For KCC Use:

Eff	e	ct	iv	е	Date
— ·					

District	±	
DISTINCT	TT .	

SGA?	Yes	No

KANSAS CORPORATION COMMISSION **OIL & GAS CONSERVATION DIVISION**

March 2010 Form must be Typed Form must be Signed All blanks must be Filled

Form C-1

1100358

NOTICE OF INTENT TO DRILL

Must be approved by KCC five (5) days prior to commencing well

Form KSONA-1, Certification of Compliance with the Kansas Surface Owner Notification Act, MUST be submitted with this form.

Expected Spud Date:	Spot Description:
month day year	
OPERATOR: License#	feet from N / S Line of Section
Name:	feet from L E / W Line of Section
Address 1:	Is SECTION: Regular Irregular?
Address 2:	(Note: Locate well on the Section Plat on reverse side)
City: State: Zip: +	County:
Contact Person:	Lease Name: Well #:
Phone:	Field Name:
CONTRACTOR: License# Name:	Is this a Prorated / Spaced Field? Yes No
	Nearest Lease or unit boundary line (in footage):
Well Drilled For: Well Class: Type Equipment:	Ground Surface Elevation:feet MSL
Oil Enh Rec Infield Mud Rotary	Water well within one-quarter mile:
Gas Storage Pool Ext. Air Rotary	Public water supply well within one mile:
Disposal Wildcat Cable	Depth to bottom of fresh water:
Seismic ; # of Holes Other	Depth to bottom of usable water:
Other:	
If OWWO: old well information as follows:	Surface Pipe by Alternate:
	Length of Surface Pipe Planned to be set:
Operator:	Length of Conductor Pipe (if any):
Well Name:	Projected Total Depth:
Original Completion Date: Original Total Depth:	Formation at Total Depth:
	Water Source for Drilling Operations:
Directional, Deviated or Horizontal wellbore?	Well Farm Pond Other:
If Yes, true vertical depth:	DWR Permit #:
Bottom Hole Location:	(Note: Apply for Permit with DWR)
KCC DKT #:	Will Cores be taken? Yes No
	If Yes, proposed zone:

AFFIDAVIT

The undersigned hereby affirms that the drilling, completion and eventual plugging of this well will comply with K.S.A. 55 et. seq.

It is agreed that the following minimum requirements will be met:

- 1. Notify the appropriate district office *prior* to spudding of well;
- 2. A copy of the approved notice of intent to drill shall be posted on each drilling rig;
- 3. The minimum amount of surface pipe as specified below shall be set by circulating cement to the top; in all cases surface pipe shall be set through all unconsolidated materials plus a minimum of 20 feet into the underlying formation.
- 4. If the well is dry hole, an agreement between the operator and the district office on plug length and placement is necessary prior to plugging;
- 5. The appropriate district office will be notified before well is either plugged or production casing is cemented in;
- 6. If an ALTERNATE II COMPLETION, production pipe shall be cemented from below any usable water to surface within 120 DAYS of spud date. Or pursuant to Appendix "B" - Eastern Kansas surface casing order #133,891-C, which applies to the KCC District 3 area, alternate II cementing must be completed within 30 days of the spud date or the well shall be plugged. In all cases, NOTIFY district office prior to any cementing.

Submitted Electronically

For KCC Use ONLY	
API # 15	
Conductor pipe required	feet
Minimum surface pipe required	feet per ALT. II
Approved by:	
This authorization expires:	rted within 12 months of approval date.)
Spud date: Age	ent:

Remember to:

- File Certification of Compliance with the Kansas Surface Owner Notification Act (KSONA-1) with Intent to Drill;
- File Drill Pit Application (form CDP-1) with Intent to Drill;
- File Completion Form ACO-1 within 120 days of spud date;
- File acreage attribution plat according to field proration orders;
- Notify appropriate district office 48 hours prior to workover or re-entry;
- Submit plugging report (CP-4) after plugging is completed (within 60 days);
- Obtain written approval before disposing or injecting salt water.
- If well will not be drilled or permit has expired (See: authorized expiration date) please check the box below and return to the address below.
 - Well will not be drilled or Permit Expired Date: _ Signature of Operator or Agent:

ш

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202



For KCC Use ONLY

API # 15 -

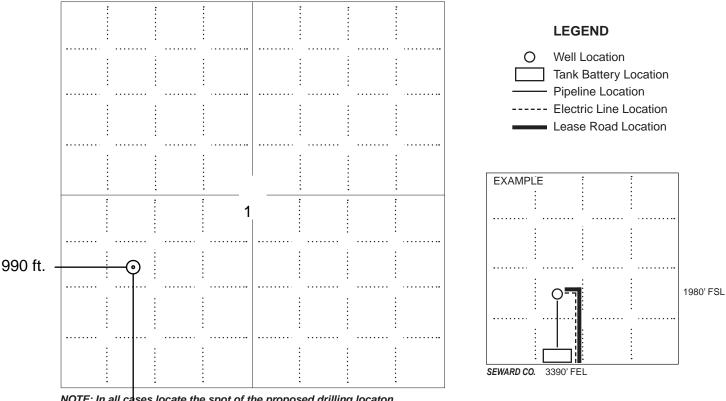
IN ALL CASES PLOT THE INTENDED WELL ON THE PLAT BELOW

In all cases, please fully complete this side of the form. Include items 1 through 5 at the bottom of this page.

Operator:	Location of Well: County:
Lease:	feet from N / S Line of Section
Well Number:	feet from E / W Line of Section
Field:	Sec Twp S. R E 📃 W
Number of Acres attributable to well: QTR/QTR/QTR/QTR of acreage:	Is Section: Regular or Irregular
	If Section is Irregular, locate well from nearest corner boundary.
	Section corner used: NE NW SE SW

PLAT

Show location of the well. Show footage to the nearest lease or unit boundary line. Show the predicted locations of lease roads, tank batteries, pipelines and electrical lines, as required by the Kansas Surface Owner Notice Act (House Bill 2032). You may attach a separate plat if desired.



NOTE: In all cases locate the spot of the proposed drilling locaton.

1650 ft.

In plotting the proposed location of the well, you must show:

- 1. The manner in which you are using the depicted plat by identifying section lines, i.e. 1 section, 1 section with 8 surrounding sections, 4 sections, etc.
- 2. The distance of the proposed drilling location from the south / north and east / west outside section lines.
- 3. The distance to the nearest lease or unit boundary line (in footage).
- 4. If proposed location is located within a prorated or spaced field a certificate of acreage attribution plat must be attached: (C0-7 for oil wells; CG-8 for gas wells).
- 5. The predicted locations of lease roads, tank batteries, pipelines, and electrical lines.

Side Two



KANSAS CORPORATION COMMISSION **OIL & GAS CONSERVATION DIVISION**

1100358

Form CDP-1 May 2010 Form must be Typed

APPLICATION FOR SURFACE PIT

Submit in Duplicate

Date Received:

Operator Name:		License Number:		
Operator Address:			<u>.</u>	
Contact Person:			Phone Number:	
Lease Name & Well No.:			Pit Location (QQQQ):	
Type of Pit:	Pit is:		· · · ·	
Emergency Pit Burn Pit	Proposed	Existing	SecTwpR East West	
Settling Pit Drilling Pit	If Existing, date cor	structed:	Feet from North / South Line of Section	
Workover Pit Haul-Off Pit (If WP Supply API No. or Year Drilled)	Pit capacity:		Feet from East / West Line of Section	
		(bbls)	County	
Is the pit located in a Sensitive Ground Water A	rea? Yes I	No	Chloride concentration: mg/l (For Emergency Pits and Settling Pits only)	
Is the bottom below ground level?	Artificial Liner?	0	How is the pit lined if a plastic liner is not used?	
Pit dimensions (all but working pits):	Length (fee		Width (feet)N/A: Steel Pits	
Depth from	m ground level to dee	pest point:	(feet) No Pit	
If the pit is lined give a brief description of the liner material, thickness and installation procedure.			edures for periodic maintenance and determining ncluding any special monitoring.	
Distance to nearest water well within one-mile of pit:		Depth to shallow Source of inform	west fresh water feet. mation:	
feet Depth of water wellfeet		measured	well owner electric log KDWR	
Emergency, Settling and Burn Pits ONLY:		Drilling, Worko	over and Haul-Off Pits ONLY:	
Producing Formation:		Type of materia	al utilized in drilling/workover:	
Number of producing wells on lease:		Number of working pits to be utilized:		
Barrels of fluid produced daily:		Abandonment p	procedure:	
Does the slope from the tank battery allow all spilled fluids to flow into the pit? Yes No		Drill pits must be closed within 365 days of spud date.		
Submitted Electronically				
	KCC	OFFICE USE OF	NLY	

