWD	Chloride contentppm Fluid volumebbls
Plug BackPlug 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:
	Lease Name: License No.:
10-11-07	Quarter Sec Twp S. R   East West
Recompletion Date 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 1 107 for confidentiality in excess of 12 months). One copy of all wireline logs 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.  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
All requirements of the statutes, rules and regulations promulgated to regula herein are complete and correct to the best of my knowledge.	te the oil and gas industry have been fully complied with and the statements
Signature: Symmetry & Ammonn	KCC Office Use ONLY
Title: New Well Development Coordinator Date: 1/30/08	Letter of Confidentiality Received
Subscribed and sworn to before me this 20th day of	If Denied, Yes Date:
_	Wireline Log Received RECEIVED
20.08.	Geologist Report Recei VANSAS CORPORATION COMMISS
Notary Public: DIXXON Klauman	UIC Distribution FEB 0 4 2008
Date Commission Expires: 8-4/2010 A TERI	RA KLAUMAN

Notary Public - State of Kansas My Appt. Expires 8-4 - 2010

Operator Name: Que	st Cherokee, LL		ا معدا	Name.	Mih, A.D.	بداء ماد	Well #: 18-1	<b>∞</b> γ. <sup>™</sup>
Sec. 18 Twp. 27		✓ East		y: Neosh			1 1	1 4,6%
INSTRUCTIONS: Sh tested, time tool open temperature, fluid rec	now important tops a n and closed, flowing overy, and flow rates	and base of formations p g and shut-in pressures, s if gas to surface test, a inal geological well site	whether s llong with	hut-in pre	ssure reached	l static level, hydr	ostatic pressure	es, bottom hole
Drill Stem Tests Taker		Yes No		VL	og Forma	tion (Top), Depth	and Datum	Sample
Samples Sent to Geo	logical Survey	☐ Yes ☐ No		Nam See	e attached		Тор	Datum
Cores Taken Electric Log Run (Submit Copy)	<u>(                                    </u>	Yes No		4				
List All E. Logs Run:								
Compensated Dual Induction	•	ron Log						
		CASING Report all strings set-	RECORD conductor, s	No Surface, inte	_	ction, etc.		
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)		eight . / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12-1/4	8-5/8"	22		20	"A"	5	
Production .	6-3/4	4-1/2	10.5		1063	"A"	150	
							/ /	The Committee of the Co
		ADDITIONAL	CEMENT	ING / SQI	JEEZE RECOF	RD		<u> </u>
Purpose:  Perforate Protect Casing Plug Back TD	Depth Top Bottom	Type of Cement	#Sack	s Used		· . · · · ·	Percent Additives	
Plug Off Zone		. u				under extra ga	<del></del>	
Shots Per Foot		ON RECORD - Bridge Plu Footage of Each Interval Pe		e		racture, Shot, Ceme Amount and Kind of M		d Depth
4	935-938				300gài 15%HCLw/ 49	obls 2%kcl water, 446bbts water	r wi 2% KCL, Blockle, 4400	# 20/40 sand 935-938
4	783-785/681-68	3/645-648			400gal 15%HCLw/ 46	obls 2%kcl water, 546bbls water	r w/ 2% KCL, Blocide, 4600	# 20/40 sand 783-785/681-6
				·		<u> </u>		645-648
4	558-562/544-54	8			300gal 15%HCLw/ 46	obls 2%kcl water, 646bbls wate	r w/ 2% KCL, Blockle, 6700	# 20/40 sand 558-562/544-5
TUBING RECORD 2-3	Size 3/8"	Set At 965.70	Packer n/a	At	Liner Run	Yes N	o	
Date of First, Resument		<del></del>	thod	Flowin	g Pum	ping [ Gàs l	ift 👉 🔃 Òth	er (Explain)
Estimated Production Per 24 Hours	Oil n/a	Bbls. Gas 0.0 mcf	Mcf	Wat 0.0 b		Bbls.	Gas-Oil Ratio	Gravity
Disposition of Gas	METHOD OF 0	COMPLETION			Production In	erval		
Vented ✓ Sold (If vented, Su	Used on Lease	Open Hole Other (Spec	✓ Pe		Dually Comp.	Commingled		



