

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

API NO. 15- 033-20, 834-0000  
County Comanche  
SW NE Sec. 16 Twp. 34S Rge. 20 X E

Operator: License # 3882  
Name: Samuel Gary Jr. & Associates, Inc.  
Address 1775 Sherman Street  
Suite 1925  
City/State/Zip Denver, CO 80203

2980 Feet from (N) Line of Section  
2200 Feet from (E) Line of Section

Purchaser: Enron  
Operator Contact Person: Hugh Harvey  
Phone (303) 831-4673  
Contractor: Name: R & C Drilling  
License: \_\_\_\_\_  
Wellsite Geologist: T. M. McCoy

Footages Calculated from Nearest Outside Section Corner:  
NE, SE, NW or SW (circle one)  
Lease Name Selzer Well # 16-7

Designate Type of Completion  
 New Well  Re-Entry  Workover  
 Oil  SWD  SLOW  Temp. Abd.  
 Gas  ENHR  SIGM  SIGW  
 Dry  Other (Core, VSW, EPT, etc.)

Field Name First Snow  
Producing Formation Viola  
Elevation: Ground 1749' KB 1762'  
Total Depth 6500' PBTD 6148'

If Workover/Re-Entry: old well info as follows:  
Operator: \_\_\_\_\_  
Well Name: \_\_\_\_\_  
Comp. Date \_\_\_\_\_ Old Total Depth \_\_\_\_\_  
Deepening \_\_\_\_\_ Re-perf. \_\_\_\_\_ Conv. to Inj/SWD \_\_\_\_\_  
Plug Back \_\_\_\_\_ PBTD \_\_\_\_\_  
Commingled \_\_\_\_\_ Docket No. \_\_\_\_\_  
Dual Completion \_\_\_\_\_ Docket No. \_\_\_\_\_  
Other (SWD or Inj?) \_\_\_\_\_ Docket No. \_\_\_\_\_  
10/02/91 10/22/91 11/07/91  
Spud Date Date Reached TD Completion Date

Amount of Surface Pipe Set and Cemented at 641 Feet  
Multiple Stage Cementing Collar Used?  Yes  No  
If yes, show depth set 5442 Feet  
If Alternate II completion, cement circulated from \_\_\_\_\_  
feet depth to \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

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Fluid Management Plan  
(Data must be collected from the Reserve Pit)  
Chloride content N/A ppm Fluid volume N/A bbls

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Filtering method used By evaporation  
Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name Samuel Gary Jr. & Associates, Inc.  
Lease Name Selzer License No. 3882  
NE/4 Quarter Sec. 16 Twp. 34 S Rng. 20 E/W  
County Comanche Docket No. \_\_\_\_\_

ALT 1 3-2-92

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, 82-3-166 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 Samuel Gary Jr.  
Title President Date 02/18/92  
Subscribed and sworn to before me this 18th day of February, 19 92.  
Notary Public Joan S. Lucero  
Date Commission Expires 01/21/1996

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

Operator Name Samuel Gary Jr. & Associates, Inc. Lease Name Selzer Well # 16-7

Sec. 16 Twp. 34S Rge. 20  
 East  
 West

County Comanche

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 (Attach Additional Sheets.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Stone Corral	780	792
Electric Log Run (Submit Copy.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wabaunsee	3196	4015
List All E.Logs Run:		Stark	4698	4723
Array Induction Elec Log		Marmaton	4834	4918
Compensated Neutron		Chester	5066	5584
Compensated Photo-Density Log		Osage	5584	6016
Borehole Compensated Sonic		Viola	6016	6200
Integrated Transit Time Log		Simpson	6200	6358
		Arbuckle	6358	----

CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> 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	641'	Class A	100	
					Light	150	
Production	7-7/8"	5-1/2"	15.5 #	6191'	50/50 poz	125	

ADDITIONAL CEMENTING/SQUEEZE RECORD 50/50 poz 325

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
4	6031'-6037'	1500 gallons 15% HCl Acid	6031'

