

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1099283

Form ACO-4 Form must be typed March 2009

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

OPERAT	OR: License #	API No. 15					
Name:_		Spot Description:					
Address	1:		Sec Twp.	S. R	Vest		
Address	2:		Feet from	☐ North / ☐ South Line of Sec	tion		
City:			Feet from	☐ East / ☐ West Line of Sec	tion		
Contact	Person:	County:					
Phone:	()	Lease Name:_		Well #:			
1.	Name and upper and lower limit of each production interval to be con	nmingled:					
	Formation:	(Per	rfs):				
	Formation:	(Per	rfs):				
	Formation:	(Per	rfs):				
	Formation:	(Per	rfs):				
	Formation:	(Per	rfs):				
2.	Estimated amount of fluid production to be commingled from each int	erval:					
	Formation:	BOPD:	MCFPD:	BWPD:			
	Formation:	BOPD:	MCFPD:	BWPD:			
	Formation:	BOPD:	MCFPD:	BWPD:			
	Formation:	BOPD:	MCFPD:	BWPD:			
	Formation:	BOPD:	MCFPD:	BWPD:			
□ 3.	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 le	•		ng leases within a 1/2 mile radius o	f		
4.	Signed certificate showing service of the application and affidavit of p	oublication as req	uired in K.A.R. 82-3-13	5a.			
For Con	nmingling of PRODUCTION ONLY, include the following:						
<u> </u>	Wireline log of subject well. Previously Filed with ACO-1:	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 compatibility of	the fluids to be	commingled.				
current ir mingling	/IT: I am the affiant and hereby certify that to the best of my formation, 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.		Submitted Elec	ctronically			

KCC Office Use Only Denied Approved 15-Day Periods Ends: 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.