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

# CONFIDENTIAL

JAN 3 0 2008
TREATMENT BEPORT
& FIELD TICKER CEMENT

,		_	_	_	_
TICKET	NUMBER	2	5	0	6

FIELD TICKET REF #

EOREMAN\_

SECTION TOWNSHIP RANGE COUNTY

623290 WELL NAME & NUMBER

DATE		WE	L NAME & NUMBER			SECTION	TOWNSHIP	RANG	ŝΕ	COUNTY
10-15-07	Mih 1	A.D.	18-1			18	٦٦	19		~0
FOREMAN / OPERATOR	TIME	TIME	LESS LUNCH	TRUCK #	·	TRAILER #	TRUC			LOYEE IATURE
500)	10:00	1:30		903427			3.	5	Jae F	Slancha
MAVERICK				903197			1		13	0
Tyler				903600					Tyler	Hillon
Tim				903140	93	32452			L~	ast -
DANIEL		V		931420			$\bigvee$		Duis	205.13
CASING DEPTH 1/2 SLURRY WEIGHT DISPLACEMENT REMARKS:	063 54 DAILL 14.2 SLURF 6.96 DISPL	PIPE RY VOL ACEMENT	T	HOLE DEPTH 10  TUBING  WATER gal/sk  MIX PSI  11 bbl dye  To hotten		OTHE	RRNT LEFT in	CASING	0	
		- Market						to be advanced		
	, 1063.	54	F+41/2	Casina						
		6	Central	Zells						
			41/2 Fica	+5/100					· · · · ·	
ACCOUNT CODE	QUANTITY or	UNITS		DESCRIPTION OF SE	RVICE	S OR PRODUC	T			OTAL IOUNT
902427		h	Foreman Pickup							
903197	1	hr	Cement Pump Truck	k						
903600	<b>V</b>	۲۲	Bulk Truck						······································	
1104	14	O SK	Portland Cement							
1124			50/50 POZ Blend C							
1126				ent 41/2 wiper	- UJ.	<u>ia</u>		RECE	TION CON	MISSION
1110		5 sv	Gilsonite					l l		1
1107	1.5		Flo-Seal					FEB 0	4 2008	3
1118		6511	Premium Gel							
1215A	laci		KCL Sodiem Silients		. // .		<del>C</del>	CLIŞERVA VANCUL	<u>ION DIVIS</u>	NOIL
1111B		ESK.	Sedium Silicate	- Colchlor	1 6	<del>\</del>		963js8		
1123	7600	<del>-</del> .	City Water							
903140	3.5	<u> </u>	Transport Truck	<u></u> .						
932452		hr	Transport Trailer				** * **********************************		<del></del>	
931420		hr.	80 Vac							