<b>TUBING RECORD</b>	Size <u>2-7/8"</u>	Set At <u>6002'</u>	Packer At <u>6002'</u>	Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Date of First, Resumed Production, SWD or Inj. <u>11/07/91</u>	Producing Method <input checked="" type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)
Estimated Production Per 24 Hours	Oil <u>47</u> Bbls. Gas <u>65</u> Mcf Water <u>2</u> Bbls. Gas-Oil Ratio Gravity <u>45</u>

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 Viola  
6031-6037'

## GEOLOGIST'S REPORT

Samuel Gary Jr. & Associates, Inc.  
Selzer #16-7

DISCUSSION

Production casing was run at the Samuel Gary Jr. & Associates, Inc. Selzer #16-7 for completion of the principal objective, Ordovician Viola. Several Mississippian and Pennsylvanian zones behind cement may be completed later.

Structure

The Selzer #16-7 is the third well drilled in the First Snow Field. The Selzer 16-7 lies directly northeast of the Selzer #16-11 discovery well and east of the Selzer #16-6 well.

Compared to the Selzer #16-11, the Selzer #16-7 is 5 to 26 ft. low through the Pennsylvanian and top Mississippian, 43 ft. low at the Osage, 8 ft. high at the Viola, and 21 ft. low at the Arbuckle. Compared to the Selzer #16-6, the Selzer #16-7 is 6 to 22 ft. low through the Pennsylvanian and top Mississippian, 57 ft. low at the Osage, 44 ft. low at the Viola, and 61 ft. low at the Arbuckle.

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Pennsylvanian

The Elgin lacks the reservoir quality sandstone found at the Selzer #16-6.

The Douglas is dominantly limestone and does not contain the hydrocarbons found in dolomite at the Selzer #16-6.

Two porosity streaks within Lansing 4333'-4347' produced 270 ft. of gas-oil-water emulsion and 760 ft. of salt water on DST #1. Sampler contained 20% oil. Sw is lower at 4343' than at 4335'. The oil cut may be improved by perforating only the more porous lower zones.

The thick and porous Lansing 4352'-4381' was not tested. The lower Lansing does not develop porosity correlative to the Selzer #16-11 productive interval 4549'-4554'.

A porosity streak in Stark limestone at 4706' produced a minor sample show. The zone may merit perforation before abandonment.

The Marmaton is 17 ft. low to that at the Selzer #16-6. Principal show is 4880'-4892', correlative to the zone which flowed gas at 219-274 MCFPD on DST at the Selzer #16-6. Best Sw = 53%, twice as high as that at the Selzer #16-6. Best sonic porosity is 6.5%, contrasted to 13% at the Selzer #16-6. Neutron-density crossover, as at the Selzer #16-6, suggests gas.

**ORIGINAL**  
**GEOLOGIST'S REPORT**

**Selzer #16-7**  
Page two of seven

The Pawnee is 25 ft. low to that at the Selzer #16-11. Porosity in the two wells is roughly comparable, although the Selzer #16-7 exhibits neutron-density crossover which is absent in the correlative zone at the Selzer #16-11. Best Sw = 32% from sonic porosity, 46% from neutron-density.

**Mississippian**

Partly cherty limestone in uppermost Chester 5075'-5102' flowed gas at 415 MCFPD on DST #2. Sonic porosity averages 7.6%, at best 9.2%; Sw averages 28%, at best 17%. Neutron-density porosity averages 6.2%, at best 9%; Sw averages 36%, at best 18%.

Gas is also likely in Chester 5102'-5106' and 5109'-5115'. These intervals drilled fast. Log porosity is good to excellent; neutron-density values show gas effect; and Sw averages 19% from sonic porosity, 31% from neutron-density porosity. Limestone 5139'-5143' and 5162'-5167' and silty sandy dolomite 5170'-5176' are characterized by moderate drill breaks; these may contribute to Mississippian gas production.

**Viola**

The Viola is 8 ft. high to that at the Selzer #16-11 and 44 ft. low to that at the Selzer #16-6. This structural position holds at the top of the "A" and at the top of the "C" within one foot. Pay extends from the "B" into the lower "A", as picked on the gamma curve. Two intervals of porosity, 6027'-6040' and 6048'-6060', are separated by tight rock.

