

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1089874

Form ACO-4 Form must be typed March 2009

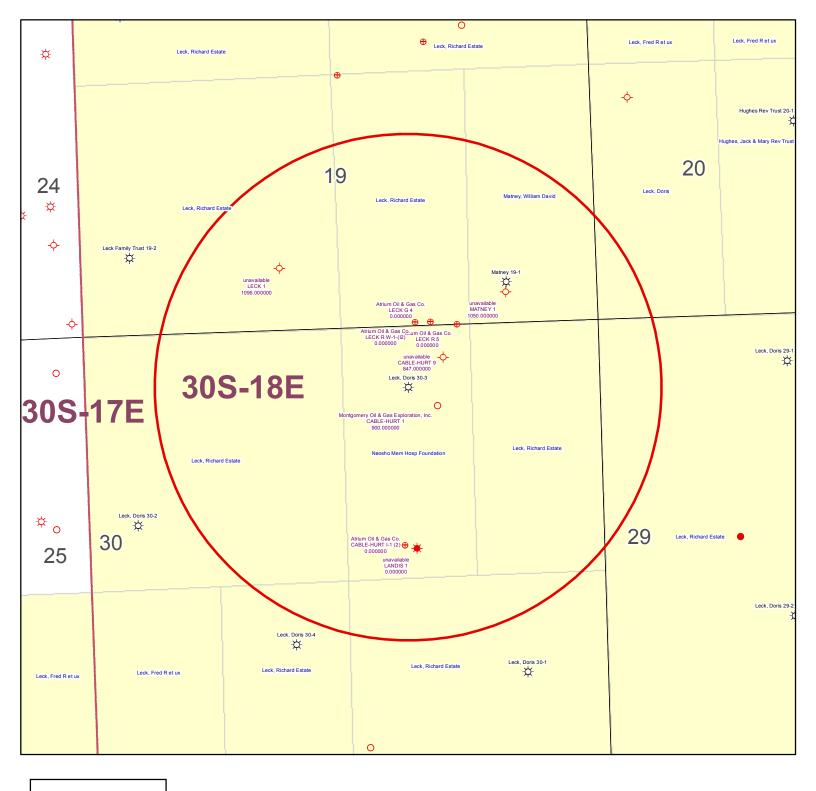
APPLICATION FOR COMMINGLING OF Commingling ID # _ PRODUCTION (K.A.R. 82-3-123) OR FLUIDS (K.A.R. 82-3-123a)

OPERAT	OR: License #	API No. 15		
Name:_		Spot Description: _		
Address	1:		_ Sec Twp	S. R
Address	2:		Feet from	North / South Line of Section
City:	State: Zip:+		Feet from	Bast / West Line of Section
Contact	Person:	County:		
Phone:	()	Lease Name:		Well #:
1.	Name and upper and lower limit of each production interval to	be commingled:		
	Formation:	(Perfs):		
2.	Estimated amount of fluid production to be commingled from e		MCEDD.	DWDD.
	Formation:			BWPD:
	Formation:			BWPD:
	Formation:		-	BWPD:
	Formation:			BWPD:
	Formation:	ВОРD:	MCFPD:	BWPD:
□ 3.	Plat map showing the location of the subject well, all other wel	•	•	leases within a 1/2 mile radius of
	the subject well, and for each well the names and addresses of	of the lessee of record or ope	erator.	
4.	Signed certificate showing service of the application and affida	avit of publication as require	d in K.A.R. 82-3-135a	ā.
		·		
For Con	nmingling of PRODUCTION ONLY, include the following:			
<u> </u>	Wireline log of subject well. Previously Filed with ACO-1:	Yes No		
6.	Complete Form ACO-1 (Well Completion form) for the subject	well.		
For Con	nmingling of FLUIDS ONLY, include the following:			
7 7.	Well construction diagram of subject well.			
☐ 7. ☐ 8.	· ·	ibility of the fluids to be som	minglod	
_ 0.	Any available water chemistry data demonstrating the compat	ibility of the hulds to be com-	minglea.	
Δ F FIDΔ\	/IT: I am the affiant and hereby certify that to the best of my			
current ir	nformation, knowledge and personal belief, this request for com-	Sı	ubmitted Elect	ronically
	is true and proper and I have no information or knowledge, which istent with the information supplied in this application.	0.	Jonnitoa Eloot	Tornouny
13 11100113	notes with the information supplied in this application.	1		
KCC	Office Use Only	Protests may be filed by an	y party having a valid in	nterest in the application. Protests must be
l — _	nied Approved			nust be filed wihin 15 days of publication of
		l		

