

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1093843

Form ACO-4 Form must be typed March 2009

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

OPERA	TOR: License #	API No. 15		
Name:_		Spot Description:		
Address	31:	:	Sec Twp S. R.	East West
Address	3 2:		Feet from 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	mminaled:		
	Formation:	•		
	Formation:	, ,		
	Formation:	` ,		
	Formation:	, ,		
	Formation:	,		
	Tomaton.	(1 0110)		
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 Signed certificate showing service of the application and affidavit of	essee of record or opera	ator.	nin a 1/2 mile radius of
For Co	mmingling of PRODUCTION ONLY, include the following:			
5.	Wireline log of subject well. Previously Filed with ACO-1: $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	☐ No		
6.	Complete Form ACO-1 (Well Completion form) for the subject well.			
For Co	mmingling of FLUIDS ONLY, include the following:			
	Well construction diagram of subject well.			
8.	Any available water chemistry data demonstrating the compatibility	of the fluids to be commir	ngled.	
AFFIDA current i	VIT: I am the affiant and hereby certify that to the best of my nformation, knowledge and personal belief, this request for compistrue and proper and I have no information or knowledge, which sistent with the information supplied in this application.	Sub	omitted Electronically	<i>(</i>

Approved By: _____ Date: ____

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.

KCC Office Use Only

Denied Approved

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.	————		
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 59 60 61 62 63 64 65 66 67	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated Alkalinity Caclulated Alkalinity Caclulated ECations= ZAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed, 1st inhibitor # is:	(F) (F) (Psia) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120 1 4	0 0 0 Unit min 1-Yes;0-No #	## 1 2 3 4 5 6	Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA	Unit Converter From Unit Com "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 Com "C m " MPa Bar	49.0 25.0 25.0 25.0 	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit "F ft ³ bbl(42 US gal) psia	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	

Saturation Index Calculations

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

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

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

Saturation Index

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

PTB

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

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

ORIGINA Form Must Be Typed

WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

Operator: License # 33344	API No. 15 - 205-26987~60~60
Name: Quest Cherokee, LLC	County: Wilson
Address: 211 W. 14th Street	
City/State/Zip: Chanute, KS 66720	1980 feet from (S) N (circle one) Line of Section
Purchaser: Bluestem Pipeline, LLC	1825 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: TXD Services LP	Lease Name: Olson, David D. Well #: 21-2
License: 33837	Field Name: Cherokee Basin CBM
Wellsite Geologist: Ken Recoy	Producing Formation: Multiple
Designate Type of Completion:	Elevation: Ground: 912 Kelly Bushing: n/a
New Well Re-Entry Workover	Total Depth: 1152 Plug Back Total Depth: 1143.62
OilSWDSIOWTemp. 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 setFeet
If Workover/Re-entry: Old Well Info as follows:	If Alternate II completion, cement circulated from 1143.62
Operator:	feet depth to_surfacew/ 145sx cmt.
Well Name:	, '
Original Comp. Date: Original Total Depth:	Drilling Fluid Management Plan ALF#2 KJR 6/19/0 (Data must be collected from the Reserve Pit)
Deepening Re-perf Conv. to Enhr./SWD	Chloride content ppm Fluid volume bbls
Plug Back Plug Back Total Depth	Dewatering method used
Commingled Docket No.	Location of fluid disposal if hauled offsite:
Dual Completion Docket No	
Other (SWD or Enhr.?) Docket No	Operator Name:
11/14/06 11/15/06 11/16/06	Lease Name: License No.:
Spud Date or Date Reached TD Completion Date or	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 the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and	d gas industry have been fully complied with and the statements
herein are complete and correct to the best of my knowledge.	
	•

STATE OF KANSAS

MY APPT. EXPIRES 7-1-08

KCC Office Use ONLY	
Letter of Confidentiality Received	
If Denied, Yes Date:	
Wireline Log Received	
Geologist Report Received RECEIVED	
UIC Distribution KANSAS CORPORATION COM	MISSION
MAP 1 4 2007	ĺ