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

_ Permit Number: _

____Permit Date: ___

Lease Inspection: Yes No



KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

CERTIFICATION OF COMPLIANCE WITH THE KANSAS SURFACE OWNER NOTIFICATION ACT Form KSONA-1 July 2010 Form Must Be Typed Form must be Signed All blanks must be Filled

This form must be submitted with all Forms C-1 (Notice of Intent to Drill); CB-1 (Cathodic Protection Borehole Intent); T-1 (Request for Change of Operator Transfer of Injection or Surface Pit Permit); and CP-1 (Well Plugging Application). Any such form submitted without an accompanying Form KSONA-1 will be returned.

Select the corresponding form being filed: C-1 (Intent) CB-1 (Cathodic Protection Borehole Intent) T-1 (Transfer) CP-1 (Plugging Application)

OPERATOR: License #	Well Location:		
Name:			
Address 1:	County:		
Address 2:	Lease Name: Well #:		
City: Zip: Contact Person:	If filing a Form T-1 for multiple wells on a lease, enter the legal description of the lease below:		
Phone: () Fax: () Email Address:			
Surface Owner Information:			
Name:	sheet listing all of the information to the left for each surface owner. Surface		
Address 1:			
Address 2:	county, and in the real estate property tax records of the county treasurer.		
City: State: Zip:+			

If this form is being submitted with a Form C-1 (Intent) or CB-1 (Cathodic Protection Borehole Intent), you must supply the surface owners and the KCC with a plat showing the predicted locations of lease roads, tank batteries, pipelines, and electrical lines. The locations shown on the plat are preliminary non-binding estimates. The locations may be entered on the Form C-1 plat, Form CB-1 plat, or a separate plat may be submitted.

Select one of the following:

- I certify that, pursuant to the Kansas Surface Owner Notice Act (House Bill 2032), I have provided the following to the surface owner(s) of the land upon which the subject well is or will be located: 1) a copy of the Form C-1, Form CB-1, Form T-1, or Form CP-1 that I am filing in connection with this form; 2) if the form being filed is a Form C-1 or Form CB-1, the plat(s) required by this form; and 3) my operator name, address, phone number, fax, and email address.
- □ I have not provided this information to the surface owner(s). I acknowledge that, because I have not provided this information, the KCC will be required to send this information to the surface owner(s). To mitigate the additional cost of the KCC performing this task, I acknowledge that I am being charged a \$30.00 handling fee, payable to the KCC, which is enclosed with this form.

If choosing the second option, submit payment of the \$30.00 handling fee with this form. If the fee is not received with this form, the KSONA-1 form and the associated Form C-1, Form CB-1, Form T-1, or Form CP-1 will be returned.

