Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1166369

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 #:

07/05/2013	07/07/2013	07/17/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-075-20868-00-00
Spot Description: NW NW NW NW
NW NW NW NW Sec. 24 Twp. 26 S. R. 39 ☐ East ☑ West
180 Feet from ☑ North / ☐ South Line of Section
180 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: Hamilton
Lease Name: MCDONALD Well #: C-4 ATU-45
Field Name: HUGOTON-PANOMA
Producing Formation: CHASE
Elevation: Ground: 3322 Kelly Bushing: 3329
Total Vertical Depth: 3155 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: 10/31/2013
☑ **Confidential Release Date:** 10/31/2015
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 11/04/2013

1166369

Operator Name: Linn Operating, Inc. Lease Name: MCDONALD Well #: C-4 ATU-45

Sec. 24 Twp. 26 S. R. 39 ☐ East ☑ West County: Hamilton

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:

Pulsed Neutron Decay Log
PND-S Well Evaluation Log

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

Name	Top	Datum
Krider	2519	KB
Winfield	2575	KB
Towanda	2635	KB
Fort Riley	2691	KB

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	3155	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- 2523-2528; 2576-2586; 2590-2595; 2658-2663	Frc Chase w/N2 Foam 802,000 SCF & 300,038 lb 16/30 brwn sand	
		Break Chase w/4200 gal 2% KCL	

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

Date of First, Resumed Production, SWD or ENHR. 07/22/2013

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
		335			

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

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

October 31, 2013

Shawn Hildreth
Linn Operating, Inc.
600 TRAVIS STE 5100
HOUSTON, TX 77002-3018

Re: ACO1
API 15-075-20868-00-00
MCDONALD C-4 ATU-45
NW/4 Sec.24-26S-39W
Hamilton County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Shawn Hildreth

JOB SUMMARY

PROJECT NUMBER	TICKET DATE
TN # 161	7/5/2013

COUNTY	COMPANY	CUSTOMER REP
Hamilton	Linn Energy	Weldon Higgins

LEASE NAME	Well No.	JOB TYPE	EMPLOYEE NAME
McDonald	C-4 ATU 45	Surface	Jessie McClain

EMP NAME
Jessie McClain
Jason Jones
Rory Morris
Ed Pickard

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	7/5/13	07/05/13	07/06/13	07/06/13
Time	1300	1700	2315	00:30

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"	J-44	KB	730	1600
Liner							
Liner							
Tubing							
Drill Pipe							
Open Hole			12.25"		K.B.	730'	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
07/05/13	7.5
Total	7.5

Operating Hours

Date	Hours
07/06/13	1.3
Total	1.3

Description of Job

Surface

50 bbls cmt to pit

Final pump psi 300

Pressures

MAX 940 AVG 50

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	0	Excess /Return	BBl	50	Calc Disp Bbl 44
		Actual TOC	Surface	Calc. TOC		Surface	Actual Disp 43.60
Average		Frac. Gradient		Treatment:	Gal - BBl		Disp Bbl
ISIP	5 Min	10 Min	15 Min	Cement Slurry:	BBl	106.0	
				Total Volume	BBl	159.60	

CUSTOMER REPRESENTATIVE Weldon Higgins SIGNATURE

Thank You For Using

O - TEX Pumping

JOB SUMMARY

PROJECT NUMBER	TICKET DATE
TN # 162	7/6/2013

COUNTY	COMPANY	CUSTOMER REP
Hamilton	Linn Energy	Weldon Higgins

LEASE NAME	Well No.	JOB TYPE	EMPLOYEE NAME
McDonald	C-4 ATU 45	Production	Michael Chalfant

EMP NAME

Chris Lewis
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	7/7/13	07/07/13	07/07/13	07/07/13
Time	0230	730	1220	1500

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
Texas Pattern 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	J-55	surface	3155	3500
Liner							
Liner							
Tubing							
Drill Pipe							
Open Hole			7.875"		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
07/07/13	7.0
Total	7.0

Operating Hours

Date	Hours
07/07/13	2.0
Total	2.0

Description of Job
Production
Cement to surface
Cement in shoe joint

Pressures
MAX 3500 AVG 400
Average Rates in BPM
MAX 3 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, + 0.25#/SK. Celloflake	23.49	3.65	10.8
2	95	Class C	2% GEL. + 0.2% C-16A, + 2% C.C.	10.4	1.90	13.0
3			DO NOT PUMP OVER 4 B.P.M. WATCH FOR CIRC. WHILE PUMPING JOB. 2 B.P.M. MIN. IF NO CIRC.			
4						

Summary

Preflush	10	Type:	H20	Preflush:	BBl	10.00	Type: H20
Breakdown		MAXIMUM		Load & Bkdn:	Gal - BBl		Pad Bbl -Gal
		Lost Returns-N	0	Excess /Return	BBl	130	Calc Disp Bbl 74
		Actual TOC	Surface	Calc. TOC		Surface	Actual Disp 74.00
Average		Frac. Gradient		Treatment:	Gal - BBl		Disp Bbl 74.00
ISIP	5 Min	10 Min	15 Min	Cement Slurry:	BBl	165.0	
				Total Volume	BBl	249.00	

CUSTOMER REPRESENTATIVE Weldon Higgins SIGNATURE

Thank You For Using
O - TEX Pumping