Operator Name: Qu	est Cherokee, ĽĹ	c∩	Lease N	ame:	Olson, David	D.	Well #: 21-2	2
Sec. 21 Twp. 12	8 \ /S. R. 17	✓ East ☐ West	County:	Wilso	on			
tested, time tool ope temperature, fluid red	n and closed, flowing covery, and flow rate	and base of formations part and shut-in pressures if gas to surface test, inal geological well site	penetrated. D , whether shu along with fina	etail a	III cores. Reportessure reached	d static level, hyd	rostatic pressure	es, bottom hole
Drill Stem Tests Take		☐ Yes 🗸 No		 ✓L	.og Forma	tion (Top), Depth	and Datum	Sample
Samples Sent to Ge	ological Survey	☐ Yes ☑ No		Nam See	ne attached		Тор	Datum
Cores Taken Electric Log Run (Submit Copy)		☐ Yes ☑ No ☐ Yes ☐ No						
List All E. Logs Run:								
Compensated Dual Induction Gamma Ray N	_							
		CASING Report all strings set	RECORD -conductor, surfa	·	ew Used ermediate, produ	ction, etc.		
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight	ţ.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12-1/4	8-5/8"	20		21' 6"	"A"	5	7.03.07.00
Production	6-3/4	4-1/2	10.5		1143.62	"A"	145	
		ADDITIONA	L CEMENTING	/ SQ	UEEZE RECOR	iD.		
Purpose: Perforate Protect Casing Plug Back TD Plug Off Zone	Depth Top Bottom	Type of Cement	#Sacks U	sed		Type and	Percent Additives	:
Shots Per Foot		ON RECORD - Bridge Plu Footage of Each Interval Pe				acture, Shot, Ceme Amount and Kind of I		d Depth
4	1034-1037/988-	989/982-984			300gal 15%HCLw/ 35 t	obis 2%kd water, 449bbls wate	er w/ 2% KCL., Biocide, 8000	# 30/70 sand 1034-1037/988-989
			· .					982-984
4	883-885/745-74	8/727-729		ļ	300gai 15%HCLwi 40 b	obls 2%kcl water, 707bbls water	r w/ 2% KCL, Blocke, 10000	# 30/70 sand 883-885/745-748
					-			727-729
4	656-660/644-64				300gal 15%HCLw/ 56 b	obls 2%kcl water, 599bbls water	r w/ 2% KCL, Blockle, 12000	# 30/70 sand 656-660/644-648
TUBING RECORD 2-	Size 3/8"	Set At 1070	Packer At n/a		Liner Run	☐ Yes , 🗸 N	lo	
Date of First, Resumer	d Production, SWD or E	Producing Me		Flowin	ng 📝 Pump	oing Gas L	_ift	er (Explain)
Estimated Production Per 24 Hours		Bbls. Gas	Mcf	Wat		Bbls.	Gas-Oil Ratio	l Gravity
Disposition of Gas	n/a METHOD OF 0	52.8mcf		103.	6bbls Production Inte	erval		,
☐ Vented ~ ✓ Sold	Used on Lease	Open Hole	المكت		Dually Comp.			
		Julei (Spe	y)	1			· · · · · · · · · · · · · · · · · · ·	