Submitted Electronically

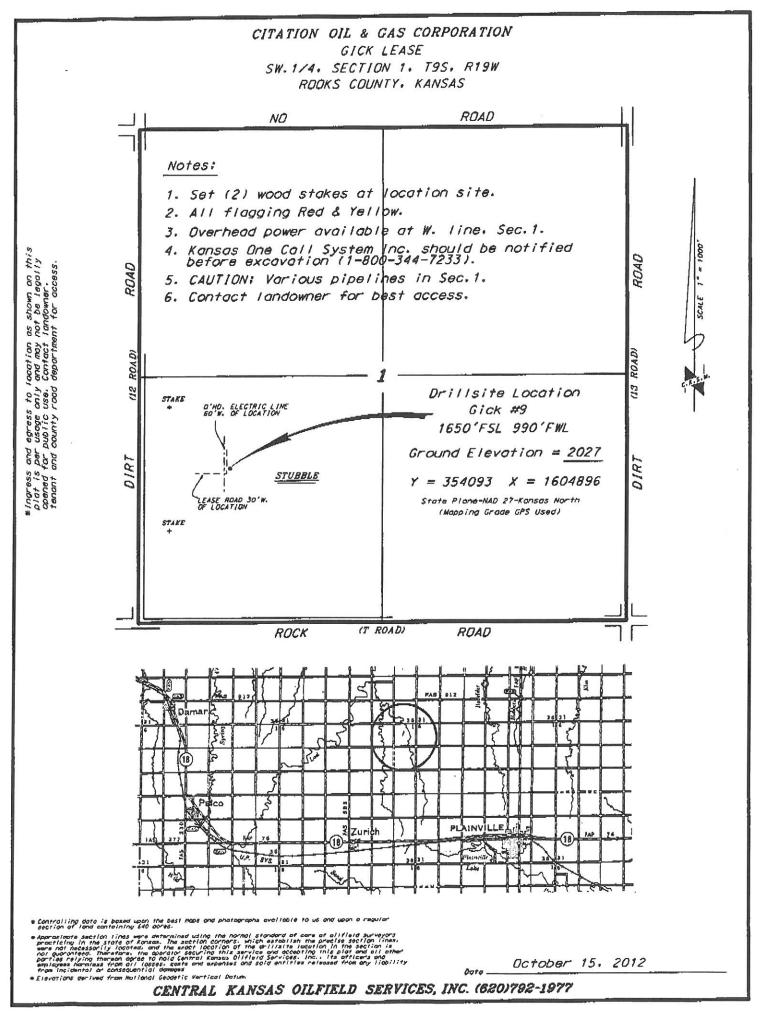
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CENTRAL KS SURVEYING

009



GENERAL DRILLING PROCEDURE

Projected TD: 3500' to 3900' MD Objective: Arbuckle

- ✓ Build location to rotary rig specifications. Build & install cellar large enough to accommodate BOPE.
- ✓ Reduce or shut-in offset injection wells, a week prior to spud, to maintain ≤ 100 psi surface injection pressure.
- ✓ Dig and line pit. Fill with fresh water from drilling water source.
- ✓ Dig earthen pit system per rig specifications. Fill with 2 loads mud from prior well.
- MIRU rotary rig and equipment. Contractor will dig mouse and rat hole per footage bid.

8 5/8" Surface Casing

- 1. Spud 12 $\frac{1}{4}$ " hole and drill to \pm 1300' utilizing fresh water spud mud ranging from 9.0 ppg to 9.2 ppg.
- 2. Circulate and condition hole to run $8^{5}/8^{"}$ 24#, K-55, ST&C casing. TOOH w/ bit.
- 3. RU casing tools and run $8^{5}/8^{"}$ K-55, 24#/ft, ST&C casing as follows:

<u>Casing Detail $(T \rightarrow B)$ </u>

8⁵/₈" 24 #/ft K-55 ST&C casing to surface

8⁵/₈" Float Collar (or Insert Float Valve)

2 jts 8 ⁵/₈" 24 #/ft K-55 ST&C new casing

8⁵/₈" Guide Shoe or Cut-lip Guide

ID	Drift	Optimum Torque	Collapse	Burst	Tension
8.097"	7.972"	2,440 ft-lbs	1,370 psi	2,950 psi	244,000 lbs

Special Instructions

- a) Run 12 (12 $\frac{1}{4}$ " x 8 $\frac{5}{8}$ ") centralizers as follows:
 - 1 Middle of first jt w/ stop ring.
 - 1 Collar of first jt.
 - 1 Middle of second jt w/ stop ring (below float collar).
 - 1 Middle of third jt w/ stop ring (above float collar).
 - 1 Every third collar to surface.
- b) Tack-weld shoe and bottom (4) connections.
- c) Thread-lock bottom four (4) connections if deemed necessary.
- d) Break circulation through float equipment after lowering below rotary table.
- e) With casing on bottom, circulate a minimum of 2 3 hole volumes (or until fluid cleans up) prior to cementing.