-	Α	В	С	D	Е	F	G	Н	1		K
1	Produced Fluids #	В	1	2	3	4	5	11	•	<u> </u>	
	Parameters	Units	Input	Input	Input	Input	Input		Click he	re	Click
3	Select the brines	Select fluid		Ī		V	Ī	Mixed brine:	to run SS	-	
4	Sample ID	by checking						Cell H28 is	to ruii oc	•	Click
5	Date	the box(es),	3/19/2012	3/4/2012	3/14/2012	1/20/2012	1/20/2012	STP calc. pH.	————		
6	Operator	Row 3	PostRock	PostRock	PostRock	PostRock	PostRock	Cells H35-38			Click
7	Well Name		Ward Feed	Ward Feed	Clinesmith	Clinesmith	Clinesmith	are used in	Goal Seek	SSP	
8	Location		#34-1	#4-1	#5-4	#1	#2	mixed brines	0.00		Click
9	Field		CBM	CBM	Bartles	Bartles	Bartles	calculations.			
10	Na ⁺	(mg/l)*	19,433.00	27,381.00	26,534.00	25689.00	24220.00	24654.20	Initial(BH)	Final(WH)	SI/SR
11	K ⁺ (if not known =0)	(mg/l)						0.00	Saturation Index	values	(Final-Initial)
	Mg ²⁺	(mg/l)	1,096.00	872.00	1,200.00	953.00	858.00	995.91		lcite	
	Ca ²⁺	(mg/l)	1,836.00	2,452.00	2,044.00	1920.00	1948.00	2040.23	-0.73	-0.60	0.13
	Sr ²⁺		1,050.00	2,432.00	2,044.00	1720.00	1740.00				0.13
	Ba ²⁺	(mg/l)						0.00	Da	rite	
.,		(mg/l)						0.00			
	Fe ²⁺	(mg/l)	40.00	21.00	18.00	82.00	90.00	50.21		lite	
	Zn ²⁺	(mg/l)						0.00	-1.77	-1.80	-0.03
18	Pb ²⁺	(mg/l)						0.00	Gyp	sum	
19	Cl	(mg/l)	36,299.00	48,965.00	47,874.00	45632.00	43147.00	44388.44	-3.19	-3.18	0.00
20	SO ₄ ²⁻	(mg/l)	1.00	1.00	8.00	1.00	1.00	2.40	Hemil	ıydrate	
21	F.	(mg/l)						0.00	-3.96	-3.90	0.06
	Br'	(mg/l)						0.00		ydrite	
	SiO2	(mg/l) SiO2						0.00	-3.47	-3.36	0.12
_	HCO3 Alkalinity**	(mg/l as HCO3)	190.00	234.00	259.00	268.00	254.00	241.03		estite	0,12
	CO3 Alkalinity	(mg/l as CO3)	170.00	434.00	237,00	200.00	234.00	241.03	Cen		
	Carboxylic acids**	(mg/l)						0.00	Inor 6	Sulfide	
27	Ammonia	(mg/L) NH3						0.00	-0.16	-0.22	-0.06
_											-0.00
	Borate	(mg/L) H3BO3						0.00	Zinc	Sulfide	
	TDS (Measured)	(mg/l)	4.040	4.0=4				72781	~		
	Calc. Density (STP) CO ₂ Gas Analysis	(g/ml)	1.038 19.97	1.051 18.76	1.050 22.41	1.048 35.53	1.045	1.047	Calcium	fluoride	
	- ,	(%)		0.0292			33.79	26.16	I C.	-l	
	H ₂ S Gas Analysis*** Total H2Saq	(%)	0.0289	1.00	0.0296	0.0306	0.0151 0.50	0.0269	-0.74	rbonate -0.51	0.23
_	_	(mgH2S/l)	1.00 5.67	5.76	1.00 5.72	1.00 5.54	5.55	5.63		eeded (mg/L)	0.23
34	pH, measured (STP)	pH 0-CO2%+Alk,	5.07	5./6	5.72	5.54	5.55	5.03	Calcite	NTMP	
	Choose one option								Calcite	NIMI	
35	to calculate SI?	2-CO2%+pH	0	0	0	0	0				
36	Gas/day(thousand cf/day)	(Mcf/D)						0	0.00	0.00	
	Oil/Day	(B/D)	0	0	1	1	1	4	Barite	BHPMP	
	Water/Day	(B/D)	100	100	100	100	100	500	0.00	0.00	
	For mixed brines, enter val			mag in Calle (H	(40 H42)						
-	Initial T			`		44.0	40.0	(Enter H40-H43)		Н	
		(F)	66.0	71.0	70.0	41.0	49.0	60.0	5.69	5.60	1
	Final T	(F) (F)	66.0 66.0	71.0 71.0	70.0 70.0	41.0	49.0	60.0 89.0	5.69 Viscosity (5.60 CentiPoise)	
42	Final T Initial P	(F) (F) (psia)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0	5.69 Viscosity (1.196	5.60 CentiPoise) 0.826	
42 43	Final T Initial P Final P	(F) (F) (psia) (psia)	66.0 66.0	71.0 71.0	70.0 70.0	41.0	49.0	60.0 89.0	5.69 Viscosity (1.196 Heat Capaci	5.60 CentiPoise) 0.826 ty (cal/ml/ ⁰ C)	
42 43 44	Final T Initial P Final P Use TP on Calcite sheet?	(F) (F) (psia) (psia) I-Yes;0-No	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0	5.69 Viscosity (1.196 Heat Capaci 0.955	5.60 CentiPoise) 0.826 ty (cal/ml/ ⁰ C) 0.959	
42 43 44 45	Final T Initial P Final P	(F) (F) (psia) (psia)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0	5.69 Viscosity (1.196 Heat Capaci 0.955	5.60 CentiPoise) 0.826 ty (cal/ml/ ⁰ C)	
42 43 44 45 46	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav.	(F) (F) (psia) (psia) I-Yes;0-No API grav.	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor no	5.60 CentiPoise) 0.826 ty (cal/ml/ ⁰ C) 0.959 eeded (mg/L)	
42 43 44 45 46 47 48	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav.	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00	
42 43 44 45 46 47 48 49 50	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG//Day Conc. Multiplier H* (Strong acid) *	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) †	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH* (Strong base) † Quality Control Checks at	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP:	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH* (Strong base) † Quality Control Checks at H ₂ S Gas	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP:	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP)	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH' (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/l) (pH)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP)	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations=	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH (Strong base) * Quality Control Checks at H ₂ S Gas Total H ₂ Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated SCations= EAnions=	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/l) as HCO3 (equiv./I) (equiv./I)	66.0 66.0 25.0	71.0 71.0 25.0	70.0 70.0 25.0	41.0 25.0	49.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= ECations= Calc TDS=	(F) (F) (Psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I)	66.0 66.0 25.0 25.0	71.0 71.0 25.0 25.0	70.0 70.0 25.0 25.0	41.0 25.0 25.0	49.0 25.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60 0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH* (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textit{\Sigma}\$ (STP) Exhions= \$\textit{\Sigma}\$ (STD)= Inhibitor Selection	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input	66.0 66.0 25.0 25.0 0 0	71.0 71.0 25.0 25.0	70.0 70.0 25.0 25.0	41.0 25.0 25.0	49.0 25.0 25.0	60.0 89.0 25.0 120.0 30.00 0 0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time	(F) (F) (Psia) (psia) (1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I)	66.0 66.0 25.0 25.0	71.0 71.0 25.0 25.0	70.0 70.0 25.0 25.0	41.0 25.0 25.0 Unit Converter	49.0 25.0 25.0	60.0 89.0 25.0 120.0 30.00 0.60 0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 60 61 62 63	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textstyle \text{Calcite}\$ acid \$\text{Lacite}\$ acid \$\text	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120	66.0 66.0 25.0 25.0 0 0	71.0 71.0 25.0 25.0 4 1 1 2	70.0 70.0 25.0 25.0 Inhibitor NTMP BHPMP	41.0 25.0 25.0 Unit Converter From Unit	49.0 25.0 25.0 25.0 (From metric Value 80	60.0 89.0 25.0 120.0 30.00 0.60 0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated 2Cations= £Anions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you?	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120	66.0 66.0 25.0 25.0 0 0 0	# 1 2 3	Inhibitor NTMP BHPMP PAA	Unit Converter From Unit C m³	49.0 25.0 25.0 25.0 (From metric Value 80 100	60.0 89.0 25.0 120.0 30.00 0.60 0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00 Value 176 3,531	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\textstyle \text{Calcite}\$ acid \$\text{Lacite}\$ acid \$\text	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120	66.0 66.0 25.0 25.0 0 0	71.0 71.0 25.0 25.0 4 1 1 2	70.0 70.0 25.0 25.0 Inhibitor NTMP BHPMP	41.0 25.0 25.0 Unit Converter From Unit	49.0 25.0 25.0 25.0 (From metric Value 80	60.0 89.0 25.0 120.0 30.00 0.60 0	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) † OH (Strong base) † Quality Control Checks at H ₂ S Gas Total H ₂ Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated \$\mathbb{\textit{Z}}\text{Aligner}\text{Limits} = \mathbb{\text{Limits}} = \mathbb{L}\text{Inions}	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120	66.0 66.0 25.0 25.0 0 0 0	71.0 71.0 25.0 25.0 1 1 1 2 3 4	Inhibitor NTMP BHPMP PAA DTPMP	Unit Converter From Unit °C m³ m³ MPa	49.0 25.0 25.0 25.0 (From metric Value 80 100 1,000	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit °F ft³ bbl(42 US gal) psia	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 60 61 62 63 64 65 66 67	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH (Strong base) * Quality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated Alkalinity Caclulated Alkalinity Caclulated ECations= ZAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed, 1st inhibitor # is:	(F) (F) (Psia) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120 1 4	0 0 0 Unit min 1-Yes;0-No #	## 1 2 3 4 5 6	Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA	Unit Converter From Unit °C 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 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 Converter From Unit C m³ m³ MPa Bar Torr	49.0 25.0 25.0 25.0 25.0 Value 80 100 1,000 496 10,000	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit °F ft³ bbl(42 US gal) psia psia psia	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194 193	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 44 45 46 47 48 49 50 51 52 53 54 55 56 60 61 62 63 64 65 66 67 68 69	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * OH* (Strong base) * Ouality Control Checks at H ₂ S Gas Total H2Saq (STP) pH Calculated PCO2 Calculated Alkalinity Caclulated ECations= EAnions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is: If you select Mixed, 1st inhibitor is: % of 1st inhibitor is:	(F) (F) (Psia) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120 1 4	0 0 0 0 Unit min 1-Yes;0-No # # %	## 1 2 3 4 5 6	Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA	Unit Converter From Unit °C 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 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