A good fast drilling break, characterize the upper interval. The partly cherty and sucrosic dolomite produced gas to surface in 7 min. and 2800 ft. of highly gas cut oil and no water on DST #3. Sw averages 29%, at best 21%, from sonic porosity; Sw averages 51%, at best 35%, from neutron-density porosity. Better fracturing is indicated in the lower interval.

**Arbuckle**

The Arbuckle is 61 ft. low to that at the Selzer #16-6 where it is productive. Log calculations show the Arbuckle is wet.

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Tom Fertal  
Senior Geologist

**ORIGINAL**  
**GEOLOGIST'S REPORT**

**Selzer #16-7**  
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FORMATION TOPS

	MD Log Top	1762 KB Datum
<b>PERMIAN</b>		
Stone Corral	780	+ 982
Base Stone Corral	792	+ 970
Council Grove	2637	- 875
Cottonwood	2815	-1053
<b>PENNSYLVANIAN</b>		
Wabaunsee	3196	-1434
Elgin	4015	-2253
Heebner	4115	-2353
Toronto	4124	-2362
Douglas	4157	-2395
Lansing	4292	-2530
Stark	4698	-2935
Swope	4723	-2960
Marmaton	4834	-3071
Pawnee	4918	-3155
Cherokee/Atoka Undivided	4977	-3214
<b>MISSISSIPPIAN</b>		
Chester	5066	-3303
Osage	5584	-3820
<b>ORDOVICIAN</b>		
Viola "A"	6016	-4252
Viola "B"	6032	-4268
Viola "C" (Middle Viola Marker)	6084	-4319
Simpson	6200	-4435
Simpson Shale (Main Body)	6279	-4514
Simpson Sandstone	6328	-4563
Arbuckle	6358	-4593
TD Logger	6404	3 ft. of fill
TD Driller	6400	

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WICHITA, KS

# ORIGINAL

## GEOLOGIST'S REPORT

Selzer 16-7  
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### WELL DATA

OPERATOR: SAMUEL GARY JR. & ASSOCIATES, INC.

WELL NAME: SELZER #16-7

LOCATION: 2980' FSL & 2200' FEL  
SWNE Sec. 16, T34S, R20W  
Comanche County, Kansas

ELEVATIONS: 1749' GL 1762' KB

FIELD: First Snow

ROAD DIRECTIONS: From Protection, S 5.5 miles on main county road,  
W 0.5 mile at Mennonite Cemetery; S 2.3 miles; W  
0.5 mile and S 0.4 mile on lease road to  
location.

SURFACE CASING: 15 joints 8-5/8" J55 24# set at 641 KB.

SPUD DATE: 2 October 1991 9:30 p.m.

DRILLING COMPLETED: 22 October 1991 10:30 p.m.

TOTAL DEPTH: 6400' Driller 6404' Logger

MAXIMUM  
TEMPERATURE: 130 deg. F

LAST FORMATION  
PENETRATED: Arbuckle

WELL STATUS: Set 5-1/2" production casing

OPERATOR  
REPRESENTATIVES: Tom Fertal - Geologist  
Dan Hall - Engineer

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DRILL STEM TEST #1

Halliburton ran conventional open hole test of Lansing.

TEST INTERVAL: 4330'-4344' rig depth; 4333'-4347' log depth

PACKERS:

Upper Packers: 4324'  
Lower Packers: 4330'  
TD at Test: 4344'

PRESSURES & TIMES: Recorder Depth: 4341'

Initial Hydrostatic: 2097 psi  
Initial Flow: 50 psi to 233 psi 15 min  
Initial Shut-In: 1640 psi 30 min  
Final Flow: 250 psi to 482 psi 120 min  
Final Shut-In: 1722 psi 180 min  
Final Hydrostatic: 2064 psi

RECOVERY: 270 ft of gas-oil-mud emulsion.  
760 ft of salt water  
1030 ft total fluid

SAMPLER: 455 psi 0.287 cu. ft. of gas  
400 cc oil 38.7 gravity at 60 deg  
1600 cc water

BLOW: Tool opened with 2" blow, 6" blow at 3 min,  
blow from bottom of bucket at 7 min through  
15 min. Shut-in and bled tool down. Tool  
reopened with 1/2" blow, 5" blow at 5 min,  
blow from bottom of bucket at 11 min through  
115 min. Gas to surface at 115 min, 4 1/2#  
on 1/4" bubble hose.