Date: _

15-Day Periods Ends: ____

Approved By: _



KGS STATUS

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

Leck, Doris 30-3 30-30S-18E 1" = 1,000'

-	Α	В	С	D	Е	F	G	Н	1		K
1	Produced Fluids #	В	1	2	3	4	5	11	•	<u> </u>	
	Parameters	Units	Input	Input	Input	Input	Input		Click he	re	Click
3	Select the brines	Select fluid		Ī		V	Ī	Mixed brine:	to run SS	-	
4	Sample ID	by checking						Cell H28 is	to ruii oc	•	Click
5	Date	the box(es),	3/19/2012	3/4/2012	3/14/2012	1/20/2012	1/20/2012	STP calc. pH.	————		
6	Operator	Row 3	PostRock	PostRock	PostRock	PostRock	PostRock	Cells H35-38			Click
7	Well Name		Ward Feed	Ward Feed	Clinesmith	Clinesmith	Clinesmith	are used in	Goal Seek	SSP	
8	Location		#34-1	#4-1	#5-4	#1	#2	mixed brines	0.00		Click
9	Field		CBM	CBM	Bartles	Bartles	Bartles	calculations.			
10	Na ⁺	(mg/l)*	19,433.00	27,381.00	26,534.00	25689.00	24220.00	24654.20	Initial(BH)	Final(WH)	SI/SR
11	K ⁺ (if not known =0)	(mg/l)						0.00	Saturation Index	values	(Final-Initial)
	Mg ²⁺	(mg/l)	1,096.00	872.00	1,200.00	953.00	858.00	995.91		lcite	
	Ca ²⁺	(mg/l)	1,836.00	2,452.00	2,044.00	1920.00	1948.00	2040.23	-0.73	-0.60	0.13
	Sr ²⁺		1,050.00	2,432.00	2,044.00	1720.00	1740.00				0.13
	Ba ²⁺	(mg/l)						0.00	Ба	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./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}}\$ Alkalinity Caclulated \$\mathbb{\text{Catluated}}\$ Eanions= Calc TDS= Inhibitor Selection Protection Time Have ScaleSoftPitzer pick inhibitor for you? If No, inhibitor # is:	(F) (F) (psia) (psia) 1-Yes;0-No API grav. Sp.Grav. (B/D) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/I) as HCO3 (equiv./I) (equiv./I) (mg/I) Input 120	66.0 66.0 25.0 25.0 0 0 0	71.0 71.0 25.0 25.0 1 1 1 2 3 4	Inhibitor NTMP BHPMP PAA DTPMP	Unit Converter From Unit °C m³ m³ MPa	49.0 25.0 25.0 25.0 (From metric Value 80 100 1,000	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit °F ft³ bbl(42 US gal) psia	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH (Strong base) * Quality Control Checks at H 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) (N) (N) STP: (%) (mgH2S/I) (pH) (%) (mg/l) as HCO3 (equiv./I) (equiv./I) (mg/l) Input 120 1 4 1 50	0 0 0 Unit min 1-Yes;0-No #	## 1 2 3 4 4 5 6 6 7	Inhibitor NTMP BHPMP PAA DTPMP PPCA SPA HEDP	Unit Converter From Unit C m³ m³ MPa Bar Torr	49.0 25.0 25.0 25.0 25.0 Value 80 100 1,000 496 10,000	60.0 89.0 25.0 120.0 30.00 0.60 0 0 To Unit °F ft³ bbl(42 US gal) psia psia psia	5.69 Viscosity (1.196 Heat Capaci 0.955 Inhibitor ne Gypsum 0.00 Anhydrite 0.00 Value 176 3,531 629 145,074 7,194 193	5.60 CentiPoise) 0.826 ty (cal/ml/°C) 0.959 ceded (mg/L) HDTMP 0.00 HDTMP	
42 44 45 46 47 48 49 50 51 52 53 54 55 56 60 61 62 63 64 65 66 67 68 69	Final T Initial P Final P Use TP on Calcite sheet? API Oil Grav. Gas Sp.Grav. MeOH/Day MEG/Day Conc. Multiplier H* (Strong acid) * OH* (Strong base) * OH* (Strong base) * Ouality Control Checks at H 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