- f) If possible, rotate and/or reciprocate pipe during circulating and cementing operations.
- RU cement co. Circulate and condition mud. Cement surface casing w/ 500 sx Common Cement w/ 2% gel & 3% CaCl₂. Displace plug w/ fresh water. Land plug w/ 500 psi over late pumping pressure. Release pressure and check float.
- 5. WOC 8 hrs. Cut-off 8 5/8" casing & NU on 8 5/8" with appropriate casing head. NU BOPE.
- 6. Test Casing to 1000 psi and annular BOP to 1000 psi.

5 ½" Production Casing

- 7. TIH w/ $77/_8$ " bit and drill out plug, FC, cement and casing shoe. Drill $77/_8$ " hole to approximately 2800' (100' above Topeka A) with native mud. At a drill depth of 2800', displace hole with chemically dispersed mud from 500 bbl frac tank. Maintain WL at 8 to 10 cc's as per mud program. Maintain LCM in mud as lost circulation dictates. Continue drilling to TD.
- 8. At TD, circulate and condition mud for logs. Short trip to last bit change. TIH to TD and circulate bottoms up twice or until returns clean. Chain out 20 stands. Strap out of hole to log.
- 9. RU WL company and run OH logs as per geological prognosis.
- 10. TIH w/ $7 \frac{7}{8}$ " bit w/ slick BHA to TD. Circulate and condition hole to run casing.
- 11. POOH laying down DP and BHA.
- 12. RU casing tools and run 5 ½" production casing as follows:

Casing Detail $(T \rightarrow B)$

- 5 ½" 15.5# J-55 LT&C new casing to surface
- 5 ½" Float Collar
- 2 jts 5 ½" 15.5# J-55 LT&C new casing
- 5 ½" Float Shoe

Drift	ID	Optimum Torque	Collapse	Burst	Tension
4.825"	4.950"	2,170 ft-lbs	4,040 psi	4,810 psi	217,000 lbs

Special Instructions

- a) Run 14 (77/8" x 5 $\frac{1}{2}$ ") centralizers as follows:
 - 1 Middle of first jt w/ stop ring.
 - 1 Collar of first jt.
 - 1 Middle of second jt w/ stop ring.
 - 1 Float Collar.
 - 10 Spaced every other collar.
 - 1 Cement Basket above LKC 'A'

- 1 Cement Basket above Arbuckle
- b) Tack-weld float shoe and casing collars past float collar.
- c) Thread-lock bottom four (4) connections.
- d) Break circulation through float equipment after lowering below rotary table.
- e) With casing on bottom, circulate a minimum of 2 3 hole volumes prior to cementing.
- f) Rotate and/or reciprocate casing during circulating and cementing operations.
- 13. RU cement co. Cement production casing w/ 500 gals WFR-2 Mud Flush followed with 200 sx ASC cement w/ 10% salt, 2% gel and ¼ #/sk Flo-Seal (Volume should bring cement top to ~2300 FFS). Displace with fresh wtr. Land plug with 500 psi over late pumping pressure. Release pressure and check float.
- 14. Pull BOP. Set 5 ½" casing, in full tension, in slips. Strip off BOP. Cut off casing and NU casing hanger.
- 15. Clean mud pits, release rig and all rental equipment.
- 16. Move drilling equipment to next location.

GENERAL COMPLETION PROCEDURE

- ✓ Prior to MI RU PU, weld on 5 $\frac{1}{2}$ " belled nipple and NU WHAF.
- ✓ Plumb bradenhead to surface with BP ball valve.
- ✓ Back-fill cellar, clean-up and level location. Set anchors.
- ✓ Unload and rack 2 ⁷/₈" 6.5 ppf J-55 EUE 8rd work-string tubing.
- ✓ If necessary, dig & line "workover" pit. Otherwise, use drilling pits.
- ✓ Based on OH logs (and float collar depth), determine Arbuckle interval to be production tested:
 - If Arbuckle is to be tested requires additional rat-hole is necessary, MI RU reverse equipment (i.e., pump, pit and swivel) for drill-out of float shoe.