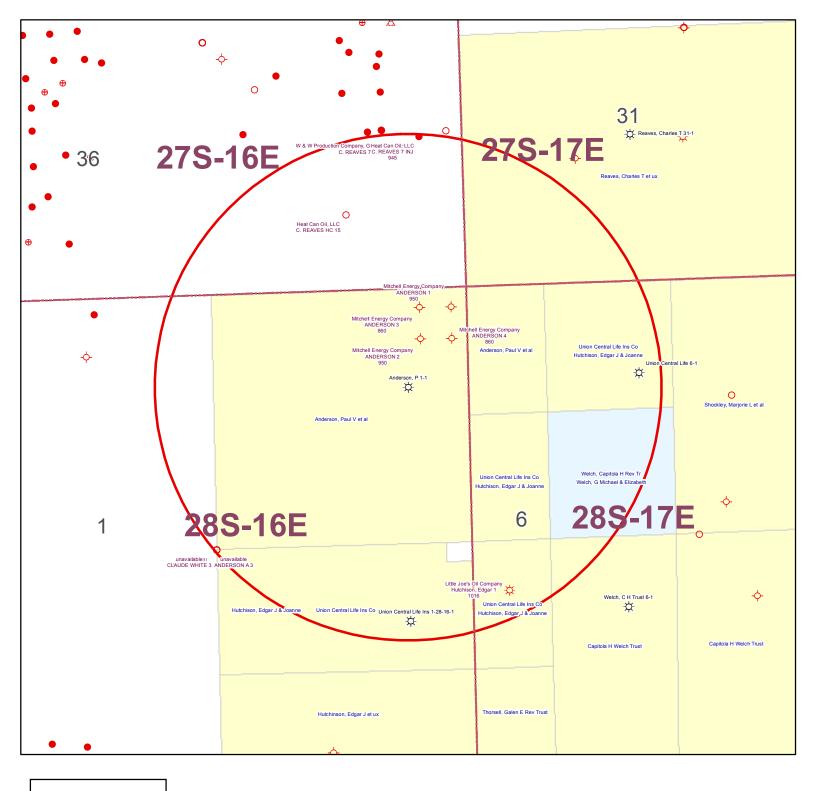
			Ratio			
	20%	20%	20%	20%	20	
Component (mg/L)	Brine 1	Brine 2	Brine 3	Brine 4	Brine 5	Mixed Brine
Calcium	1836	2452	2044	1920	1948	1952
Magnesium	1096	872	1200	953	858	865
Barium	0	0	0	0	0	0
Strontium	0	0	0	0	0	0
Bicarbonate	190	234	259	268	254	253
Sulfate	1	1	8	1	1	1
Chloride	36299	48965	47874	45632	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



KGS STATUS

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

Anderson, P 1-1 1-28S-16E 1" = 1,000'

WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

Operator: License #	API No. 15205-25707-0000
Name: Quest Cherokee, LLC RECEIVED	County: Wilson
Address: P O Box 100	S/2 -NE - NE - Sec. 1 Twp. 28 S. R. 16
City/State/Zip: Benedict, KS 66714 MAY 2 7 2004	1000 feet from S / (N) (circle one) Line of Section
- Bluestem Pineline 11 C	600 feet from (E) / W (circle one) Line of Section
Operator Contact Person: Doug Lamb	Footages Calculated from Nearest Outside Section Corner:
Phone: (_620)698-2250	(circle one) (NE) SE NW SW
Contractor: Name: Well Refined Drilling Company, Inc.	Lease Name: Anderson, P. Well #: 1-1
License: 33072	Field Name: Cherokee Basin CBM
Wellsite Geologist: Mark Brecheisen	Producing Formation: Not yet complete
Designate Type of Completion:	Elevation: Ground: 1000 Kelly Bushing:
New Well Re-Entry Workover	Total Depth: 1222' Plug Back Total Depth: 1216.53'
Oil SWD SIOW Temp. Abd.	Amount of Surface Pipe Set and Cemented at 35 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 1216.53
Operator:	feet depth to Surface W/ 151 sx cmt.
Well Name:	- 11 Tto UM ~ 611
Original Comp. Date: Original Total Depth:	Drilling Fluid Management Plan ALT#2 KJR 5/31/16 (Data must be collected from the Reserve Pit)
Deepening Re-perf Conv. to Enhr./SWD	Chloride content ppm Fluid volume bbls
Plug BackPlug Back Total Depth	Dewatering method used
Commingled Docket No	, and the second
Dual Completion Docket No	Location of fluid disposal if hauled offsite:
Other (SWD or Enhr.?) Docket No	Operator Name:
01/31/2004 02/02/2004 02/03/2004	Lease Name: License No.:
Spud Date or Date Reached TD Completion Date or	Quarter Sec Twp S. R
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.	r or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. 2 months if requested in writing and submitted with the form (see rule 82-3-and geologist well report shall be attached with this form. ALL CEMENTING
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: Noughan Klank	KCC Office Use ONLY
Title: Manager Date: 05/25/2004	Letter of Confidentiality Received
Subscribed and sworn to before me this 35^{H} day of 25^{H}	If Denied, Yes Date:
20 04. Jett	Geologist Report Received
Notary Public: July Genryles Le Houston	UIC Distribution
Date Commission Expires: July 30, 2005	JENNIFER R. HOUSTON Notary Public - State of Kensas
My Ap	opt. Expires July 30, 2005

