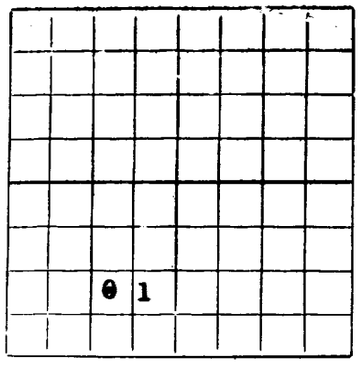
(Revised 7/1/58)
(Form C-105)



AREA 640 ACRES
LOCATE WELL CORRECTLY

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

WELL RECORD

Mail to District Office, Oil Conservation Commission, to which Form C-101 was sent not later than twenty days after completion of well. Follow instructions in Rules and Regulations of the Commission. Submit in QUINTUPLICATE. If State Land submit 6 Copies

Kern County Land Company (Company or Operator) Harvey-State (Lease)

Well No. 1, in SE ¼ of SW ¼, of Sec. 36, T. 25N, R. 6W, NMPM.

Wildcat Pool, Rio Arriba County.

Well is 990 feet from south line and 1750 feet from west line of Section 36. If State Land the Oil and Gas Lease No. is

Drilling Commenced June 7, 1959 Drilling was Completed July 3, 1959

Name of Drilling Contractor Rutledge Drilling Co.

Address P.O. Box 2239 Santa Fe, New Mexico

Elevation above sea level at Top of Tubing Head 6775 The information given is to be kept confidential until , 19

OIL SANDS OR ZONES

No. 1, from 2667 to 2700 gas No. 4, from 6974 to 7045 gas

No. 2, from 3454 to 3575 gas No. 5, from to

No. 3, from 5926 to 6050 No. 6, from to

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from 7132 to 7196 feet. Swabbed 90% water

No. 2, from to feet.

No. 3, from to feet.

No. 4, from to feet.

CASING RECORD

SIZE	WEIGHT PER FOOT	NEW OR USED	AMOUNT	KIND OF SHOE	CUT AND PULLED FROM	PERFORATIONS	PURPOSE
10-3/4	32	New	295	Baker Guide	-	--	Surface
7	20-23	New	7166	Halliburton Guide		5966-6045)	
						6974-6984)	-Production
						7000-7044)	

MUDDING AND CEMENTING RECORD

SIZE OF HOLE	SIZE OF CASING	WHERE SET	NO. SACKS OF CEMENT	METHOD USED	MUD GRAVITY	AMOUNT OF MUD USED
15-3/4	10-3/4	295	325	Plug-circulated to surface		
8-3/4	7	7166	300 1st. stage - Stage collar @ 3614.			
			200 2nd stage			

RECORD OF PRODUCTION AND STIMULATION

(Record the Process used, No. of Qts. or Gals. used, interval treated or shot.)

7134-7161. Halliburton Frac. 21,205 gal. Gallup crude, 20,000# 40-60 sand.
6974-6984,7000-7044 Halliburton Frac. 29,190 gal. Gallup crude, 26,200# 40-60 sand.
5966-6045 Halliburton Frac. 42,000 gal. Gallup crude, 40,000# 20-40 sand..

Result of Production Stimulation 7134-7161. Swabbed and flowed 80-90% water. Plugged 6974-6984, 7000-7044. Flowed est. 8-10 million CFPD. 5966-6045 Flowed 300 BOPD

Depth Cleaned Out 7070

RECORD OF DRILL-STEM AND SPECIAL TESTS

If drill-stem or other special tests or deviation surveys were made, submit report on separate sheet and attach hereto

TOOLS USED

Rotary tools were used from 0 feet to 7196 feet, and from ..... feet to ..... feet.

Cable tools were used from ..... feet to ..... feet, and from ..... feet to ..... feet.

PRODUCTION

Put to Producing July 28, 1959

OIL WELL: The production during the first 24 hours was 132 barrels of liquid of which 97 % was was oil; 2 % was emulsion; 1 % water; and --- % was sediment. A.P.I. Gravity 41°

GAS WELL: The production during the first 24 hours was 9000 M.C.F. plus Not Measured barrels of liquid Hydrocarbon. Shut in Pressure 2310 lbs.

Length of Time Shut in 15 days

PLEASE INDICATE BELOW FORMATION TOPS (IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE):

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Devonian	T. Ojo Alamo	--
T. Salt	T. Silurian	T. Kirtland-Fruitland	--
B. Salt	T. Montoya	T. Farmington	--
T. Yates	T. Simpson	T. Pictured Cliffs	2667
T. 7 Rivers	T. McKee	T. Menefee	--
T. Queen	T. Ellenburger	T. Point Lookout	4803
T. Grayburg	T. Gr. Wash	T. Mancos	5012
T. San Andres	T. Granite	T. Dakota	6890
T. Glorieta	T.	T. Morrison	Not Reached
T. Drinkard	T.	T. Penn	--
T. Tubbs	T.	T. Gallup	5926
T. Abo	T.	T. 2nd Dakota	6974
T. Penn	T.	T. 4th Dakota	7132
T. Miss	T.	T.	