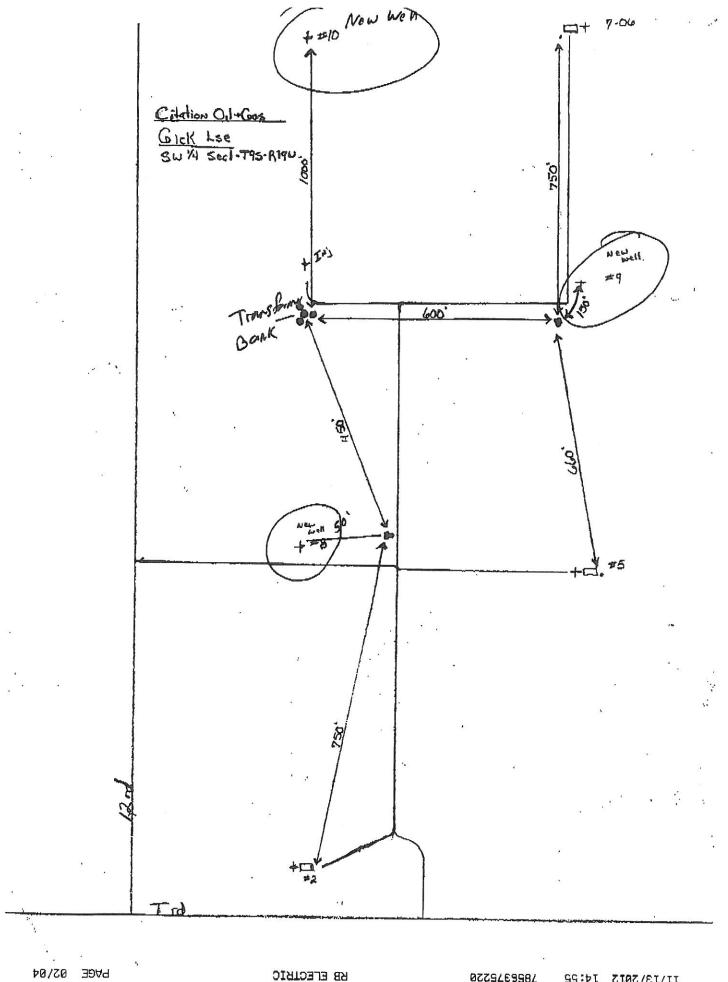
Arbuckle Production Test

- 1. MI RU Pulling Unit. NU BOP. If drill-out is necessary based on the above criteria, PU & RIH w/ 4 $\frac{3}{4}$ " MT bit, (6) 3 $\frac{1}{2}$ " DC's & SN on 2 $\frac{7}{8}$ " WS.
 - If drill-out is NOT required, PU & RIH w/ 4 ³/₄" MT bit, Scraper & SN on 2 ⁷/₈" WS. Proceed to step 3.
- 2. DO FC & shoe jt(s) as necessary to provide adequate rathole.
- 3. CHC. PT csg to 1000 psi/15 min. POOH & LD BHA.
- 4. MI RU WL Unit & pack-off. Run GR/CCL/CBL log. RIH & perforate Arbuckle w/ 4 spf & 90^o phasing (as per Geologist recommendation). Email GR/CCL/CBL to Houston office for inspections. POOH & LD perf gun. RD MO WL Unit.
- 5. PU & RIH w/ 5 $\frac{1}{2}$ " PKR & SN on 2 $\frac{7}{8}$ " WS. Set PKR <u>+</u> 25' above top Arbuckle perforation. RU swab. Swab test Arbuckle for potential fluid production and oil cut.
- 6. If deemed necessary, Acid stimulate Arbuckle perfs to provide optimum production test information.
 - Note: Stimulation recommendation will be provided on an "as needed" basis dependant on interval size and initial swab test results.
- 7. If deemed necessary, prepare well for polymer treatment and follow the General Polymer Treatment Procedure, if not continue to step 14.