Side Two

Öperator Name: Qu	est Chelokee, LL	.0		Lease	Name:	Anderson, P	•	Well #: 1-1	·	
Sec. 1 Twp. 2	28 S. R. 16	✓ East	West	County	y: Wilse	on				
INSTRUCTIONS: Si tested, time tool ope temperature, fluid red Electric Wireline Log	n and closed, flowin covery, and flow rate	g and shut-in es if gas to su	pressures, rface test, a	whether slatong with f	nut-in pr	essure reached	d static level, hyd	Irostatic pressure	es, bottom h	nole
Drill Stem Tests Take		☐ Yes	✓No		✓ Log Formation (Top), Depth and Da			and Datum	San	mple
Samples Sent to Ge	ological Survey	Yes	√ No		Nar Len	_{ne} apah Lime		Тор 541	Dat +45	
Cores Taken		Yes	✓ No			mont Lime		587	+41	
Electric Log Run (Submit Copy) ✓ Yes □ No			Pav	nee Lime		700	+30)0		
List All E. Logs Run:		DECE	N/CD		Osv	vego Lime		757	+24	13
_		RECE	IVED		Ver	degris Lime		873	+12	27
Density-Neutro Dual Induction	- Guard	MAY 27 KCC W		4	Mis	sissippi Lim	е	1170	-170	0
			CASING	RECORD	Taxana d	ew Used ermediate, produ	ction, etc.			
Purpose of String	Size Hole Drilled	Size C Set (in	asing	Wei	ght	Setting	Type of	# Sacks	Type and	
Surface	12-1/4"	8-5/8"	0.0.)	24.75	r.	Depth 35'	"A"	Used 4sx	Additi	ives
Production	6-3/4"	4-1/2"		10.5		1216.53'	"A"	151sx		
									VANY	
		A	DDITIONAL	CEMENTI	NG / SQ	UEEZE RECOR	D			
Purpose:PerforateProtect Casing	Depth Top Bottom	Type of Cement		#Sacks	Used	Used Type and Percent Additives				
Plug Back TD Plug Off Zone							***************************************	***************************************		
Shots Per Foot	PERFORATI Specify	ON RECORD - Footage of Each	Bridge Plug Interval Per	s Set/Type	The state of the s		acture, Shot, Ceme		t	Depth
None	Waiting on pipel	ine				,				
					Alexandra de la companya de la comp			- A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-A		
									4	
TUBING RECORD	Size	Set At		Packer A	<u> </u>	Liner Run				
Date of First, Resumero	l Production, SWD or E	inhr. Pr	oducing Meth	nod	Flowin	g Pump	YesN 	· · · · · · · · · · · · · · · · · · ·	r (Explain)	
Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Wate		Bbls.	Gas-Oil Ratio		aravity
Disposition of Gas	METHOD OF C	OMPLETION				Production Inte	rval			
Vented Sold	Used on Lease		Open Hole	Perf.	П	Dually Comp.	Commingled			
(If vented, Sub	bmit ACO-18.)		Other (Specif			, ,p.			VIII.	



211 W. 14TH STREET, CHANUTE, KS 66720 620-431-9210 OR 800-467-8676

TICKET NUMBER

24186

LOCATION LHANUTE

FIELD TICKET

DATE CUSTOMER ACCT # WELL NAME QTR/QTR 2-3-04 6628 AND FESON #1-1	SECTION TWP RGE COUNTY FORMATION
CHARGE TO QUEST CHEROKEE LLC	OWNER
MAILING ADDRESS P.O. BOX 100	OPERATOR
CITY & STATE BENEDICT, KS 66714	CONTRACTOR

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION OF SERVICE	UNIT PRICE	TOTAL AMOUNT	
5401	1-WELL	PUMP CHARGE CEMENT	- Pump		525
1110	16 5KS	GILSONITE	, , , , , , , , , , , , , , , , , , ,		31040
1107	11/2 5KS	CELLO FLAKE / FLO-SEA	96		26.63
1118	3 5KS	PREMIUM GEL/ BENTO			35.42
1105	1 5KS	COTTON SEED HULLS			1215
11118	15 GAL	SODIUM SILICATE			1502
12/54	1GAL	KCL			J.X.22
4124	/	4/2 GUIDE SHOE			822
		Y.	·		
			- '		
		79 8			
1123	4410 GALS	CITY WATER ((105 BBLS)	·	याद हा
		1 4			
		7,			
		70	RECEIV	(ED	
			<u> </u>		
~ 11	\$ 1000	BLENDING & HANDLING	MAY 27	2004	
5407	12 mj	TON-MILES MINIMUM	7		1010
		STAND BY TIME	KCC WIC	אוווא	
-0-11-51	11.5	MILEAGE			
5501	5 HR	WATER TRANSPORTS			400=
		VACUUM TRUCKS			,
		FRAC SAND			
110/	F. F			· ·	70
1126	151 SKS	CEMENT OWC			17/26 50
	1		3/.7/	SALES TAX	. () (, , , , , , , , , , , , , , , , ,
		COWC; 5 GILSENITE;	14 FLO-SCAL)		
Ravin 2790	Will be a second of the second	<u> </u>			9499 33
		**************************************		ESTIMATED TOTAL	201A.