### Mih, A.D. 18-1 15-133-27075-0000

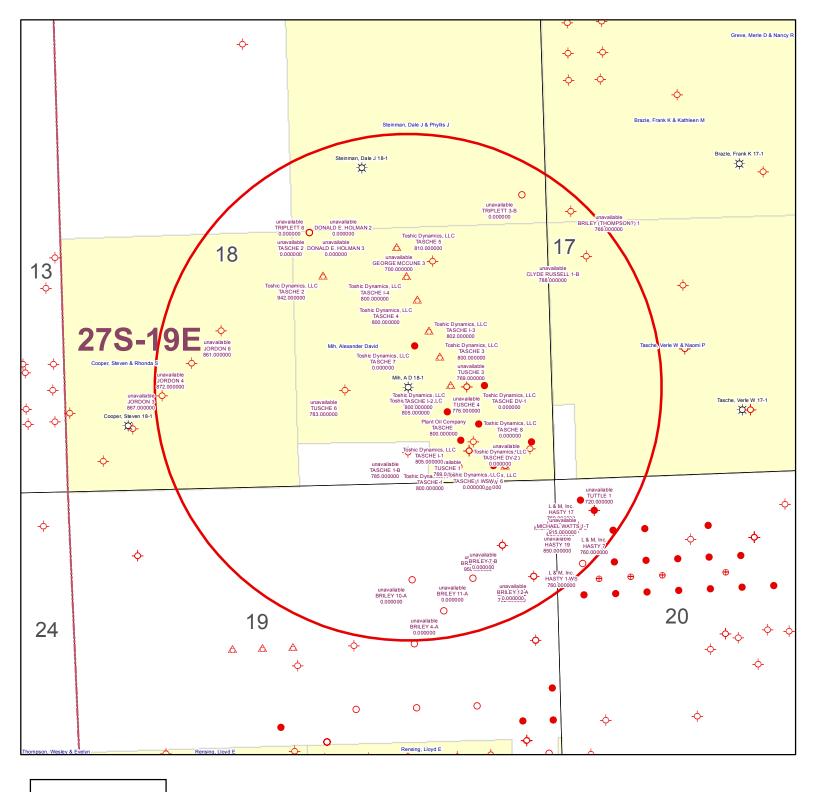
15-133-27073-0000				
Pawnee LS / Pink	447-483			
Oswego Coal	522-523			
Oswego Limestone	523-543			
Mineral Coal	695-697			
Tebo Coal	730-732			

CONFIDENTIAL JAN 3 0 2008 KCC

RECEIVED KANSAS CORPORATION COMMISSION

FEB 0 4 2008

COMSERVATION DIVISION
WHICH TALKS



## **KGS STATUS**

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

Mih, A D 18-1 18-27S-19E 1" = 1,000'

