

# ROGER L. HOEGER

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## Drill-Stem-Test Pressure Analysis Report (Liquid Recovery)

LOCATION: T16S-R34E, SW SE Section 19	TIME OPEN: Initial: 20 mins. Final: 60 mins.	FILE NUMBER: Special
COUNTY AND STATE: NEW MEXICO, LEA	INITIAL SHUT-IN TIME: 60 minutes	I. D. NUMBER: L-36252
COMPANY: Arco Oil & Gas Company	FINAL SHUT-IN TIME: 120 minutes	DATE COMPUTED: 1/8/82
LEASE AND WELL NUMBER: State 19 #1	TEST NUMBER: 5	DATE TESTED: 12/29/81
FORMATION TESTED: Canyon	INTERVAL TESTED: 11433-11490	ELEVATION: KB 4153

Ran 1500 ft. of water cushion.

RECOVERY: 2530 ft. total fluid: 1500 ft. of oil and gas-cut water cushion, 731 ft. of formation fluid, 155 ft. of oil, 144 ft. of gas-cut mud.

Gas to surface at beginning of final flow period; maximum flow rate: 24.3 MCFPD.

### HOLE, TOOL AND RECOVERY DATA

DRILL-PIPE CAPACITY (Barrels per foot)	0.0142	FEET OF MUD	144.	MUD PERCENTAGE %	8.1
DRILL-COLLAR CAPACITY (Barrels per foot)	0.0049	FEET OF WATER		WATER PERCENTAGE %	
DRILL-COLLAR FOOTAGE (Feet)	640.	FEET OF OTHER	731.	OTHER PERCENTAGE %	83.1
HOLE DIAMETER (Inches)	7.875	FEET OF OIL	155.	OIL PERCENTAGE %	8.8
PIPE FOOTAGE EQUIVALENT TO ANNULUS (Feet)	---	FEET OF CUSHION	1500.	FORMATION RECOVERY PERCENTAGE %	
INTERVAL THICKNESS (Feet)	57.	TOTAL RECOVERY (Feet)	1030.(net)	AVERAGE PRODUCTION RATE (Barrels per day)	156.1
MUD WEIGHT (Pounds per gallon)	9.6	CAPACITY OF ANNULUS (Barrels)	3.4	BHT = 196 °F.	
EFFECTIVE FLOWING TIME (Minutes)	80.	GROSS RECOVERY VOLUME (Barrels)	8.67	RECOVERY LESS THAN ANNULAR VOLUME, (X)	

### GAUGE SUMMARY

Calculated results based on  
McKinley System Analysis:

RECORDER NUMBER	DEPTH:	DATUM:
21714	11490'	-7337'

### KEY POINT SUMMARY

<b>First Flow</b>	
INITIAL FLOWING PRESSURE:	psig
1000.	
FINAL FLOWING PRESSURE:	psig
939.	
<b>Second Flow</b>	
INITIAL FLOWING PRESSURE:	psig
1000.	
FINAL FLOWING PRESSURE:	psig
1136.	
INITIAL SHUT-IN PRESSURE:	psig
5357.	
FINAL SHUT-IN PRESSURE:	psig
4775.	
INITIAL HYDROSTATIC MUD PRESSURE:	psig
5746.	
FINAL HYDROSTATIC MUD PRESSURE:	psig
5739.	

### EXTRAPOLATION SUMMARY

INITIAL (1 + Q)/Q CALCULATED FROM MEASURED DATA:	
1.33	
NUMBER OF POINTS USED FOR INITIAL CURVE-FIT:	
4.	
SLOPE OF INITIAL BUILD-UP CURVE:	psi/cycle
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INITIAL EXTRAPOLATED PRESSURE:	psig
5800. (Questionable)	
FINAL (1 + Q)/Q CALCULATED FROM MEASURED DATA:	
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NUMBER OF POINTS USED FOR FINAL CURVE-FIT:	
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SLOPE OF FINAL BUILD-UP CURVE:	psi/cycle
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FINAL EXTRAPOLATED PRESSURE:	psig
Indeterminate - Insufficient	

### SUMMARY OF RESULTS

EFFECTIVE TRANSMISSIBILITY, kh/a:	md ft per cp
13.3	
INDICATED AVERAGE PERMEABILITY, k/a:	md/cp
0.66 (for 20' effect. $\phi$ )	
PRODUCTIVITY INDEX:	Barrels per day per psi
0.033	
DAMAGE RATIO:	
0.53	
FLOWING PRESSURE COMPARISON:	%
104.6	
INITIAL POTENTIOMETRIC SURFACE:	feet
6177	
FINAL POTENTIOMETRIC SURFACE:	feet
Shut-in Time	
INITIAL MUD PRESSURE COMPARISON:	%
99.8	
FINAL MUD PRESSURE COMPARISON:	%
99.9	