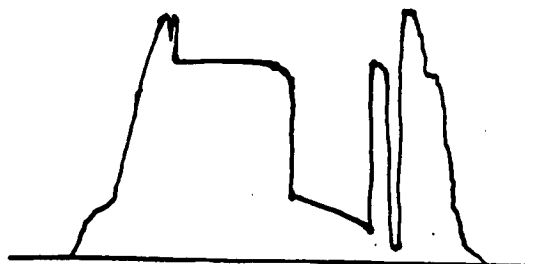
APPARENT SALINITY  
Sampler: 119210 ppm chlorides

TEMPERATURE: 118 deg F

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TRACED 7.27.92 Coy DST #1

DRILL STEM TEST #2

Halliburton ran conventional open hole test of Mississippian.

TEST INTERVAL: 5070'-5097' rig depth; 5075'-5102' log depth

PACKERS:

Upper Packers: 5064'  
Lower Packers: 5070'  
TD at Test: 5097'

PRESSURES & TIMES: Recorder Depth: 5094'

Initial Hydrostatic: 2411 psi  
Initial Flow: 70 psi to 70 psi 17 min  
Initial Shut-In: 1953 psi 30 min  
Final Flow: 70 psi to 70 psi 30 min  
Final Shut-In: 1943 psi 60 min  
Final Hydrostatic: 2411 psi

RECOVERY: 20 ft of gas cut mud.

SAMPLER: 105 psi 1.229 cu. ft. of gas  
0 cc oil  
0 cc mud  
0 cc water

BLOW: Tool opened with strong blow. Blow from bottom of bucket in 1 min. Gas to surface in 10 min, 764 MCFPD; 499 MCFPD at 13 min; 415 MCFPD at 17 min. Tool reopened with strong blow; 385 MCFPD at 5 min; 415 MCFPD at 10 min through 30 min.

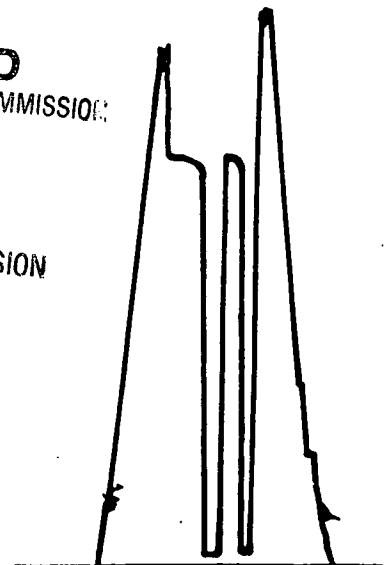
TEMPERATURE: 118 deg F

REMARKS: Sweet gas. 1060 BTU.

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TRACED  
T.M. McLog

DST  
#2



DRILL STEM TEST #3

Halliburton ran conventional open hole test of Viola "B".

TEST INTERVAL: 5966'-6036' rig depth; 5972'-6042' log depth

PACKERS:

Upper Packers: 5960'  
Lower Packers: 5966'  
TD at Test: 6036'

PRESSURES & TIMES: Recorder Depth: 6033'

Initial Hydrostatic: 2923 psi  
Initial Flow: 398 psi to 299 psi 15 min  
Initial Shut-In: 2257 psi 30 min  
Final Flow: 398 psi to 778 psi 90 min  
Final Shut-In: 2330 psi 180 min  
Final Hydrostatic: 2882 psi

RECOVERY: 2800 ft of highly gas cut oil (reversed). No water.

SAMPLER: 513 psi 3.830 cu. ft. of gas  
1200 cc oil 42.5 gravity at 60 deg  
0 cc mud or water

BLOW: Tool opened with blow from bottom of bucket at 1 min. Gas to surface in 7 min at 406 MCFPD, decreased to 391 MCFPD at 15 min. Tool reopened with no blow, 261 MCFPD at 5 min, 362 MCFPD at 10 min, 355 MCFPD at 20 min, 304 MCFPD at 30 min, 261 MCFPD at 40 min through 90 min.

TEMPERATURE: 130 deg F

REMARKS: Gas/oil ratio from sample chamber: 507 cf/bbl

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