TXD SERVICES LP

WRILLERS LOG



RIG #	101		S. 21	T. 28	R. 17E	GAS, JES	78.	N-1.51 BX3
API#	205-26987	-	County:	Wilson		501'	0	
	Elev:	912'	Location	Kansas		689	13 - 3/4"	51.4
						752'	15 - 3/4"	55.2
Operator:	Quest Chero	okee, LLC				783'	15 - 3/4"	55.2
Address:	9520 N. May	Ave, Suite	300			815'	15 - 3/4"	
	Oklahoma C	ity, OK. 731	20			845'	15 - 3/4"	
Well#	21-2		Lease Name	Olson, Da	avid	908'	15 - 3/4"	
Footage Locat	ion	6/2/1905	ft from the	\$	Line	970'	16 - 3/4"	56.8
		1825	ft from the	W	Line	1001'	17 - 3/4"	58.5
Drilling Contra	ctor:	TXD S	SERVICES	LP		1063'	153/4"	55.2
Spud Date;	11/14/2006		Geologist:	<u> </u>		1152'	GCS	
Date Comp:	11/15/2006		Total Depth:	1152'				
Exact spot Loc	eation;	NE SW						
	SEE OF SEC		Sto Stone	And Andrews				
	Surface	Production				1		
Size Hole	12-1/4"	6-3/4"				1		
Size Casing	8-5/8"	4-1/2"						
Weight	24#			• *************************************		1		
Setting Depth	21.5']		, , , , , , , , , , , , , , , , , , , ,				
Type Cement	portiand							
Sacks								

Formation	Top	Btm.	Formation	Тор	Btm.	Formation	Тор	Btm.
top soil	0	6	coal	554	555	coal	906	907
shale	6	139	lime	555	587	shale	907	941
sand	139	157	shale	587	600	coal	941	942
sand/shale	157	166	sand/shale	600	632	shale	942	970
lime	166	220	lime	632	645	coal	970	971
sand	220	248	shale	645	649	shale	971	986
lime	248	253	sand/shale	649	657	coai	986	987
shale	253	257	coal	657	658	shale	987	1020
lime	257	279	shale	658	730	coal	1020	1021
shale	279	284	coal	730	731	shale	1021	1041
lime	284	290	shale	731	743	lime	1041	1152
sand	290	295	coal	743	744			
sand/shale	295	301	shale	744	783			
lime	301	340	coal	783	784			
shale	340	419	shale	784	789			
lime	419	427	sand	789	794			
sand/shale	427	436	shale	794	812			
sand	436	441	coal	812	814			
lime	441	464	shale	814	839			
sand	464	487	sand	839	840			
sand/shale	487	497	shale	840	855			
coal	497	498	sand	855	860		REC	EIVED
sand/shale	498	554	shale	860	906	1	CANSAS CORPOR	