## **POSTROCK**



## **Current Completion**

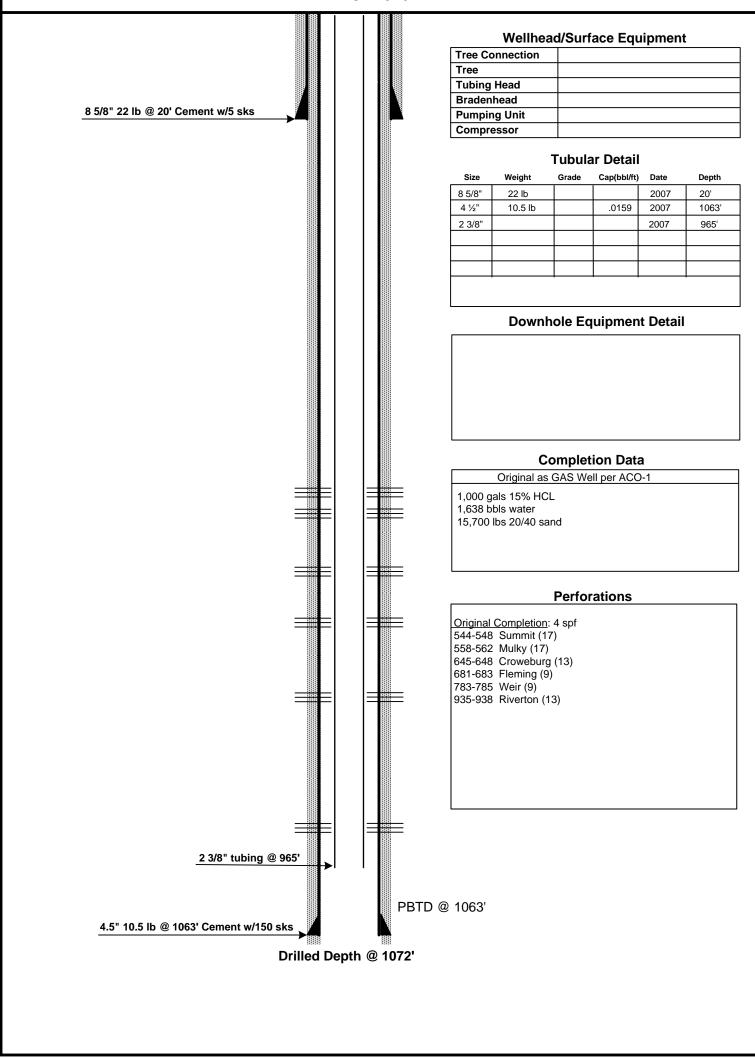
**WELL** : Mih, A. D. 18-1 **FIELD** 

: Cherokee Basin

**STATE** : Kansas **COUNTY** : Neosho **SPUD DATE: 10/11/2007** COMP. Date: 10/15/2007 API: 15-133-27075-00-00

**LOCATION: 18-27S-19E (SW,SE)** 

**ELEVATION: 973'** 



PREPARED BY: POSTROCK

APPROVED BY: \_

**DATE:** Oct, 2012

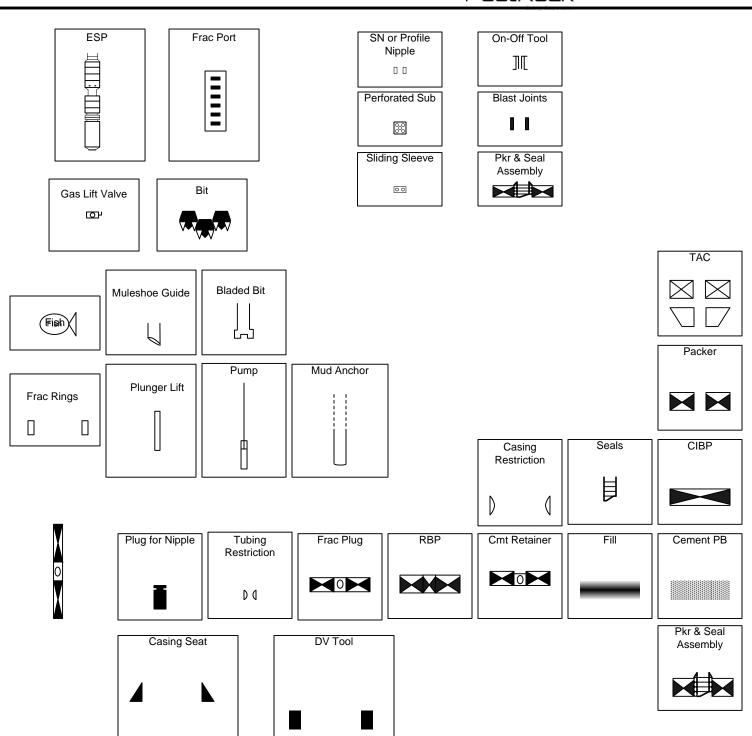
DATE:\_

## **POSTROCK**



## **LEGEND**

## PostRock<sup>®</sup>



FORMATION:	RIVERTON	(PERFS):	935 -	- 938		
FORMATION:	BARTLESVILLE	(PERFS):	877	- 883		
FORMATION:		(PERFS):		-		
FORMATION:		(PERFS):		-		
FORMATION:		(PERFS):		-		
FORMATION:		(PERFS):		-		
FORMATION:		(PERFS):		-		
FORMATION:		(PERFS):		-		
FORMATION:		(PERFS):		-		
FORMATION:		(PERFS):		-		
FORMATION:		(PERFS):		-		
		· · · · <del></del>				
FORMATION:		(PERFS):	···································	<u> </u>		
	MOUNT OF FLUID PRODUCTION TO BE ( RIVERTON		I EACH INT	ERVAL MCFPD:	3.5 0 BWPD:	6.66
2 ESTIMATED A	RIVERTON	COMMINGLED FROM	_		3.5 0 BWPD: 0 BWPD:	6.66
2 ESTIMATED A FORMATION:	RIVERTON	COMMINGLED FROM BOPD:	0	MCFPD:		
2 ESTIMATED A FORMATION: FORMATION:	RIVERTON BARTLESVILLE	COMMINGLED FROM BOPD: BOPD:	0	MCFPD:	0 BWPD:	
2 ESTIMATED A FORMATION: FORMATION: FORMATION:	RIVERTON BARTLESVILLE 0	COMMINGLED FROM BOPD: BOPD: BOPD:	0	MCFPD: MCFPD:	0 BWPD: BWPD:	
2 ESTIMATED A FORMATION: FORMATION: FORMATION:	RIVERTON BARTLESVILLE  0 0	COMMINGLED FROM BOPD: BOPD: BOPD: BOPD:	0	MCFPD:MCFPD:MCFPD:	0 BWPD: BWPD: BWPD:	
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Affidavit of Notice Served	
Re: Application for: APPLICATION FOR COMMINGLE	ING OF PRODUCTION OR FLUIDS ACO-4
Well Name: MIH, AD 18-1	Legal Location: NENESWSE S18-T27S-R19E
	ent for the applicant, and that on the day/2 = of NOVEMBER,
2015	ad 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)