	}
CUSTOMER or AGENTS SIGNATURE	CIS FOREMAN TODD A. TINDLE
	•
	4
CUSTOMER or AGENT (PLEASE PRINT)	DATE

DATE

CONSOLIDATED OIL WELL SERVICES, INC. 211 W. 14TH STREET, CHANUTE, KS 66720 620-431-9210 OR 800-467-8676

TICKET NU	MBER.	32	7	4	5	_
LOCATION						-
FOREMAN	TODE	A.	7	in	DL	4

TREATMENT REPORT

DATE	CUSTOMER#	WELL NAME	FORMATION	٠	TRUCK #	DRIVER	TRUCK#	DRIVER
DATE		# !-/	. •	·				
2.5.04	4628	ANDERSON			128	JOHNM.		
SECTION	TOWNSHIP	RANGE	COUNTY	j	206	WES_		
1	783	166	WL		140	Tim		
CUSTOMER	Andrews - 27 (1992) 1993 1993 1994 1995 1995 1995 1995 1995 1995 1995			*				
QUEST C	HEROKEE LL	4						
MAILING ADDF								
P.O. BO	X 100			;				
CITY				1				
BENEDIC	2T			, ,				
STATE		ZIP CODE		,				
KANSHIS		66714				TYPE OF TR	EATMENT	And the second s
					[]SURFACE	PIPE	[] ACID BREA	KDOWN
			va - 2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-		_			

WELL DATA				
HOLE SIZE 6-74	PACKER DEPTH			
TOTAL DEPTH /222	PERFORATIONS			
	SHOTS/FT			
CASING SIZE 4/2	OPEN HOLE			
CASING DEPTH /2/71				
CASING WEIGHT	TUBING SIZE			
CASING CONDITION	TUBING DEPTH			
Control of June 2 (1994)	TUBING WEIGHT			
Seale & program in management relative programment transportation and an executive of the fall limited and all all and an executive of the fall limited and all all and an executive of the fall limited and all all and an executive of the fall limited and all all and an executive of the fall limited and all all and an executive of the fall limited and all all and an executive of the fall limited and all all and an executive of the fall limited and all all all and an executive of the fall limited and all all all all all all all all all al	TUBING CONDITION			
TREATMENT VIA				

TIME ARRIVED ON LOCATION

[] ACID BREAKDOWN
[] ACID STIMULATION
[] ACID SPOTTING
[]FRAC
[] FRAC + NITROGEN
[]
[]

PRESSURE LIMITATIONS THEORETICAL INSTRUCTED SURFACE PIPE ANNULUS LONG STRING TUBING TUBING

INSTRUCTION PRIOR TO JOB CIRCULATE W/FLESH HZO; RUN 36EL W/COTTONSEED HULLS, SBBLPAD

RUN 16 5BLS DYE W/SODIUM SILICATE IN LAST 5BBL; CEMENT UNTIL DYE RETURN;

FULSH PUMP; FUMP PLUG W/KCL WATER; SET FLOAT SHOE; LEAD IN (3 2 STAIL IN E) 14.4

AUTHORIZATION TO PROCEED

TITLE

DATE

TIME AM / PM	STAGE	BBL'S PUMPED	INJ RATE	PROPPANT PPG	SAND/STAGE	PSI	
							BREAKDOWN PRESSURE
							DISPLACEMENT
and the state of t			FRECE	VED.			MIX PRESSURE
							MIN PRESSURE
CONTRACTOR OF THE PROPERTY OF			MAYY277	66.13			ISIP
			4CCCWW	HITAL			15 MIN.
			MONTH	Srii iz			MAX RATE
A CONTRACTOR OF THE PROPERTY O							MIN RATE

- Company of the Comp				*			
	N .						

TERMS.

In consideration of the prices to be charged for our services, equipment and products as set forth in Consolidated Oil Well Services, Inc's (COWS) current Price Schedule, and for the performance of services and supplying of materials; customer agrees to the following terms and conditions.

Terms. Cash in advance unless satisfactory credit is established. On credit sales, invoices payable to P.O. Box 884, Chanute, KS 66720. Invoices payable within 30 days of invoice date. Charges subjected to interest after 30 days from invoice date. Interest will be charged at Maximum rate allowed by law. In the event it is necessary to employ an attorney to enforce collection of such account, customer agrees pay all collection costs and attorney's fees in the amount of 20% of said amount.

Any applicable federal, state or local sales, use, occupation, consumer's or emergency taxes shall be added to the quoted price.

A sales tax reimbursement of 2% is applied to chemical and product charges for all services performed on oil and gas wells in the State of Texas.

All process license fees required to be paid to others will be added to the scheduled prices.

All prices are subject to change without notice.

SERVICE CONDITIONS

Customer warrants that the well is in proper condition to receive the services, equipment, products, and materials to be supplied by COWS.

"The customer shall at all time have complete care, custody, and control of the well, the drilling and production equipment at the well, and the premises about the well. A responsible representative of the customer shall be present to specify depths, pressures, or materials used for any service which is to be performed."

- (a) COWS shall not be responsible for, and customer shall secure COWS against any liability for damage to property of customer and of the well owner (if different from customer), unless caused by the willful missonduct or gross negligence of COWS, this provision applying to but not limited to sub-surface damage and surface damage arising from subsurface damage.
- (b) Customer shall be responsible for and secure COWS against any liability for reservoir loss or damage, or property damage resulting from sub-surface pressure, losing control of the well and/or a well blowout, unless such loss or damage is caused by the willful misconduct of gross negligence of COWS.