CONSERVATION DIVISION WICHITA, KS



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



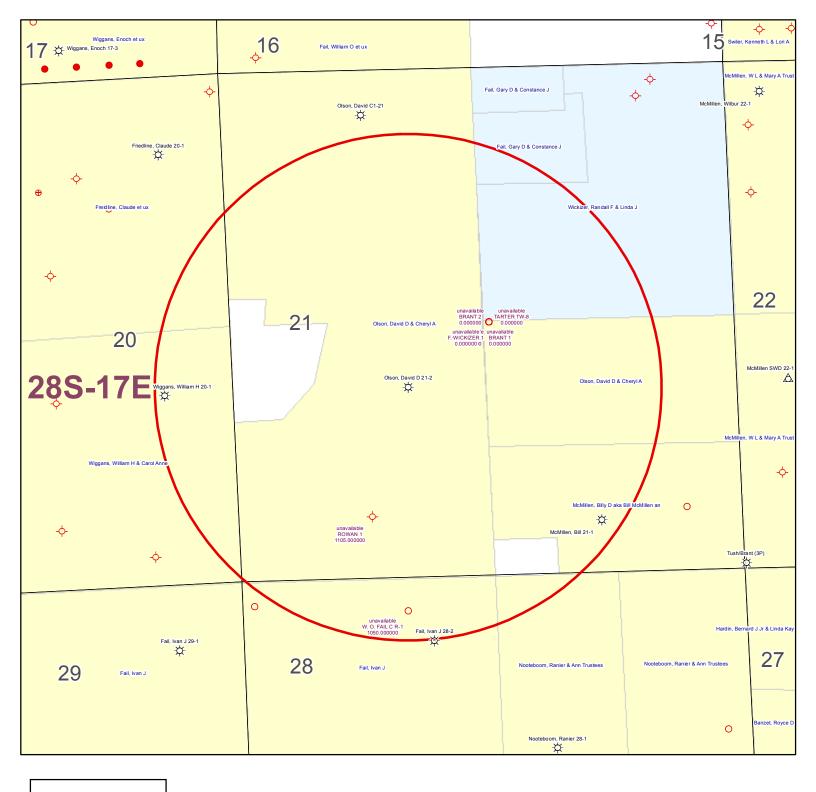
TICKET NUMBER 1918

FOREMAN Jue R

615870

TREATMENT REPORT & FIELD TICKET CEMENT

•	<i>5</i> 700		& FI	ELD	LICKET CEMEN	T		•			
DATE			LL NAME & NU	MBER			SECTION	TOWNSHIP	RAN	GE	COUNTY
11-16.06	01501	1 DA	Wid	21-	· 2		21	28	1	7	WL
FOREMAN / OPERATOR	TIME	TIME	LES		TRUCK #		TRAILER #	TRUC			MPLOYEE GNATURE
Joe B	6:45	10:0			903427			3.2:			Blancho
wes. T	7:06	\			903197			3		W.	en Tu
Russell . A	7:00			903/03				3	Thurst		-mon
Paul H		903142		9-	72452	3. 2	3. 25 7		1/1/		
TROY. W	6:45	V		,	903286			3.0	5 .	1h	in what
JOB TYPE Longs CASING DEPTH 1 SLURRY WEIGHT 1 DISPLACEMENT / E REMARKS: To get dy	43.62 DRILL I 45 SLURR 3.23 DISPLA	PIPE Y VOL ACEMENT	PSI	TU W M	JBING ATER gal/sk IX PSI		OTH CEM	ERENT LEFT in	CASING	G	
							KANSA	RECEIVE CORPORATION	ON COM	MISSIC	N N
								MAR 1 4			
	1143	. 62	F+ 41	2 (asing			ONSERVATION WICHITA		N	
		6	į		Z085						
			41/2	Floo	at shoe				······································	1	
ACCOUNT CODE	QUANTITY or U	JNITS			DESCRIPTION OF SE	ERVIC	ES OR PRODU	CT		1	TOTAL AMOUNT
903427	3, 25	hr	Foreman Pick	cup							
903197	3	1-1	Cement Pump	p Truck							
903 POB	3	hr	Bulk Truck								
1104	/ 3	S SK	Portland Cem	nent							
1124		<u>َ</u> ي	59/50 POZ BI	lend-Ge	ement Boff	05	31/2-	\ \ 3 "		-	
1126			OWC - Blend	Cemer	11						
1110		4 sk	Gilsonite							 	
1107	1.		Fio-Seal							ļ	
1118	2	, 5K	Premium Gel								
1215A	100-1	·	KCL							<u> </u>	
1111B		3 St	-Sodium-Silica	ate (alchlori	<u>'d-</u>	<u> </u>		.*·	<u> </u>	To the state of
1123	7000 00	٧١	City Water								
903142	3.25	>-	Transport Tru	ck							
932452	3.25		Transport Tra	iler	- pagendes			<u> </u>			
	3.25	hr	80 Vac					·			



KGS STATUS

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

Olson, David D 21-2 21-28S-17E 1" = 1,000'