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APR 1 5 2005

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

Form ACO-1 September 1999 Form Must Be Typed

CONSERVATION DIVISION WELL COMPLETION FORM WICHITA, KS WELL HISTORY - DESCRIPTION OF WELL & LEASE

Operator: License # 33344	ADAM 4 = 133-26140-00-00
Operator: License #	API No. 15 - <u>133-26140-00-00</u> County: <u>Neosho</u>
Address: 211 W. 14th Street	
City/State/Zip: Chanute, KS 66720	nw - ne Sec. 30 Twp. 30 S. R. 18
Purchaser: Bluestem Pipeline, LLC	feet from S / N (circle one) Line of Section 1980
Operator Contact Person: Richard Marlin	
Phone: (620) 431-9500	Footages Calculated from Nearest Outside Section Corner:
Contractor: Name: M.O.K.A.T. Drilling	(circle one) (NE) SE NW SW Lease Name: Leck, Doris Well #: 30-3
E004	Field Name: Cherokee Basin CBM
Wellsite Geologist: N/A	Producing Formation: Summit/Mulky
Designate Type of Completion:	Elevation: Ground: Selly Bushing:
✓ New Well Re-Entry Workover	Total Depth: 1096' Plug Back Total Depth: 1093.81'
OilSWDSIOWTemp. Abd.	
·	Amount of Surface Pipe Set and Cemented at 22'1" Feet
Gas SIGW	Multiple Stage Cementing Collar Used?
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 1093.81'
Operator:	feet depth to. surface w/_ 136 sx cmt.
Well Name:	Drilling Fluid Management Plan ALTII KJR
Original Comp. Date: Original Total Depth:	(Data must be collected from the Reserve Pit) 5/4/6
Deepening Re-perf Conv. to Enhr./SWD	Chloride content ppm Fluid volume bbls
Plug BackPlug Back Total Depth	Dewatering method used
Commingled Docket No	Location of fluid disposal if hauled offsite:
Dual Completion Docket No	
Other (SWD or Enhr.?) Docket No	Operator Name:
11/18/04 11/19/04 12/07/04	Lease Name: License No.:
Spud Date or Date Reached TD Completion Date or Recompletion Date	Quarter Sec Twp S. R East West
	County: Docket No.:
Kansas 67202, within 120 days of the spud date, recompletion, workov Information of side two of this form will be held confidential for a period of	n the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, er or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. 12 months if requested in writing and submitted with the form (see rule 82-3-3 and geologist well report shall be attached with this form. ALL CEMENTING S. Submit CP-111 form with all temporarily abandoned wells.
All requirements of the statutes, rules and regulations promulgated to regulate and correct to the best of my knowledge.	ate the oil and gas industry have been fully complied with and the statements
Signature: L. Raw Warlin	KCC Office Use ONLY
Title: Chief Operating Officer Date: 4/13/2005	Letter of Confidentiality Received
Subscribed and sworn to before me this 13th day of	If Denied, Yes Date:
20.05.	Wireline Log Received
\sim	Geologist Report Received
Notary Public: Christian Constant	UIC Distribution
Date Commission Expires: 7/30/05 A JENNIFER R. I Notary Public - Sta My Appt. Expires 7/3	te of Kansas

