

Operator Name Cities Service Oil & Gas Corp Lease Name Arbuthnot A Well# 4 SEC. 32 TWP. 30 RGE. 33 East West

WELL LOG

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
 Samples Sent to Geological Survey Yes No
 Cores Taken Yes No

Formation Description
 Log Sample

Logs:
 Dual Induction, Comp. Neutron
 Density, Microlog.

Name	Top	Bottom
Surface, Clay, Sand	0	378'
Redbed, Sand, Shale	378	1239'
Glorietta Sand	1239	1454'
Shale	1454	1748'
Anhydrite	1748	1758'
Shale	1758	3198'
Lime & Shale	3198	5700'
	T.D.	10'

TUBING RECORD size 2-3/8" set at 5587' KB SN @ 5571' KB packer at KB Liner Run Yes No

Date of First Production 11-3-84 Producing method flowing pumping gas lift Other (explain) _____

Estimated Production Per 24 Hours	Oil	Gas	Water	Gas-Oil Ratio	Gravity
	<u>105</u> Bbls	<u>65</u> MCF	<u>1</u> Bbls	<u>619</u> CFPB	

METHOD OF COMPLETION open hole perforation other (specify) _____

Disposition of gas: vented sold used on lease

PRODUCTION INTERVAL 5562-69'

Dually Completed. St. Louis

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	<u>12-1/4"</u>	<u>8-5/8"</u>	<u>24</u>	<u>1757'</u> KB	<u>65/35 Poz. Class "H"</u>	<u>650</u>	<u>2% CaCl₂, 1/2# D-2</u>
Production	<u>7-7/8"</u>	<u>5-1/2"</u>	<u>15.5, 14</u>	<u>5695'</u> KB	<u>50/50 Poz.</u>	<u>200</u>	<u>3% CaCl₂, 1/4# D-2</u> <u>18% salt, 1# D</u> <u>8% D-65, 2% 46</u>

PERFORATION RECORD		Acid, Fracture, Shot, Cement Squeeze Record	
shots per foot	specify footage of each interval perforated	(amount and kind of material used)	Depth
<u>4</u>	<u>5562-69' St. Louis</u>	<u>Acidized w/750 gals. 15% MSR. ~ 100</u>	<u>5562-69'</u>