- (c) Custome all be responsible for and secure COWS against any and all liability of whatsoever nature for damages as a result of a subsurface trespass, or an action in the nature thereof, arising from a service operation performed by COWS hereunder.
- (d) Customer shall be responsible for and secure COWS against any liability for injury to or death of persons, other than employees of COWS, or damage to property (including, but not limited to, injury to the well), or any damages whatsoever, irrespective of cause, growing out of or in any way connected with the use of radioactive material in the well hole, unless such damage shall be caused by the willful misconduct or gross negligence of COWS.
- (e) COWS makes no guarantee of the effectiveness of the products, supplies or materials, nor of the results of any treatment or services.
- (f) Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, COWS is unable to guarantee the accuracy of any chart interpretation, research analysis, job recommendation or other data furnished by COWS. COWS personnel will use their best efforts in gathering such information and their best judgment in interpreting it, but customer agrees that COWS shall not be responsible for any damage arising from the use of such information except where due to COWS gross negligence or willful misconduct in the preparation or furnishing of it.

WARRANTIES - LIMITATION OF LIABILITY

COWS warrants only title to the products, supplies and materials and that the same are free from defects in workmanship and materials. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED OR MERCHANTABILITY, FITNESS OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. COWS's liability and customer's exclusive remedy in any cause of action (whether in contract, tort, breach of warranty or otherwise) arising out of the sale or use of any products, supplies or materials is expressly limited to the replacement of such products, supplies or materials on their return to COWS or, at COWS's option, to the allowance to the customer of credit for the cost of such items. In no event, shall COWS be liable for special, incidental, indirect, punitive or consequential damages.

ing such information and their best efforts in gathering such information and their best judgement in interpreting it, but Customer agrees that COWS shall not be liable for and CUSTOMER SHALL INDEMNIFY AGAINST ANY DAMAGED ARISING FROM THE USE OF SUCH INFORMATION, even if such is contributed by the COWS negligence or fault.