Side Two

Operator Name:	lest Cherokee Oil	ileiu Sei	vice, LLC	Lease	Name:	Leck, Doris		Well #: . 30-3) 	
Sec. 30 Twp. 3	30 S. R. 18	. ✓ Eas	st 🗌 West		: Neos					
tested, time tool ope temperature, fluid re	show important tops on and closed, flowin covery, and flow rate gs surveyed. Attach	g and shu s if gas to	ut-in pressures, o surface test, a	whether shalong with f	nut-in pr	essure reached	l static level, hyd	rostatic pressure	es, botto	m hole
Drill Stem Tests Take			Yes √ No		ĮΙ	.og Forma	tion (Top), Depth	and Datum		Sample
Samples Sent to Ge	•		Yes [☑] No		Nan	ne apah Lime		Top		Datum +662'
Cores Taken			Yes ✓ No			mont Lime		332' 370'		+602 +624'
Electric Log Run		✓ `	Yes No			nee Lime		522 1/2'		+471 1/2'
(Submit Copy)		WASIMA	RECEIV	ED				590'		+404'
List All E. Logs Run:		VANSA	RECEIV SCORPORATIO	N COMMISS	ON Ver	digris Lime		710'		+284'
Comp Density Dual Induction			APK 1 5	2005		sissippi Lime	e	1052'	•	-58'
Gamma Ray/N	Neutron	C	ONSERVATION E WICHITA, K	IVISION S						
		Rep		RECORD		ew Used ermediate, produ	ction, etc.		the to recommend the second	W 10 A 10
Purpose of String	Size Hole Drilled		ize Casing et (In O.D.)	Weig Lbs.		Setting Depth	Type of Cement	# Sacks Used		and Percent Additives
Surface	11"	8-5/8"		24.75#		22' 1"	"A"	4sx		iddiive5
Production	6 3/4"	4 1/2"		10.5#		1093.81'	"A"	136sx	***************************************	The special sp
					4 man has book on			44 MA 1440 F MA 1440 A MA		
by many discontinuous definitions are announced and a control			ADDITIONAL	CEMENTIN	NG / SQ	JEEZE RECOR	_i D			
Purpose: Perforate Protect Casing	Depth Top Bottom	Тур	e of Cement	#Sacks	-		· · · · · · · · · · · · · · · · · · ·	Percent Additives		THE STATE OF THE S
Plug Back TD Plug Off Zone										n y a s sullomonium u s
Shots Per Foot			RD - Bridge Plu Each Interval Pe		POST TO SERVICE SEE SE		acture, Shot, Ceme			Depth
4	620'-624'			Annual Hallander State of Co.		15,900# 20	/40 Brady sar	nd		620'-624'
4	638'-644'				Addition systemation is not not	432 BBLS	water	e i bin sen si introducinamentali diligio in sel i	To entertain the set of	638'-644'
				** **** NATE NATIONAL STREET						
TUBING RECORD	Size	Set A		Packer A	t	Liner Run				en . He control control and
	3/8"	N/A	T	N/A :		MI - 14444 4 H - 7 P - FEDORAGE	Yes ✓ N	0		AND ADDRESS OF THE PARTY AND ADDRESS OF THE PA
12/21/04	d Production, SWD or E	:nnr.	Producing Met	noa [Flowin	g 📝 Pump	ing Gas L	.ift Othe	r (Explair)
Estimated Production Per 24 Hours	oil N/A	Bbls.	Gas 144.5	Mcf	Wate	er E	Bbls.	Gas-Oil Ratio	***************************************	Gravity
Disposition of Gas	METHOD OF (COMPLETION		L		Production Inte	rval	A STATE STAT	* ***	N W (No.) PRINCEPONISM AND
Vented ✓ Sold (If vented, Su	Used on Lease		Open Hole Other (Spec	✓ Perf.		Dually Comp.	Commingled			

RECEIVED KANSAS CORPORATION COMMISSION

APR 1 5 2005

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

CUSTOMER #

DATE

TICKET NUMBER

FIELD TICKET REF # _____

FOREMAN John Michols

TREATMENT REPORT & FIELD TICKET CEMENT

WELL NAME & NUMBER

DATE		CUSTOME	₹#		WELL NAME & NUM	BER	SECTION	TOWNSHIP	RANGE	COUNTY
12-7-2009				4	ck. Doxis #	30-3	30	305	18=	No
FOREMAN	/	TIME	TIME		LESS	TR	UCK	TRUCK	FI	MPLOYEE
OPERATION	ξ.	IN	OUT		LUNCH		#	HOURS	;	GNATURE
Telas . 1	<i>.</i>	7.79	4:15		No	34	18	5		
Wes . 7		7:55	3: 23		No		97	5	Wes	Terrio:
Daniel. P	•	7:41	4.'00		No	て	06	5-	we Co	Truis,
Mac. Mike. R		8.03	4:00		No	40		- 5	Marion	14 Journal de
Mike, K		329	Z:30		No	10	6	4.5	Mich	08/20
						ļ				
						 				