POSTROCK



Current Completion

WELL : Olson, David D 21-2

FIELD : Cherokee Basin

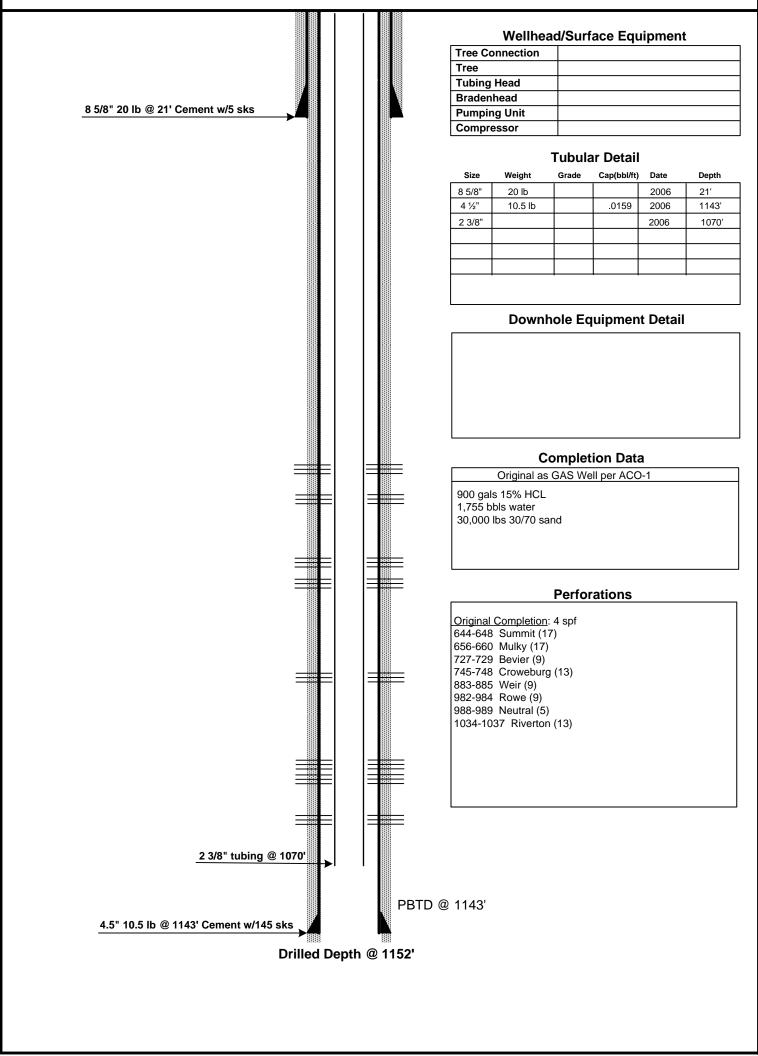
STATE : Kansas COUNTY : Wilson

SPUD DATE: 11/14/2006 COMP. Date: 11/16/2006

API: 15-205-26987-00-00

LOCATION: 21-28S-17E (NE,SW)

ELEVATION: 912'



