29-31-11E

GEOLOGICAL DEPARTMENT

SOUTHWESTERN GAS COMPANY

INDEPENDENCE, KANSAS

Company R. G. Gillespie

S. T. R. 29-31-11
County Elk
State Kansas
Lease and Well No. John Welch #1

Contractor Nowna Bros.,
Moline, Kansas.

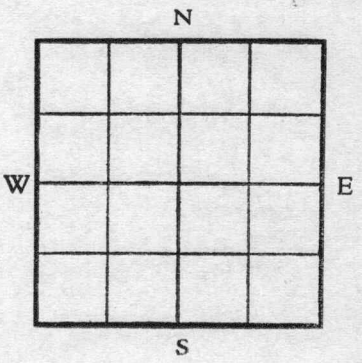
Drilling Commenced 12/12/25 Drilling Completed

Initial Production about 1½ million at 8' in sand

Initial Rock Pressure

Location 330' E. and S.

Casing
12" 492'
10" 883'
8¼" 1597'



Driller's Record of Formations

soil	0	2	lime	1430	1440
lime	2	50	shale	1440	1450
shale	50	100	red rock soft	1450	1465
lime	100	110	shale	1465	1485
red rock	110	130	lime	1485	1497
shale	130	200	shale light	1497	1507
lime	200	220	lime	1507	1515
red rock	220	240	shale	1515	1570
shale	240	445	lime	1570	1615
sand water white soft	445	475	shale blue soft	1615	1630
shale white soft	475	520	H.F.W. lime hard	1630	1660
lime	520	570	shale dark soft	1660	1785
shale	570	600	5 bailers water per hour		
lime hard	600	615	shale	1785	1860
shale soft	615	650	red rock	1860	1870
lime white soft	650	665	shale	1870	1920
water sand	665	680	H.F.W. at 670'		
shale soft	680	883	red rock	1920	1925
lime white hard	883	888	shale	1925	1957
shale soft	888	910	gas sand top	1957	S.L.M.
lime hard	910	950			
shale soft	950	1040	drilling at 8' in sand 1,126,000		
lime hard	1040	1055	cu. ft. at 3' in sand about 1½ million		
shale soft	1055	1075	at 8' in sand.		
sand grey soft	1075	1115	2 bailers water		
lime white hard	1115	1190	at 1100'		
shale soft	1190	1205			
lime hard	1205	1232			
shale black soft	1232	1240			
lime hard	1240	1285			
shale white soft	1285	1300			
lime hard	1300	1325	10 bailers water		
shale black	1325	1335	per hour		
lime light hard	1335	1340			
shale dark soft	1340	1375			
lime white hard	1375	1395			
shale dark soft	1395	1430			