DISPLACEMENT_ REMARKS: Interpretation With Dozer Sach and	6 5 5 N	HOLE SIZE DRILL PIPE SLURRY VOL DISPLACEME OITH GAITONS Cocation Cocation	test play at 10	3:/6	MIX PSI His Psi Silicata with to	Ceme	PAT 2 gel water	E Pan 1 while Do	12 BB	L Dye. fran. 5 Loe
Coment	´ <	QUANTITY or UNITS	ARIS 6	£ ~7	eil came	י בקב ים עב	1-21-29 2 £1.	wast o	Town, e	on/orged
CODE		QUANTITY or UNITS				F SERVICE	S OR PRODU	СТ		TOTAL AMOUNT
403348		# 39 # 19 # 20	8 Foreman F	Pickup)					
408397	5	#19	Cement P	ump 1	ruck					
903206	5	# 20	6 Bulk Truck		**************************************					
	4/2	Addition 122 54		/ :	>/ -/		71.1			
1110	-/-				36 sks w	<u> </u>	· ,	<u>s</u>		······································
	ļ	14 s k	,							
1107	<u> </u>	15K								
1118		2 sk	Premium 0 ع	Gel						
1215A		190	/ KCL			····	***************************************			
1111B		1599		icate			······································			·
1123		5,670 99		/	35 BB/s					
903400		# 40	O Transport 7					····		
932705		# 66				***************************************				
0 101										
103 10 k		# 10 #	80 Vac							

							***************************************			-
vin 4513										

RECEIVED KANSAS CORPORATION COMMISSION

APR 1 5 2005

CONSERVATION DIVISION WICHITALES Cherokee LLC Cementing Report

Date:	12.7.2004		•	
Well:	Leck, Doris	#30-3	Legals_30-305-186	Neosho Co.
RE:	Run & Cement	Longstring-Notified	Becke at KCC Office-/2/7/0	У@ ~o:ЭоДМ) РМ
Time:				
9:25%	⁄. mTeam-	-on loc	ation and rig up	
		ation and spot casir	na trailer	
11:054	/Mream-			
PROTECTION OF THE PROPERTY OF THE PARTY OF T	AQCOS on locati	on and rig un	/093.8/ ft of casing	
	"Team-		approx390' ft from T.D.	
	MOCOS wash car	sing to T.D. and aire		
	Stack was 1 a	51119 (0 1.15. and the	sks gel to surface	Total was & fin
Long D.	mTeam-	l and a	posing and	flior P.m. (1 Ht 15 min)
1.257.1		Lanu	asing Difty Hale	· Mega caffings Ring
1:00.	MACAS Numa (rsig 00- Liroulato Muterati	wn and off location	gel cycle
1.401.	- raccos- pump- (on Culate VV/ Tresh H	IZO. NID 7 6 - DDI NVA WITH 15	ant andium fit
	եր հերև հ	mui ave retum, finsi) Dumn numn nlug M// KCL wete	t Cl
	COST 6,660	lation sprok	90:21 to 20-0 W	nited and
	watill cite	culation brot	o from 6000 City	entation of an
	after.Ex	tte Carge c	uffings broad	sock in 71 Cycle. newt. temixed 3-45 oplay to tof://
2.45	MQCOS Rig dowr	n and off location 🔹	56040000	and I by Eyele.
		~	Ffor promise	
CEMENT	SLURRY:	2		oping to telill
	Total Cement: /	36 5K5	arter a Z.	-36
	Cement blend: (DWC, 5# Gilsonite,	1/4# Elo Cool	tall sack
	Cement slurry w		UAR FIU-Seal	
	Average Surface			
			744	
	F	Running cement circ	culation pressure: Z 0 0	
		Pumping plug circulation during in	ation pressure: 500	
		Circulation during jo	U	-
HOLE/CAS	SING/FLOAT FOI	JIPMENT SUMMAR	r ov.	
	Hole Size & Den	th: 6 3/4"- 1096	XI,	
	Casing Size & D.	enth: Nov. 4 4/01/40	F.II. III.	
1053	Centralizer	срат. ryew 4 1/2" 1()	.5# per/ft. Range 3-plus shoe	/ O \$3.8/
852		Falizer		
	Centralizer			
404	Basket Lewf			
200	Centralizer	- A 1 / Z PF		
100	4 4 /OUL - L - S			
i ed	4 1/2" Latch-Dow	'n Float Shoe w/ No	tch Collar on bottom & 4 1/2" Late	ch Davis Di
706	on loss Li	/ 10	Ma A	ch-Down Plug e Crews in, arow
			M.M. TO MOU	e crews in arou
50. c A	t out of	Location.	muddy duffed	past la
'B1s a	foil co	mo ejs whi	le was hing casin	S clause Enlacad
pit	to proven.	fang e	vectill of spilla	9e.