PREPARED BY: POSTROCK APPROVED BY: _

DATE: Sept, 2012

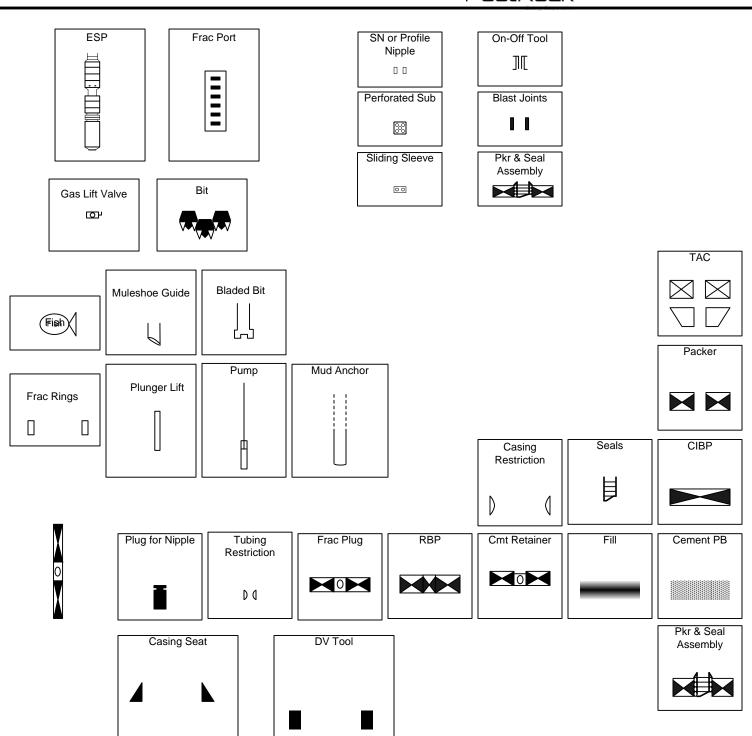
DATE:_

POSTROCK



LEGEND

PostRock[®]



OLSON, DAVID D 21-2

FORMATION:	ROWE	(PERFS):	982 -	- 984			
FORMATION:	NEUTRAL	(PERFS):	988 -				
FORMATION:	RIVERTON	(PERFS):	1034 -				
FORMATION:		(PERFS):	683 -				
FORMATION:	<u> </u>	(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):		- 			
FORMATION:		(PERFS):					
FORMATION:		(PERFS):		·			
FORMATION:		(PERFS):		-			
FORMATION:		(PERFS):					
FORMATION:		(PERFS):		- 			
	MOUNT OF FLUID PRODUCTION TO BE	COMMINGLED FRON	л EACH INT	ERVAL			
2 ESTIMATED AI FORMATION:	ROWE	COMMINGLED FROM BOPD:	л EACH INT 0	MCFPD:	5.13	BWPD:	3.5
2 ESTIMATED AI		COMMINGLED FRON	_		5.13 5.13	BWPD:	3.5
2 ESTIMATED AI FORMATION:	ROWE	COMMINGLED FROM BOPD:	0	MCFPD:			
2 ESTIMATED AI FORMATION: FORMATION:	ROWE NEUTRAL	COMMINGLED FROM BOPD: BOPD:	0	MCFPD:	5.13	BWPD:	3.5
2 ESTIMATED AI FORMATION: FORMATION: FORMATION:	ROWE NEUTRAL RIVERTON	COMMINGLED FROM BOPD: BOPD: BOPD:	0 0 0	MCFPD:MCFPD:	5.13 5.13	BWPD:	3.5 3.5
2 ESTIMATED AI FORMATION: FORMATION: FORMATION:	ROWE NEUTRAL RIVERTON SQUIRREL	COMMINGLED FROM BOPD: BOPD: BOPD: BOPD:	0 0 0	MCFPD: MCFPD: MCFPD: MCFPD:	5.13 5.13	BWPD: BWPD: BWPD:	3.5 3.5
2 ESTIMATED AI FORMATION: FORMATION: FORMATION: FORMATION:	ROWE NEUTRAL RIVERTON SQUIRREL 0	COMMINGLED FROM BOPD: BOPD: BOPD: BOPD: BOPD:	0 0 0	MCFPD: MCFPD: MCFPD: MCFPD: MCFPD:	5.13 5.13	BWPD: BWPD: BWPD:	3.5 3.5
2 ESTIMATED AI FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION:	ROWE NEUTRAL RIVERTON SQUIRREL 0 0	COMMINGLED FROM BOPD: BOPD: BOPD: BOPD: BOPD: BOPD: BOPD:	0 0 0	MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD:	5.13 5.13	BWPD: BWPD: BWPD: BWPD:	3.5 3.5
2 ESTIMATED AI FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION:	ROWE NEUTRAL RIVERTON SQUIRREL 0 0 0	COMMINGLED FROM BOPD: BOPD: BOPD: BOPD: BOPD: BOPD: BOPD: BOPD:	0 0 0	MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD:	5.13 5.13	BWPD: BWPD: BWPD: BWPD: BWPD:	3.5 3.5
2 ESTIMATED AI FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION: FORMATION:	ROWE NEUTRAL RIVERTON SQUIRREL 0 0 0	COMMINGLED FROM BOPD:	0 0 0	MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD: MCFPD:	5.13 5.13	BWPD: BWPD: BWPD: BWPD: BWPD: BWPD:	3.5 3.5
2 ESTIMATED AI FORMATION:	ROWE NEUTRAL RIVERTON SQUIRREL 0 0 0 0	COMMINGLED FROM BOPD:	0 0 0	MCFPD:	5.13 5.13	BWPD: BWPD: BWPD: BWPD: BWPD: BWPD: BWPD:	3.5 3.5