POSTROCK



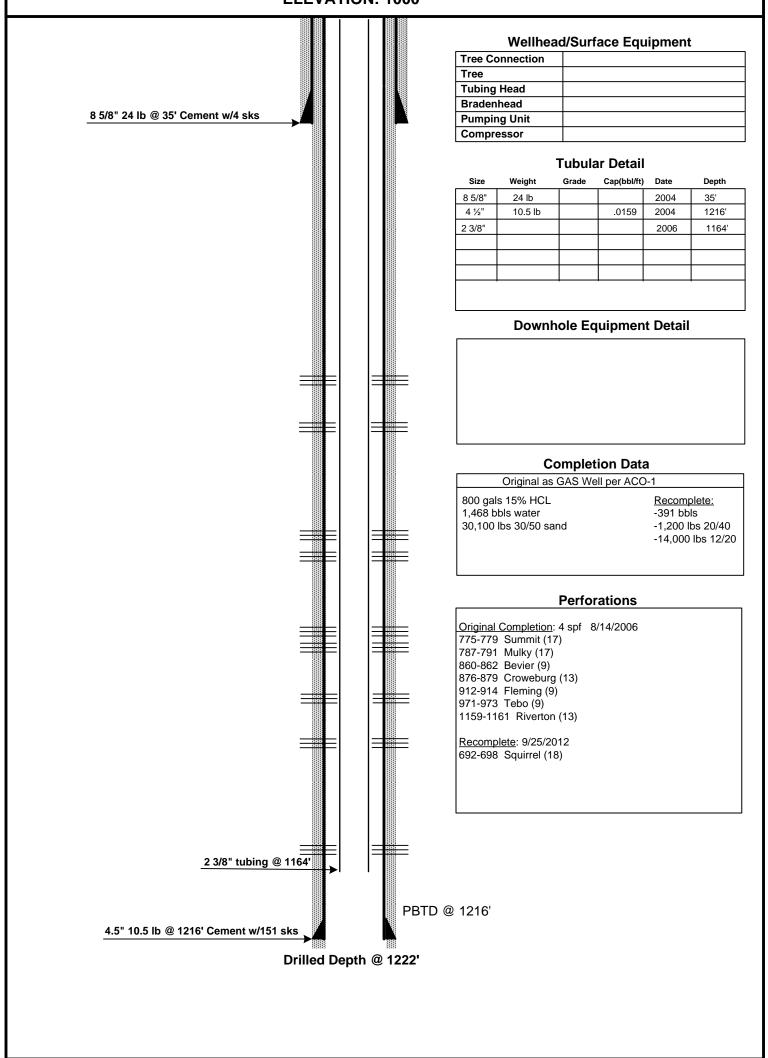
Current Completion

WELL : Anderson, P 1-1 **FIELD** : Cherokee Basin

SPUD DATE: 1/31/2004 COMP. Date: 2/3/2004 API: 15-205-25707-00-00

STATE : Kansas **COUNTY** : Wilson

> LOCATION: 1-28-16E (NE,NE) **ELEVATION: 1000'**



PREPARED BY: POSTROCK

APPROVED BY: _

DATE: Oct, 2012

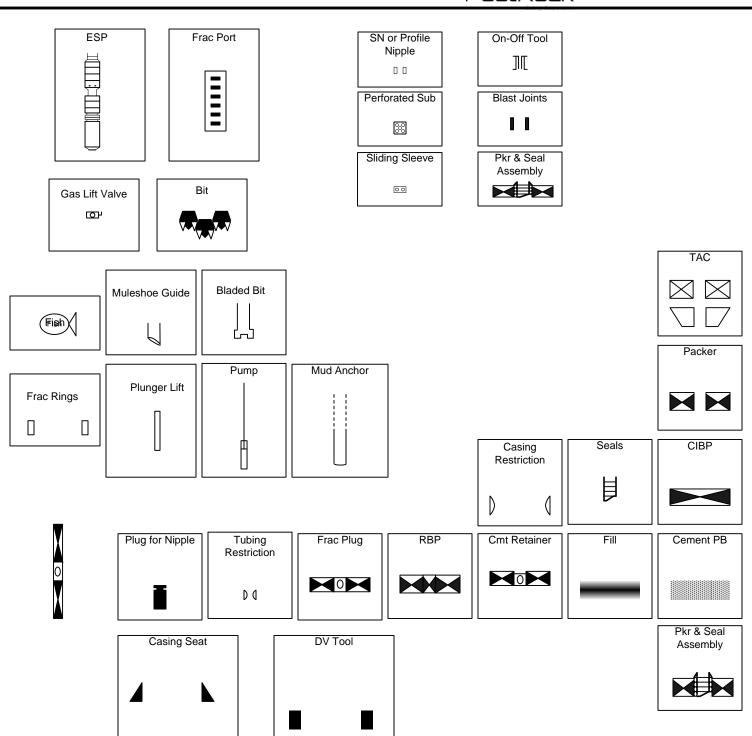
DATE:

POSTROCK



LEGEND

PostRock[®]



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 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 **画面** Notary Public My Appt. Expires

Notary Public Sedgwick County, Kansas

Printer's Fee: \$132.40

LEGAL PUBLICATION

PUBLISHED IN THE WICHITA EAGLE NOVEMBER 9, 2012 (3216877) BEFORE THE STATE CORPORATION COMMISSION

COMMISSION
OF THE STATE OF KANSAS
NOTICE OF FILING APPLICATION
RE: In the Matter of Postrock Midconfinent
Production, LLC Application for
Comminging of Production in the
Anderson, P 1-1 located in Wilson County,
Kansas

Kansas. TO: All Oll & Gas Producers, Unteased Mineral Interest Owners, Landowners, and all persons whomever concerned.

persons whomever concerned.
You, and each of you, are hereby notified that Postrock Midconlinent Production, LLC has filed an application to commingle the Summit, Mulky, Bevier, Croweburg, Fleming, Tebo, Riverton, Squirrel and Barilesville producins formations at the Anderson, P. 1-1, located in the \$2 NE NE, \$1-7285-R16E, Approximately 1028 FNL & 629 FEL, Wilson County Kansas

Approximately 1028 FNL & 629 FEL, Wilson County, Kansas.

Any persons who object to or protest this application shall be required to file their objections or protest with the Conservation Division of the State Corporation Commission of the State of Kansas within fifteen (15) days from the date of this publication. These protests shall be filed pursuant to Commission regulations and must state specific reasons why granting the application may cause waste, violate correlative rights or pollute the natural violate correlative rights or pollute the natural resources of the State of Kansas.

resources of the State of Kansas.

All persons inherested 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 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

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	_ 5100	day o
Nover	nher.	12
2nd publication was made on the		day of
	2	00
3rd publication was made on the		day of
	. 2	0
4th publication was made on the		day of
	, 2	0
5th publication was made on the		day of
	. 2	0
6th publication was made on the		day of
		0 <u></u> 7 ラ
TOTAL PUBLICATION FEE:	3/	-
(Signed) Joseph S. Ke	Jeh	
Subscribed and sworn to before me, this _	940	_ day of
November	ر 1 _{. 20} ر	12
IstaM. IS	Gy (Note	
My commission expires .		

(Published in the Wilson County Citizen on Thursday, November 8, 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 Anderson, P 1-1 located in Wilson County, Kansas.

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

You, and each of you, are hereby notified that Postrock Midcontinent Production, LLC has filed an application to commingle the Summit, Mulky, Bevier, Croweburg, Fleming, Tebo, Riverton, Squirrel and Bartlesville producing formations at the Anderson, P 1-1, located in the S2 NE NE, S1-T28S-R16E, Approximately 1028 FNL & 629 FEL, Wilson County, Kansas.

Any persons who object to or protest this application shall be required to file their objections or protest with the Conservation Division of the State Corporation Commission of the State of Kansas within fifteen (15) days from the date of this publication. These protests shall be filed pursuant to Commission regulations and must state specific reasons why granting the application may cause waste, violate correlative rights or pollute the natural resources of the State of Kansas.

All persons interested or concerned shall take notice of the foregoing and shall govern 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.

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Postrock Midcontinent Production, LLC 210 Park Avenue, Suite 2750 Oklahoma City, Oklahoma 73102 (405) 660-7704 76 1 cpy.

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

1 NAME & UPPE	R & LOWER LIMIT OF EACH PRODU	CTION INTERVAL TO B	E COMMING	LED			
FORMATION:	TEBO	(PERFS):	971 -	973			
FORMATION:	RIVERTON	(PERFS):	1159 -	1161			
FORMATION:	SQUIRREL	(PERFS):	692 -	698			
FORMATION:	BARTLESVILLE	(PERFS):	1033 -	1036			
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
2 FCTIMAATED AM	MOUNT OF FLUID PRODUCTION TO			CDV/AI			
FORMATION:	TEBO	BOPD:	JIVI EACH IIVI 0	MCFPD:	2 (D BWPD:	12
FORMATION:	RIVERTON	BOPD:	0	MCFPD:	3	BWPD:	<u>13</u>
FORMATION:	SQUIRREL	BOPD:	1.5	MCFPD:	0	BWPD:	10
FORMATION:	BARTLESVILLE	BOPD:	1.5	MCFPD:	0	BWPD:	10
FORMATION:	DANTLESVILLE	BOPD:	1.5	MCFPD:		BWPD:	10
FORMATION:	0	BOPD:		MCFPD:		BWPD:	
				_			
FORMATION:	0	BOPD:		MCFPD:		BWPD:	
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FORMATION:	0	BOPD:		MCFPD:		BWPD:	
FORMATION:	0	BOPD:		MCFPD:		BWPD:	