POSTROCK



Current Completion

WELL : Leck, Doris 30-3
FIELD : Cherokee Basin

COMP. Date: 12/07/2004 API: 15-133-26140-00-00

SPUD DATE: 11/18/2004

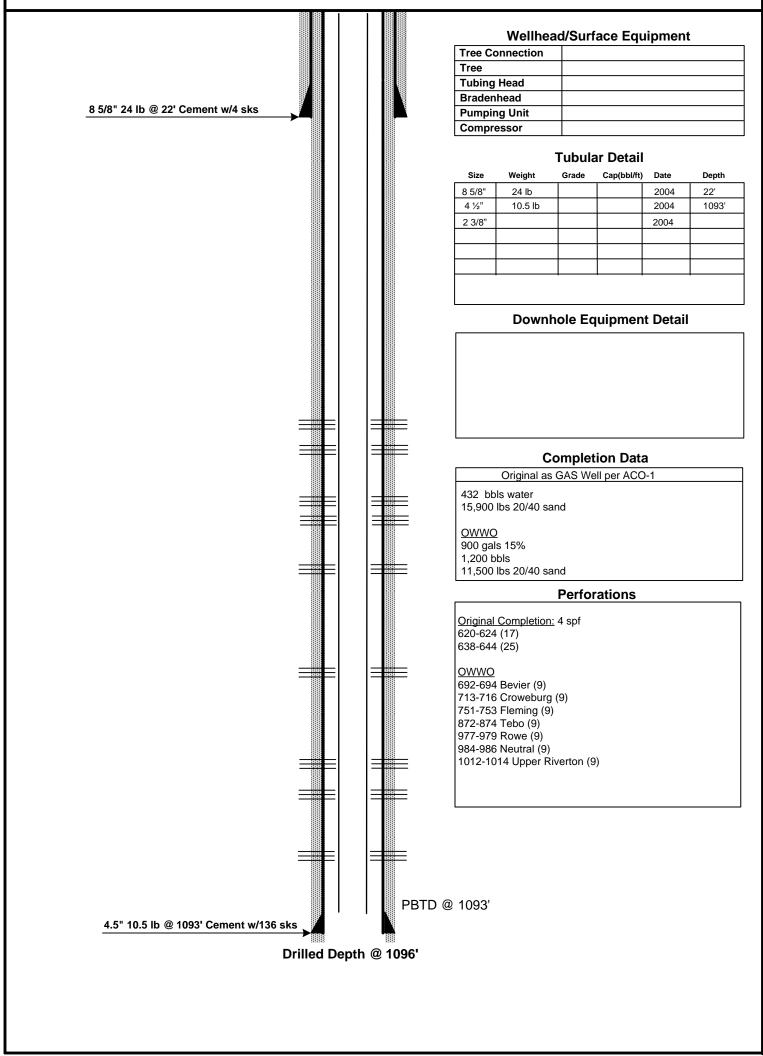
STATE : Kansas COUNTY : Neosho

PREPARED BY: POSTROCK

APPROVED BY: _

LOCATION: 30-30S-18E (NW,NE)

ELEVATION: 994'



