

STATE CORPORATION COMMISSION OF KANSAS
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION FORM
ACO-1 WELL HISTORY
DESCRIPTION OF WELL AND LEASE

API NO. 15- 067-21164-0000 ORIGINAL
County Grant
S/2.N/2.NW Sec. 32 Twp. 29 Rge. 38 X ^E_V

Operator: License # 5398

989 Feet from S (M) (circle one) Line of Section

Name: ARCO Oil & Gas Company

1320 Feet from E (M) (circle one) Line of Section

Address Box 1610

Footages Calculated from Nearest Outside Section Corner:
NE, SE, (NW) or SW (circle one)

City/State/Zip Midland, TX 79702

Lease Name Lora Hickok Well# 2

Purchaser: NA

Field Name Big Bow

Operator Contact Person: Ken W. Gosnell

Producing Formation St. Louis

Phone (915) 688-5672

Elevation: Ground 3092.6 KB 3103.6

Contractor: Name: Zenith Drlg. Corp.

Total Depth 5800 PSTD surface

License: 5141

Amount of Surface Pipe Set and Cemented at 1756 Feet

Wellsite Geologist: Ben Francka

Multiple Stage Cementing Collar Used? Yes X No

Designate Type of Completion

If yes, show depth set _____ Feet

X New Well Re-Entry Workover

If Alternate II completion, cement circulated from _____

 Oil SVD SIOV Temp. Abd.

feet depth to _____ w/ _____ sx cnt.

 Gas ENHR SIGV

X Dry Other (Core, USW, Expl., Cathodic, etc)

Drilling Fluid Management Plan 6-18-98
(Data must be collected from the Reserve Pit)

If Workover/Re-Entry: old well info as follows:

Chloride content 1150 ppm Fluid volume 1500 bbls

Operator: _____

Dewatering method used evaporation

Well Name: _____

Location of fluid disposal if hauled offsite: _____

Comp. Date _____ Old Total Depth _____

 Deepening Re-perf. Conv. to Inj/SVD
 Plug Back PSTD

Operator Name _____

 Commingled Docket No. _____

Lease Name _____

 Dual Completion Docket No. _____

 Other (SVD or Inj?) Docket No. _____

8-31-91 9-10-91 9-11-91
Spud Date Date Reached TD Completion Date

Quarter Sec. MAR 1 1992 Rge. E/V

County _____ Docket No. _____

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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.

Signature Ken W. Gosnell
Title Regulatory Coordinator Date 12-12-91

Subscribed and sworn to before me this 7th day of January
19 92
LISA A. GORDY
Notary Public, State of Texas
Expires: 6-66-92

K.C.C. OFFICE USE ONLY
F Letter of Confidentiality Attached
C ✓ Wireline Log Received
C Geologist Report Received
Distribution
✓ KCC SVD/Rep NGPA
 KCS Plug Other
(Specify)

Operator Name ARCO Oil & Gas Company

Lease Name Lora Hickok

Well # 2

Sec. 32 Twp. 29 Rge. 38

East
 West

County Grant

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem 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 during test. Attach extra sheet if more space is needed. Attach copy of log.

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
(Submit Copy.)

List All E.Logs Run:

Name	Top	Datum
Chase	2310	
Council Grove	2598	
Heebner	3792	
Lansing	3877	
Morrow	5152	
Chester	5478	
St. Genevieve	5555	
St. Louis	5602	

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 1/4	8-5/8	24	1756	500 sx HCL	w/2%	cc+1/4#FC
	7-7/8						

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

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	
		15 sx in RH	100 sx 3000
		10 sx in MH	50 sx 1790
			50 sx 900
			40 sx 600
			10 sx 40

TUBING RECORD	Size	Set At	Packer At	Liner Run
				<input type="checkbox"/> Yes <input type="checkbox"/> No

Date of First, Resumed Production, SWD or Inj. _____ Producing Method Flowing Pumping Gas Lift Other (Explain)

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

Disposition of Gas:

Vented Sold Used on Lease
(if vented, submit ACO-18.)

METHOD OF COMPLETION

Open Hole Perf. Dually Comp. Commingled
 Other (Specify) _____

Production Interval _____

ORIGINAL

TerraTek Core Services

13628 Gamma Road • Dallas, Texas 75244 • (214) 960-8777 • WATS (800) 338-3182 • FAX (214) 960-2939

ARCO OIL & GAS COMPANY

Well: Lora Hickok #2
 Field: Big Bow
 Drilling fluid: Water Base

State: Kansas
 County: Grant
 Location:

Date: 25-OCT-1991
 TTCS File #: 5043
 Elevation:

PLUG DEAN-STARK ANALYSIS

Sample Number	Depth (feet)	Permeability		Porosity %	Saturation		Grain Density (gm/cc)	Lithology
		Horz (md)	Vert (md)		Oil %	H2O %		
St. Louis Formation								
1	5650.0-51.0	<.01		1.4	0.0	86.0	2.69	Sd,vfgr,slty,calc
2	5651.0-52.0	<.01		1.2	0.0	76.5	2.69	Sd,vfgr,slty,v/calc
3	5652.0-53.0	<.01		1.1	0.0	86.4	2.69	Sd,vfgr,slty,v/calc
4	5653.0-54.0	<.01		0.8	0.0	76.3	2.70	Ls,vfxl,slty & sdy
5	5654.0-55.0	17.+		1.7	0.0	92.6	2.72	Ls,vfxl,shy,fos,pyr
6	5655.0-56.0	<.01		0.7	0.0	62.3	2.70	Ls,vfxl,sl/ool
7	5656.0-57.0	12.+		0.9	0.0	95.0	2.70	Ls,vfxl,ool,sty
8	5657.0-58.0	<.01		1.3	0.0	91.0	2.70	Ls,vfxl,ool,sty
9	5658.0-59.0	<.01		1.3	0.0	85.9	2.70	Ls,vfxl,ool,sty
10	5659.0-60.0	<.01		0.8	0.0	86.7	2.70	Ls,fxl,ool,sty
11	5660.0-61.0	<.01		1.4	8.7	83.6	2.70	Ls,mic-fxl,ool
12	5661.0-62.0	3.8		6.2	10.9	73.9	2.64	Ls,mic-fxl,ool,vgy
13	5662.0-63.0	1.0		7.7	5.5	60.0	2.69	Ls,mic-fxl,ool,vgy
14	5663.0-64.0	.77		8.5	6.2	70.3	2.71	Ls,fxl,ool,pp vgs
15	5664.0-65.0	.81		8.1	2.9	78.5	2.70	Ls,fxl,ool,pp vgs
16	5665.0-66.0	3.6		7.9	2.1	92.3	2.68	Ls,mic-fxl,ool,vgy
17	5666.0-67.0	5.0		9.3	5.0	92.8	2.69	Ls,mic-fxl,ool,vgy
18	5667.0-68.0	2.2		9.3	2.5	89.1	2.70	Ls,mic-fxl,ool,pp vgs
19	5668.0-69.0	3.6		9.1	9.2	78.2	2.71	Ls,mic-fxl,ool,pp vgs

+ - Fracture affecting permeability

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DEC 19 1991

CONSERVATION DIVISION
Wichita, Kansas

ORIGINAL

TerraTek Core Services

13628 Gamma Road • Dallas, Texas 75244 • (214) 960-8777 • WATS (800) 338-3182 • FAX (214) 960-2939

ARCO OIL & GAS COMPANY
Well: Lora Hickok #2

Date: 25-OCT-1991

TTCS File #: 5043

PLUG DEAN-STARK ANALYSIS

Sample Number	Depth (feet)	Permeability		Porosity %	Saturation		Grain Density (gm/cc)	Lithology
		Horz (md)	Vert (md)		Oil %	H2O %		
20	5669.0-70.0	.56		5.6	5.6	72.6	2.69	Ls,mic-fxl,ool,pp vgs
21	5670.0-71.0	.01		4.1	5.2	83.3	2.69	Ls,vf-fxl,calc str
22	5671.0-72.0	.20		4.0	5.2	75.5	2.69	Ls,vf-fxl,pp vgs
23	5672.0-73.0	<.01		0.8	0.0	85.1	2.67	Ls,fxl,silty
24	5673.0-74.0	<.01		1.2	0.0	92.0	2.66	Ls,fxl,ool,calc str

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OBSERVATION DIVISION
Wichita, Kansas

TerraTek Core Services

ORIGINAL

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ARCO OIL & GAS COMPANY

Well: Lora Hickok #2
 Field: Big Bow
 Drilling fluid: Water Base

State: Kansas
 County: Grant
 Location:

Date: 25-OCT-1991
 TTCS File #: 5043
 Elevation:

PLUG DEAN-STARK ANALYSIS DATA SUMMARY

Zone Number	Depth Interval (feet)	Number of Samples	Permeability		Porosity %	Saturation		Grain Density (gm/cc)
			Horz (md)	Vert (md)		Oil %	H2O %	
St. Louis Formation								
1	5650.0-60.0	10	<.01 [0.001]		1.1 [0.32]	0.0 [0.00]	83.9 [9.73]	2.70 [0.00]
2	5660.0-72.0	12	2.2 [1.544]		6.8 [2.52]	5.7 [2.70]	79.2 [9.65]	2.69 [0.01]
3	5672.0-74.0	2	<.01 [0.001]		1.0 [0.29]	0.0 [0.00]	88.5 [4.87]	2.67 [0.00]

[] Sample Standard Deviation

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 CONSERVATION DIVISION
 Wichita Falls, Texas