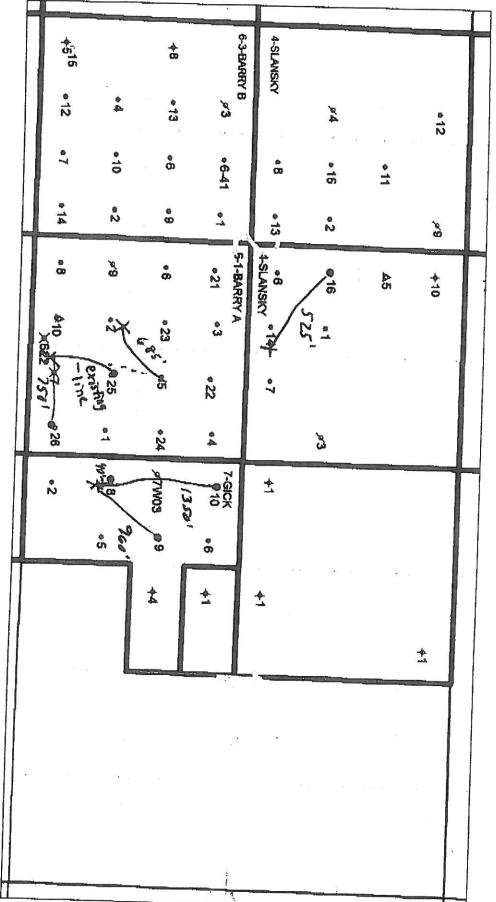
General Polymer Treatment Procedure

- 8. MI RU Acid co. Spot 500 gals of 15% HCL w/ mutual solvent on bottom. Let acid spend for 1 hour. RU swab and swab back 30 BBL load. RD swab.
- Pump 1500 gals of 15% HCL w/ mutual solvent at rate of 6-7 bpm, do not exceed surface treating pressure of ~2300#. Displace acid w/ produced water. RDMO Acid. SI well for 2 hours for acid to spend. RU swab. Swab back 100 BBL load. RD swab.

- 10. RU & RIH w/ BHP sensor. RD MO Pulling Unit.
- 11. MI RU Polymer Unit. Pump polymer treatment dependent on formation potential from pre-acid swab rates and fluid level. Monitor polymer rates, concentrations, and volumes along with BH and surface treating pressures and report daily to Engineer. Displace final polymer stage with produced water.
- 12. RD MO Polymer Unit. POOH w/ BHP sensor. SI well for 7 days for polymer to build gel strength. MO frac tanks.
- 13. MI RU Pulling Unit. RU swab. Swab Arbuckle for rate and oil cut. RD swab.
- 14. POOH w/ tbg & PKR. LD PKR.
- 15. Based on results of Arbuckle swab test, run completion assembly for artificial lift (to be determined).
- 16. RIH w/ $2^{7}/_{8}$ " completion assembly. ND BOP. RIH w/ pump and rods. Note: Rod pump system size determined as per swab test and anticipated production rates.
- 17. NU WH. RD MO PU.
- 18. Lay flow-line from WH to active trunk line. Tie flow-line into active trunk line and WH. RU Bbl testing assembly.
- 19. Build pad, MI pumping unit & set. Tie in electrical service. Hang well on. Put well on production.
- 20. Monitor fluid levels and well tests for 30 days.



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1&2-9S-19W ROOKS Co., KS

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

Form KSONA-1 July 2010 Form Must Be Typed Form must be Signed All blanks must be Filled

CERTIFICATION OF COMPLIANCE WITH THE KANSAS SURFACE OWNER NOTIFICATION ACT

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OPERATOR: License #	Well Location:		
Name:			
Address 1:	County:		
Address 2:	Lease Name: Well #:		
City: State: Zip:+	If filing a Form T-1 for multiple wells on a lease, enter the legal description o the lease below:		
Contact Person:			
Phone: () Fax: ()			
Email Address:			
Surface Owner Information:			
Name:	sheet listing all of the information to the left for each surface owner. Surfac owner information can be found in the records of the register of deeds for th		
Address 1:			
Address 2:			
City: State: Zip:+			

If this form is being submitted with a Form C-1 (Intent) or CB-1 (Cathodic Protection Borehole Intent), you must supply the surface owners and the KCC with a plat showing the predicted locations of lease roads, tank batteries, pipelines, and electrical lines. The locations shown on the plat are preliminary non-binding estimates. The locations may be entered on the Form C-1 plat, Form CB-1 plat, or a separate plat may be submitted.

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I hereby certify that the statements made herein are true and correct to the best of my knowledge and belief.