DATE: July, 2012

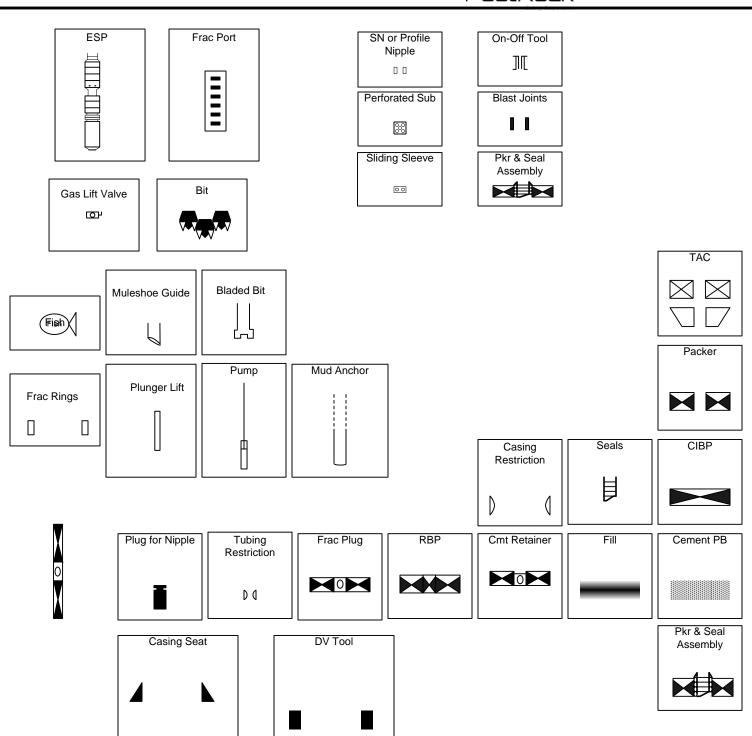
DATE:_

POSTROCK



LEGEND

PostRock[®]



LECK, DORIS 30-3

1 NAME & UPPE	R & LOWER LIMIT OF EACH	PRODUCTION INTERVAL TO B	E COMMING	LED			
FORMATION:	TEBO	(PERFS):	872 -	874			
FORMATION:	ROWE	(PERFS):	977 -	979			
FORMATION:	NEUTRAL	(PERFS):	984 -	986			
FORMATION:	UPPER RIVERTON	(PERFS):	1012 -	1014			
FORMATION:	CATTLEMAN	(PERFS):	832 -	835			
FORMATION:	CATTLEMAN	(PERFS):	837 -	841			
FORMATION:	CATTLEMAN	(PERFS):	844 -	849			
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
FORMATION:		(PERFS):					
2 ESTIMATED AN	MOUNT OF FLUID PRODUCT	ON TO BE COMMINGLED FRO	OM EACH INT	ERVAL			
FORMATION:	TEBO	BOPD:	0	MCFPD:	1.22	BWPD:	4.44
FORMATION:	ROWE	BOPD:	0	MCFPD:	1.22	BWPD:	4.44
FORMATION:	NEUTRAL	BOPD:	0	MCFPD:	1.22	BWPD:	4.44
FORMATION:	UPPER RIVERTON	BOPD:	0	MCFPD:	1.22	BWPD:	4.44
FORMATION:	CATTLEMAN	BOPD:	1	MCFPD:	0	BWPD:	6.67
FORMATION:	CATTLEMAN	BOPD:	1	MCFPD:	0	BWPD:	6.67
FORMATION:	CATTLEMAN	BOPD:	1	MCFPD:	0	BWPD:	6.67
FORMATION:		BOPD:		MCFPD:		BWPD:	
FORMATION:		BOPD:		MCFPD:		BWPD:	
FORMATION:		BOPD:		MCFPD:		BWPD:	
FORMATION:		BOPD:		MCFPD:		BWPD:	
FORMATION:		BOPD:		MCFPD:		BWPD:	

Affidavit of N	otice Served		
Re: Applic	eation for: APPLICATION FOR COMMING	LING OF PRODUCTION OR FLU	JIDS ACO-4
Well f	Name: GRADY, JAMES A 5-2	Legal Location: SENW	S5-T28S-R17E
	hereby certificates that he / she is a duly authorized a		13th of AUGUST
2012	, a true and correct copy of the application reference	ced above was delivered or mailed to the foll	owing parties:
	this affidavit must be served as a part of the application		
Name		Address (Attach additional she	eets if necessary)
POSTROCI	CMIDCONTINENT PRODUCTION, LLC	210 PARK AVENUE, SUITE	E 2750, OKLAHOMA CITY, OK 73102-5641
•			
I further attest tha	t notice of the filing of this application was published in	the WILSON COUNTY CITIZEN	, the official county publication
of WILSON		county. A copy of the affidavit of this pu	ublication is attached.
	I oblina		
Signed this	day of AUGUST	2012	2
		Just X	Morris
		Applicant or Duly Authorized Agent	
	Subscribed and sworn	to before me this day of _A	.UGUST , 2012
ŎFFIC	JENNIFER P. BEAL	Aimile X	Beal
ÒFFICI SEAL		Notary Public	
	100 10	My Commission Expires:	ly 20, 20/10

