Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1172741

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 33999
Name: Linn Operating, Inc.
Address 1: 600 TRAVIS STE 5100
Address 2:
City: HOUSTON State: TX Zip: 77002 + 3018
Contact Person: Shawn Hildreth
Phone: (281) 840-4234
CONTRACTOR: License # 32721
Name: Eldredge Well Service LLC
Wellsite Geologist: Bill Coppedge
Purchaser:

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☐ Oil ☐ WSW ☐ SWD ☐ SIOW
☑ Gas ☐ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

☐ Deepening ☐ Re-perf. ☐ Conv. to ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

08/18/2013	08/20/2013	09/05/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-067-21750-00-00
Spot Description:
SE - SE - SE - SW Sec. 20 Twp. 29 S. R. 36 ☐ East ☑ West
219 Feet from ☐ North / ☑ South Line of Section
2535 Feet from ☐ East / ☑ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Grant
Lease Name: HAGERMAN Well #: 4 ATU-201
Field Name: HUGOTON-PANOMA
Producing Formation: CHASE & COUNCIL GROVE
Elevation: Ground: 2980 Kelly Bushing: 2987
Total Vertical Depth: 3070 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 730 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 0 ppm Fluid volume: 0 bbls
Dewatering method used: Evaporated

Location of fluid disposal if hauled offsite:

Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

☑ **Confidentiality Requested**
Date: 12/13/2013
☑ **Confidential Release Date:** 12/13/2015
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 12/13/2013

1172741

Operator Name: Linn Operating, Inc. Lease Name: HAGERMAN Well #: 4 ATU-201

Sec. 20 Twp. 29 S. R. 36 ☐ East ☑ West County: Grant

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☐ Yes ☑ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Pulse Neutron Decay Log
PND-S Well Evaluation Log

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name: Attached Top: Attached Datum: Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
SURFACE	12.25	8.625	24	730	CLASS C	450	
PRODUCTION	7.875	5.50	15.50	3070	CLASS C	300	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☑ Yes ☐ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☑ No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
4	Chase Perfs- 2435-2440; 2461-2466; 2504-2514; 2568-2583; 2620-2640; 2712-2717	Frc Chase w/N2 Foam 775,000 SCF & 300,319 lb 16/30 brown sand	
		Broke Chase down w/4200 gal 2% KCL wtr	
4	Council Grove Perfs- 2762-2767; 2827-2832; 2872-2882; 2948-2958	ACDZ CG w/1500 gal 15% HCL & 210 divert. balls w/80 bbls 2% KCL wtr	

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 09/09/2013

Producing Method: ☑ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
		250			

DISPOSITION OF GAS: ☐ Vented ☑ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION: ☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)* ☐ Other *(Specify)*

PRODUCTION INTERVAL:

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

Form	ACO1 - Well Completion
Operator	Linn Operating, Inc.
Well Name	HAGERMAN 4 ATU-201
Doc ID	1172741

Tops

Name	Top	Datum
Krider	2428	KB
Winfield	2493	KB
Towanda	2557	KB
Fort Riley	2617	KB
Funston	2747	KB
Middleborg	2803	KB
Cottonwood	2869	KB
Grenola	2914	KB

JOB SUMMARY

COUNTY: Grant	COMPANY: Linn Energy	PROJECT NUMBER: TN # 203	TICKET DATE: 8/18/2013
LEASE NAME: HAGERMAN	Well No.: 4 ATU 201	JOB TYPE: Surface	CUSTOMER REP: Weldon Higgins
			EMPLOYEE NAME: Jason Jones

EMP NAME
Jason Jones
LAMONT PATERSON
Miguel Garcia
Steve Crocker

Form. Name: Council - Grove Type:

Packer Type: Set At:

Bottom Hole Temp.: Pressure:

Retainer Depth: Total Depth:

	Called Out	On Location	Job Started	Job Completed
Date	8/18/13	08/18/13	08/18/13	08/18/13
Time	15:00	1700	1920	2030

Tools and Accessories

Type and Size	Qty	Make
Auto Fill Tube	1	IR
Insert Float Valve	1	IR
Centralizers	5	IR
Top Plug	1	IR
HEAD	1	IR
Limit clamp	1	IR
Weld-A	2	IR
Texas Pattern Guide Shoe	1	IR
Cement Basket	0	IR

Well Data

	New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing	New	24#	8.625"		KB	730	1500
Liner							
Liner							
Tubing							
Drill Pipe							
Open Hole			12.25"		K.B.	?	Shots/Ft.
Perforations							
Perforations							
Perforations							

Materials

Mud Type	WBM	Density 8.9	Lb/Gal	
Disp. Fluid	H20	Density 8.33	Lb/Gal	
Spacer type	H20	BBL. 10		
Spacer type		BBL.		
Acid Type		Gal.	%	
Acid Type		Gal.	%	
Surfactant		Gal.	In	
NE Agent		Gal.	In	
Fluid Loss		Gal/Lb	In	
Gelling Agent		Gal/Lb	In	
Fric. Red.		Gal/Lb	In	
MISC.		Gal/Lb	In	

Perfpac Balls: Qty.