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.

Subscribed and sworn to before me this

11th day of October, 2012

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

Notary Public Sedgwick County, Kansas

Printer's Fee: \$132.40

LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGLE
OCTOBER 11, 2012 (211699)
BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS.
NOTICE OF FILING APPLICATION
RE: In the Maller of Postrock Midconlinent
Production, LLC Application for Commingling
of Production in the Olson, David D 21-2
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, Bevietr, Croweburg,
Welr, Rowe, Neutral, Riverton and Squirret
producing formations at the Olson, David D
21-2, located in the NE SW, S21-T28S-RVIE,
Approximately 1980 FSL & 1825 FWL, Wilson
County, Kansas.

Approximately 1988 - 3.2 & 1983 - 1997
Counly, 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 Division of the State Corporation Commission of the State of Kansas within filteen (15) days from the date of this publication. These profests shall be filled pursuant to Commission regulations and must state specific reasons why granting the application may cause waste, violate correlative rights or pollute the natural resources of the State of Kansas.

All agressis Interested or concerned shall

resources of the State of Kantas.

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.

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 118 Back Agents Suits 2750

210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102 (405) 660-7704

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:

1st publication was made on the	day of
etale Clarke	20//
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: \$	
TOTAL PUBLICATION FEE: \$ 46 (Signed) Mine S. Wikarry	
Subscribed and sworn to before me, this	day of
October ,2	
Sita M. Seephin	otary Public)
My commission expires aug. 30	201
111 7 001111111111111111111111111111111	<i></i>

(Published in the Wilson County Citizen on Monday, October 15, 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 Olson, David D 21-2 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, Bevieir, Croweburg, Weir, Rowe, Neutral, Riverton and Squirrel producing formations at the Olson, David D 21-2, located in the NE SW, S21-T28S-R17E, Approximately 1980 FSL & 1825 FWL, 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 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 69 1 cpy.