and Onevadeur Hulenned Piller and Onevane	
et Operators, Unleased Mineral Owners and Landowners acreage	<u> </u>
ach additional sheets if necessary)	Level Development Committee
Name: STROCK MIDCONTINENT PRODUCTION, LLC	Legal Description of Leasehold: POSTROCK HAS LEASED ALL ACREAGE IN THE 1/2
OTTOOK WILDOON FINE IN FRODOCTION, LEC	
	MILE RADIUS
by certify that the statements made herein are true and correct to the best o	
	Dess & Mouris
Apoli	cant or Duly Authorized Agent
Subscribed and sworn befo	ore me this day of AUGUST ,2012
JENNIFER R. BEAL	Quanty R Beal
ALCOPPICATE AND AND ADDRESS OF THE CONTRACT OF	y Pupilic) Selection
H 300 mm - 11	of the real
7-20-2016 My Co	ommission Evoires: (MIIII ON ON)
1 7-20-2016 My Co	ommission Expires:
7-20-2010 My Ci	ommission Expires: Office OO, OO, OO, OO
7-20-2016 My Ci	ommission Expires: Office Offi
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My C	ommission Expires: Office Control Cont
My C	ommission Expires: Office Offi
7-20-3016 My C	ommission Expires: Office Offi
My C	ommission Expires: Office Story Story
My C	ommission Expires: Office Offi
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My C	ommission Expires: Aguly along

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 Leck, Dorls 30-3 located in Neosho County, Kansas.

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

You, and each of you, are hereby notified that Postrock Midcontinent Production, LLC has filed an application to commingle the Summit, Mulky, Bevier, Croweburg, Fleming, Tebo, Rowe, Neutral, Upper Riverton and Cattleman producing formations at the Leck, Dorls 30-3, located in the SE NW NW NE, S30-T30S-R18E, Approximately 638 FNL & 1999 FEL, Neosho County, Kansas.

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

All persons interested or concerned shall take notice of the foregoing and shall govern themselves accordingly. All person and/or companies wishing to protest this application are required to file a written protest with the Conservation Division of the Kansas Oil and Gas Commission.

Upon the receipt of any protest, the Commission will convene a hearing and protestants will be expected to enter an appearance either through proper legal counsel or as individuals, appearing on their own behalf.

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

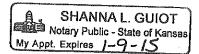
A COPY OF THE AFFIDAVIT OF PUBLICATION MUST ACCOMPANY ALL APPLICATIONS

Affidavit of Publication 🐝

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

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

That the attached notice is a true copy thereof and was published in the regular and entire issue of said newspaper for consocion, the first publication thereof being made as aforesaid on the day of 2012, with subsequent publications being made on the following dates:	
, 2012,	2012
, 2012,	2012
Phonda Howerto	eC_
Subscribed and sworn to and before me this /3 day of August 2012 Nota	ry Public
My commission expires: January 9, 2015 Printer's Fee	
Additional Copies\$	



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

August 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.

Fletchall

Subscribed and sworn to before me this

13th day of August, 2012

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

Notary Public Seggwick County, Kansas

Printer's Fee: \$139.60

PUBLISHED IN THE WICHITA EAGLE
AUGUST 11, 2012 (3280869)
BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS
MOTICE OF FILING APPLICATION
Production, LLC Application for
Commingling of Production in the Leck,
Doris 30-3 located in Neosho County,
Kansas.

Commingling of Production in the Leck, Doris 30-3 located in Neosho County, Kansas.

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Upon the receipt of any protest, the

Conservation Divisions to the Renewal 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

POSITOCK MIGCOMINIEM PRODUCTS
210 Park Avenue, Suite 2750
Oklahoma City, Oklahoma 73102
(405) 660-7704
A COPY. OF THE AFFIL
PUBLICATION MUST ACCOM
APPLICATIONS

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/

Mark Sievers, Chairman Thomas E. Wright, Commissioner Sam Brownback, Governor

August 29, 2012

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

RE: Approved Commingling CO081222

Leck, Doris 30-3, Sec. 30-T30S-R18E, Neosho County

API No. 15-133-26140-00-00

Dear Mr. Edwards:

Your Application for Commingling (ACO-4) for the above described well, received by the KCC on August 23, 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 CO081222 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