Other:

Other:

Other:

Other:

Other:

Hours On Location

Date	Hours
08/18/13	4.0
Total	4.0

Operating Hours

Date	Hours
08/18/13	2.0
Total	2.0

Description of Job

Surface

Approx. 50 bbls of CMT.

to surface

212 sks.

Good returns thru job

Floats held

Job was completed safely

Pressures

MAX 850 AVG 200

Average Rates in BPM

MAX 4 AVG 3

Cement Left in Pipe

Feet 44 Reason SHOE JOINT

Cement Data

Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	450	Class C	2% C.C. + 0.25#/SK. Celloflake	6.30	1.32	14.8
2						
3						
4						

Summary

Preflush		Type:		Preflush:	BBl	10.00	Type: H20
Breakdown		MAXIMUM		Load & Bkdn:	Gal - BBl		Pad:Bbl -Gal
		Lost Returns-N	N/A	Excess /Return	BBl	50	Calc.Disp Bbl 44
		Actual TOC	Surface	Calc. TOC:		Surface	Actual Disp 44.00
Average		Frac. Gradient		Treatment:	Gal - BBl		Disp:Bbl
ISIP	5 Min.	10 Min	15 Min	Cement Slurry:	BBl	#VALUE!	
				Total Volume	BBl	#VALUE!	

CUSTOMER REPRESENTATIVE Weldon Higgins SIGNATURE

Thank You For Using
O - TEX Pumping

JOB SUMMARY

PROJECT NUMBER	TICKET DATE
TN # 205	8/19/2013

COUNTY	COMPANY	CUSTOMER REP
Grant	Linn Energy	Weldon Higgins

LEASE NAME	Well No.	JOB TYPE	EMPLOYEE NAME
Hagerman	4 ATU 201	Production	Jessie McClain

EMP NAME
Jessie McClain
Jason Jones
Rory Morris

Form. Name Chase Council Grove Type:

Packer Type Set At

Bottom Hole Temp. Pressure

Retainer Depth Total Depth

	Called Out	On Location	Job Started	Job Completed
Date	08/19/13	08/20/13	08/20/13	08/20/13
Time	2030	100	600	800

Tools and Accessories

Type and Size	Qty	Make
Auto Fill Tube	1	IR
Insert Float Valve	1	IR
Centralizers	26	IR
Top Plug	1	IR
HEAD	1	IR
Limit clamp	1	IR
Weld-A	0	IR
Guide shoe	1	IR
Cement Basket	0	IR

Well Data

	New/Used	Weight	Size Grade	From	To	Max. Allow
Casing	New	15.5	5.5	KB	3070	2500
Liner						
Liner						
Tubing						
Drill Pipe						
Open Hole						Shots/Ft.
Perforations						
Perforations						
Perforations						

Materials

Mud Type	WBM	Density 8.9		Lb/Gal
Disp. Fluid	H20	Density 8.33		Lb/Gal
Spacer type	m Silicate	BBL. 35		
Spacer type		BBL.		
Acid Type		Gal.	%	
Acid Type		Gal.	%	
Surfactant		Gal.	In	
NE Agent		Gal.	In	
Fluid Loss		Gal/Lb	In	
Gelling Agent		Gal/Lb	In	
Fric. Red.		Gal/Lb	In	
MISC.		Gal/Lb	In	

Perfpac Balls Qty.

Other

Other

Other

Other

Other

Hours On Location

Date	Hours
08/20/13	7.8
Total	7.8

Operating Hours

Date	Hours
08/20/13	2.0
Total	2.0

Description of Job

Production

Final pump psi 525

52 bbls cmt to surface

292 ft3 / 80 sks

Pressures

MAX AVG.

Average Rates in BPM

MAX 4 AVG 3

Cement Left in Pipe

Feet 44 Reason Shoe Joint

Cement Data

Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	205	Class C	0.2%C-41P, 5% Gyp, .25 #/SK Celloflake	23.39	3.65	10.8
2	95	Class C	2% Gel, 0.2% C-16A, 2% CC	10.40	1.90	13
3						
4						

Summary

Preflush		Type:		Preflush:	BBl	35.00	Type: Sodium Silicate / H2O
Breakdown		MAXIMUM		Load & Bkdn:	Gal - BBl		Pad:Bbl -Gal
		Lost Returns-N	0	Excess /Return	BBl	52	Calc.Disp Bbl 72
		Actual TOC	Surface	Calc. TOC:		Surface	Actual Disp. 72.00
Average		Frac. Gradient		Treatment:	Gal - BBl		Disp:Bbl
ISIP	5 Min.	10 Min	15 Min	Cement Slurry:	BBl	165.0	
				Total Volume	BBl	272.00	

CUSTOMER REPRESENTATIVE Weldon Higgins SIGNATURE

Thank You For Using

O - TEX Pumping