L & M, INC	1606 PAUL ST, APT A, PARKERSBURG, WV 26101
PLANT OIL COMPANY	PO BOX 301, CHANUTE, KS 66720
TOSHIC DYNAMICS LLC	8226 E HIGHLAND AVE, SCOTTSDALE, AZ 85251
SEE ATTACHED	
	THE CHANGE TRIPLING
I further attest that notice of the filing of this application was published in th	the official county publication
of NEOSHO	county. A copy of the affidavit of this publication is attached.
Signed this	2012
	Jas Morris
	Applicant or Duly Authorized Agent
Subscribed and sworn to	o before me this day of NOVEMBER , 2012
	Augustu Z. Bial
JENNIFER R. BEAL  OFFICIAL  MY COMMISSION EXPIRES	Notary Public  My Commission Expires: Quely 20, 20/16
7-20-2016	My Commission Expires: Sully 30, 20/6
	V

## 18-27S-19E

NW4 less

KW Oil Service 19450 Ford Rd Chanute, KS 66720

Tract in SE4

Arthur Jr & Connie Lester

2690 130th Rd Chanute, KS 66720

## 19-27S-19E

**NE4** less

Michael & Barbara A Watts

21350 Jackson Rd Chanute, KS 66720

Tract in NE4

Charles & Beverly Hole

9715 220th Rd Chanute, KS 66720

**NW4** less

Kynta Lou Leonard

PO Box 309

Cripple Creek, CO 80813

trct in NW

Matthew & Jennifer Richard

20155 Harper Rd Chanute, KS 66720

## MIH, A D 18-1-APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS

ffset Operators, Unleased Mineral Owners and Landowners acreage  altach additional sheets if necessary)  Name:  Legal Description of Leasehold:  SEE ATTACHED	
ttach additional sheets if necessary)  Name:  Legal Description of Leasehold:	
EE ATTACHED	
eby certify that the statements made herein are true and correct to the best of my knowledge and belief.	
Jeff Maris	
Applicant or Dully Authorized Agent	
Subscribed and sworn before me this day of NOVEMBER	2012
Subscribed and sworn before me this day of NOVEMBER	_ ,
Curnly S. Seal	
JENNIFER R. BEAL Notary Poblid	•
JENNIFER R. BEAL OFFICIAL MY COMMISSION EXPIRES  7-20-2016  My Commission Expires: Quely, 20, 2016	
7-20-2016	