Well Name: OLSON, DAVID D 21-2 Logal Location: NESW S21-T28S-R17E The underraigned hereby certificates that he / sho is a duly authorized agent for the applicant, and that on the day 24th of OCTOBER 2012, a true and correct copy of the application referenced above was dulivated or mailed to the following parties: Intel®: A copy of this efficient must be served as a part of the application. Name Address (Affech additional shoets if necossary) SEE ATTACHED SEE ATTACHED THE WILSON COUNTY CITIZEN	Re:	Application for: APPLICATION FOR COMMIN	IGLING OF PRODUCTION OR FLUIDS ACO-4
		Well Name: OLSON, DAVID D 21-2	
	The und	dersigned hereby certificates that he / she is a duly authorize	d agent for the applicant, and that on the day $\frac{24/\mathcal{U}}{\mathcal{U}}$ of OCTOBER
SEE ATTACHED wither attest that notice of the filing of this application was published in the THE WILSON COUNTY CITIZEN the official county publication with the filing of this application was published in the THE WILSON COUNTY CITIZEN the official county publication with the filing of this application was published in the THE WILSON COUNTY CITIZEN the official county publication with the official county publicatio	2012		
urther attest that notice of the filing of this application was published in the THE WILSON COUNTY CITIZEN the official county publication. WILSON county. A copy of the affidavit of this publication is attached. gned this and occupy and occupy and occupy and occupy and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and of the county and occupy and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and of the county and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and occupy. A copy of the affidavit of this publication is attached. Subscribed and sworn to before me this and occupy. A copy of the affidavit of this publication is attached.	Vote: A	copy of this affidavit must be served as a part of the applica	tion.
urther attest that notice of the filing of this application was published in the THE WILSON COUNTY CITIZEN , the official county publication. WILSON		Name	Address (Attach additional sheets if necessary)
wilson	SEE	ATTACHED	
wilson			
willson			
willson			
willson			
wilson			
wilson			
wilson			
willson			
wilson	urther :	attest that notice of the filing of this application was published	d in the THE WILSON COUNTY CITIZEN , the official county publication
Applicant or Duly Authorized Agent Subscribed and sworn to before me this O4th day of OCTOBER , 2012 JENNIFER R. BEAL MY COMMISSION EXPIRES Notary Public 7 - 20 - 2010	WI	LSON	county. A copy of the affidavit of this publication is attached.
Applicant or Duly Authorized Agent Subscribed and sworn to before me this Sytte day of OCTOBER , 2012 JENNIFER R. BEAL MY COMMISSION EXPIRES Notary Public T - 20 - 2010	anad th	dougt OCTOBER	2012
Subscribed and sworn to before me this 24th day of OCTOBER , 2012 JENNIFER R. BEAL MY COMMISSION EXPIRES Notary Public Notary Public Notary Public Notary Public	gnea (i	uay or	PHEA
JENNIFER R. BEAL OFFICIAL MY COMMISSION EXPIRES Notary Public Real Notary Public			Applicant or Duly Authorized Agent
JENNIFER R. BEAL OFFICIAL MY COMMISSION EXPIRES Notary Public Real Notary Public		Subscribed and sw	
OFFICIAL MY COMMISSION EXPIRES Notary Public Notary Public	ſ		O. L. D. Beal
My Commission Expires: Quelly 20, 20/4	}	OFFICIAL MY COMMISSION EXPIRES	Notary Public 7 Succes
	Į	1-20-2014	My Commission Expires: Quely 20, 2014

OLSON, DAVID D 21-2

21-28S-17E Tract in W2

> Jason & Jaime Costin 15543 Wichita Rd Chanute, KS 66720

tract in S2SE David Lee Amie K. McMillen 23604 1500 Rd
Chanute, KS 66720

OLSON, DAVID D 21-2-APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS

			,
ffset Operators, Unleased Mineral Owners and Landowne			
trach additional sheets if necessary)	ers acreage		<u> </u>
Name:		Legal Description of Leasehol	d·
EE ATTACHED		Logal Description of Education	u.
EL ATTAONED			

			· · · · · · · · · · · · · · · · · · ·
reby certify that the statements made herein are true and correct	t to the best of my k	nowledge and belief.	
		WELL	
	Applicant of	Duly Authorized Agent	
			2012
Subscribed ar	nd sworn before me	this day of OCTOBER	12012
The state of the s	/	\neg \cdot	
OFFICIAL JENNIFER R. BEAL MY COMMISSION EXPIRES		Junifel K. Seal	
SEAL MY COMMISSION EXPIRES	Notary Publ		
7-20-2016	My Commis	sion Expires: July 30, 2014	<u> </u>
directly and the same of the s			
	•		

OLSON, DAVID D 21-2

21-28S-17E

Tract in W2

Jason & Jaime Costin 15543 Wichita Rd Chanute, KS 66720

tract in S2SE David Lee Amie K. McMillen

23604 1500 Rd Chanute, KS 66720 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 8, 2012

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

RE: Approved Commingling CO101221

Olson, David D. 21-2, Sec. 21-T28S-R17E, Wilson County

API No. 15-205-26987-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on October 26, 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 CO101221 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