Affidavit of Notice Served	
Re: Application for: APPLICATION FOR COMMINGLING	
Well Name: ANDERSON, P 1-1	Legal Location: S2 NE NE S1-T28S-R16E
The undersigned hereby certificates that he / she is a duly authorized agent for 2013 a true and correct conv of the application referenced above.	
, a true and correct copy of the application referenced ab	ove 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)
HEAT CAN OIL, LLC	11 N WESTERN, PO BOX 517, CHANUTE, KS 66720
LITTLE JOE'S OIL COMPANY	PO BOX 647, CHANUTE, KS 66720
MITCHELL ENERGY COMPANY	5008 PROSPECT AVENUE, KANSAS CITY, MO 64130
W & W PRODUCTION, GENERAL PARTNERSHIP	1150 HWY 39, CHANUTE, KS 66720
SEE ATTACHED	
I further attest that notice of the filing of this application was published in the TE	HE WILSON COUNTY CITIZEN , the official county publication
of WILSON co	ounty. A copy of the affidavit of this publication is attached.
Signed this	3
	CHEV
App Subscribed and sworn to before	ore me this
MY COMMISSION EXPIRES	Commission Expires: July 20, 2016

1-28S-16E

NW4

William R. Thorsell 19720 Ulysses Rd Chanute, KS 66720

2 Acres in NE/C of SE4

per TO dtd 1.9.08

David J. Hutchison 18538 Udall Road Altoona, KS 66710

36-27S-16E

SE4

Sharon L. Reaves Living Trust

20814 1900 Road Chanute, KS 66720

SW4

Gary Lee Campbell, Cheryl Anne Stoebenau, and John Franklin Campbell, TIC

(portion)

PO Box 22

Forsyth, MT 59327

ANDERSON, P 1-1-APPLICATION FOR COMMINGLING OF PRODUCTION OR FLUIDS

ch additional sheets if necessary)	
Name:	Legal Description of Leasehold:
E ATTACHED	
by certify that the statements made herein are true and con	rrect to the best of my knowledge and belief.
	celen
	Applicant or Duly Authorized Agent d and sworn before me this 40TH- day of JANUARY , 2013
Subscribed	d and sworn before me this 40TH day of JANUARY ,2013
FAMUEDO	(2) 1. 2 Real
JENNIFER R. BEAL OFFICIAL MY COMMISSION EVENIFOR	Notary Public R. Beal
JENNIFER R. BEAL MY COMMISSION EXPIRES	Notary Public P. Beal
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20116	My Commission Expires: July 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20116	My Commission Expires: Quely 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-2016	My Commission Expires: Quely 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20110	My Commission Expires: July 20, 2016
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20110	Notary Public R. Beal My Commission Expires: July 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20116	My Commission Expires: July 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20110	My Commission Expires: July 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-2016	My Commission Expires: July 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20116	My Commission Expires: July 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20110	My Commission Expires: July 20, 2014
1-30-3016	My Commission Expires: July 20, 2014
JENNIFER R. BEAL MY COMMISSION EXPIRES 7-20-20110	My Commission Expires: July 20, 2014
1-30-3016	My Commission Expires: July 20, 2014
1-30-3016	My Commission Expires: July 20, 2014
1-30-30116	My Commission Expires: July 20, 2014
1-30-30116	My Commission Expires: July 20, 2014
1-30-30116	My Commission Expires: July 20, 2014
1-30-30116	My Commission Expires: July 20, 2014
1-30-30116	My Commission Expires: July 20, 2014
20-3016	My Commission Expires: July 20, 2014
20-3016	My Commission Expires: Quily 20, 2014

LEGAL LOCATION	SPOT	CURR_OPERA
S36-T27S-R16E	SW SE NE SE	Heat Can Oil, LLC
S36-T27S-R16E	NW SE SE	Heat Can Oil, LLC
S6-T28S-R17E	SW NE NW SW	Little Joe's Oil Company
S1-T28S-R16E	SW NE NE NE	Mitchell Energy Company
S1-T28S-R16E	NW NE NE NE	Mitchell Energy Company
S1-T28S-R16E	NE NE NE NE	Mitchell Energy Company
S1-T28S-R16E	SE NE NE NE	Mitchell Energy Company
S36-T27S-R16E	SW SE NE SE	W & W Production Company, General Partnership

1-28S-16E

NW4

William R. Thorsell 19720 Ulysses Rd Chanute, KS 66720

2 Acres in NE/C of SE4

per TO dtd 1.9.08

David J. Hutchison 18538 Udall Road Altoona, KS 66710

36-27S-16E

SE4

Sharon L. Reaves Living Trust

20814 1900 Road Chanute, KS 66720

SW4

Gary Lee Campbell, Cheryl Anne Stoebenau, and John Franklin Campbell, TIC

(portion)

PO Box 22

Forsyth, MT 59327

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

January 28, 2013

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

RE: Approved Commingling CO011306

Anderson P 1-1, Sec. 1-T28S-R16E, Wilson County

API No. 15-205-25707-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on January 11, 2013, has been reviewed and approved by the Kansas Corporation Commission (KCC) per K.A.R. 82-3-123. Notice was examined and found to be proper per K.A.R. 82-3-135a. No protest had been filed within the 15-day protest period.

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

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

Commingling ID number CO011306 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