LEGAL LOCATION	SPOT	CURR_OPERA
S20-T27S-R19E	NW NW NW NW	L & M, Inc.
S20-T27S-R19E	NW SW NW NW	L & M, Inc.
S20-T27S-R19E	SE NW NW NW	L & M, Inc.
S18-T27S-R19E	SE SE SE	Plant Oil Company
S18-T27S-R19E		Plant Oil Company
S18-T27S-R19E	SW SE SE	Toshic Dynamics, LLC
S18-T27S-R19E	SE SE SE	Toshic Dynamics, LLC
S18-T27S-R19E	NW SE SE	Toshic Dynamics, LLC
S18-T27S-R19E	NW NW SE	Toshic Dynamics, LLC
S18-T27S-R19E	W2 E2 SE	Toshic Dynamics, LLC
S18-T27S-R19E	SE NW SE	Toshic Dynamics, LLC
S18-T27S-R19E	NE NW SE	Toshic Dynamics, LLC
S18-T27S-R19E	SE SW SE	Toshic Dynamics, LLC
S18-T27S-R19E	SE NW SE	Toshic Dynamics, LLC
S18-T27S-R19E	SW SE SE	Toshic Dynamics, LLC
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S18-T27S-R19E	SE NW SE	Toshic Dynamics, LLC
S18-T27S-R19E	NE NW SE	Toshic Dynamics, LLC

## 18-27S-19E

NW4 less

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Chanute, KS 66720

Tract in SE4

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## 19-27S-19E

**NE4** less

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21350 Jackson Rd

Chanute, KS 66720

Tract in NE4

Charles & Beverly Hole

9715 220th Rd

Chanute, KS 66720

**NW4 less** 

Kynta Lou Leonard

PO Box 309

Cripple Creek, CO 80813

trct in NW

Matthew & Jennifer Richard

20155 Harper Rd

Chanute, KS 66720

#### **AFFIDAVIT**

STATE OF KANSAS

- SS.

County of Sedgwick

1

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 9th of

## November 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

9th day of November, 2012

PENNY L. CASE

Notary Public - State of Kansas

My Appt. Expires

Notary Public Sedgwick County, Kansas

Printer's Fee : \$132.40

## LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGLE NOVEMBER 9, 2012 (3216868) BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

OF THE STATE OF ANNOAS
NOTICE OF FILING APPLICATION
RE: In the Matter of Postrock Midcontinent
Production, LLC Application for
Commingling of Production in the Mih, A
D 18-1 located in Neostho 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

You, and each of you, are hereby notified that Postrock Midconlinent Production, LLC has filed an application to commingle the Summit, Mulky, Croweburg, Fleming, Weir, Riverton and Barilesville producing formations at the Milh, A D 18-1, located in the NE NE SW SE, S18-T27S-R19E, Approximately 1001 FSL & 1495 FEL, Neosho County, Kansas.

Riverton and Barlesville producing formallons at the Milh, A D 18-1, located in the NE NE SW SE, S18-T275-R19E, Approximately 1001 FSL & 1495 FEL, Neosho County, Kansas.

Any persons who object to or protest this application shalt be required to file their objections or protest with the Conservation Division of the State Corporation Commission 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 poliute 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 Oli and Gas Commission.

Upon the receipt of any protest, the Commission will convene a hearing and protestants will be expected to enter an appearance either through proper legal counset or as individuals, appearing on their own behalf. Postrock Midcontinent Production, LLC 210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102 (405) 660-7704

## 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 Mih, A D 18-1 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, Croweburg, Fleming, Weir, Riverton and Bartlesville producing formations at the Mih, A D 18-1, located in the NE NE SW SE, S18-T27S-R19E, Approximately 1001 FSL & 1495 FEL, 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 A

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

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

That the attached notice is a true copy thereof and was published in the regular and entire issue of said newspaper for consecutive time, the first publication thereof being made as aforesaid on the day of with subsequent publications being made on the following dates:
, 2012, 2012
, 2012, 2012
Rhonda Howerter
Subscribed and sworn to and before me this
My commission expires: January 9, 2015  Printer's Fee



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 27, 2012

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

RE: Approved Commingling CO111209

Mih, A.D. 18-1 Sec. 18-T27S-R19E, Neosho County

API No. 15-133-27075-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on November 19, 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 CO111209 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