FORMATION RECORD

From	To	Thickness in Feet	Formation
0	580	580	Sand and Shale
580	1015	435	Shale
1015	1790	775	Sand and Shale
1790	2245	55	Sand and Shale
2245	2667	422	Shale
2667	2695	28	Sand
2695	3454	759	Shale
3454	3580	126	Sand
3580	4170	590	Shale
4170	4270	100	Sand
4270	4455	185	Shale
4455	4803	348	Sand and Shale
4803	5012	209	Sand
5012	5954	942	Shale
5954	6045	91	Sandstone
6045	6974	929	Shale
6974	7044	70	Sand
7044	7080	36	Shale
7080	7196	116	Sand

From	To	Thickness in Feet	Formation

OIL CONSERVATION COMMISSION
AZTEC DISTRICT OFFICE
No. Copies Received 7

DISTRIBUTION	NO. FURNISHED	
Operator	2	
Santa Fe	1	
Proration Office		
State Land Office		
U. S. G. S.		
Transporter		
File	1	—

ATTACH SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED

I hereby swear or affirm that the information given herewith is a complete and correct record of the well and all work done on it so far as can be determined from available records.

July 31, 1959
(Date)

Company or Operator Kern County Land Co.

Name E. P. Buthaell

Address 301 Korber Bldg., Albuquerque, N.M.

Position or Title Manager, Oil Production & Engr

DRILL STEM TEST RECORD

DST No. 1 5954-6040. 1 hour initial shut-in, 2 hour test, 1 hour final shut-in. Weak blow for 2 minutes, increasing to good after 10 minutes. Steady, good blow throughout test. Recovered 840' gas-cut mud, 630' heavily gas-cut mud. Perforations trying to plug. ISIP 2810# FSIP 2435# IFP 510# FFP 630# IHP 3135# FHP 3120#.

DST No. 2 6978-7058. 1 hour initial shut-in, 1 hour test, 1 hour final buildup. Immediate strong gas blow. 310 M/D rate. 380 M/D rate in 49 minutes. Final rate 395 M/D. Recovered 300' heavy drlg. mud, 400' heavy gas-cut mud. IHP 3620# FHP 3605# ISIP 2900# FSIP 2850# IFP 70# FFP 105#.

DST No. 3. 7135-7171. 1 hour initial shut-in, 1 hour test, 1 hour final shut-in. Initial strong gas blow. Gas to surface in 1-1/2 minutes. After 2-1/2 minutes gas rate 450 M/D. Decreased steadily to 100 M/D after 20 minutes. Recovered 65' gas-cut mud. IHP 3820#, FHP 3820# ISIP 2705# FSIP 2264# IFP 65# FFP 65#.

DST No. 4 7166-7196. 1 hour initial shut-in, 1 hour test, 30 minute final shut-in. Steady weak blow throughout test. Recovered 5' oil, 35' slightly oil-cut drlg. water. IHP 2547# FHP 2547# ISIP 2578# FSIP 1833# IFP 32# FFP 32#.

DRILLING RECORD - HARVEY-STATE No. 1

6-4-59 RURT

6-5-59 RURT

6-6-59 RURT. Dig rat hole.

6-7-59 WOC. 300'. Spud 1 30/A. Drill 15-3/4" hole to 300'. Ran 10 joints 308-80' 10-3/4" 32.0# J-55 casing. Set at 295'. Cemented with 225 sacks regular cement plus 2% $CaCl_2$. Circulated cement to surface. Good returns. Plug down at 5:30 P.M. Deviation - 1/4° @ 100'. 1/2° @ 300'.

6-8-59 Drlg. 361'. WOC 20 hours. Tested casing to 1000# for 30 min. OK. Drilled out shoe after total WOC of 28 hours. Drilling 8-3/4" hole.

6-9-59 Drlg. 2211. 1/4° @ 533'. 1/4° @ 1708'.
Bit #1 - 8-3/4"- 1408'. 13-1/2 hours.

6-10-59 Drlg. 3150'. 9.6# 36 visc. 8.5 cc 2/32".
Bit #2 - 8-3/4" - 913' - 9-3/4 hours.

6-11-59 Drlg. 3553. 1/2° 3272', 1/4° 3516'. 9.7# 43 visc.
Bit #3 647' - 12-1/4 hours.

6-12-59 Drlg. 3933'. 9.8# 39 visc. Bit #4 - 244'- 8-1/4 hours
Bit #5 - 206' - 11-3/4 hours

6-13-59 Drlg. 4199'. 9.8# 39 visc. 7.6 cc. 1-1/2° @ 3943'.
1-1/2° @ 4099'. Bit #6 - 221' - 9-3/4 hours.
Bit #7 - 156' - 10 hours.

6-14-59 Drlg. 4627'. 9.8#, 47 visc. 1-1/4° @ 4271'.
Bit #8 - 172' - 11-1/2 hours. Bit #9 - 356' - 14-1/4 hours.

6-15-59 Drlg. 5062. 9.7# 43 visc. 1-3/4° @ 4948'.
Bit #10 - 321' - 14 hours

6-16-59 Drlg. 5500'. 9.4# 41 visc. 9.5 cc. 2/32". 1-1/2° @ 5299'.
Bit #11 - 351' - 15-1/2 hours.

6-17-59 Drlg. 5777. 9.8# 43 visc. 2-1/4° @ 5614'.
Bit #12 - 315' - 16 hours. Bit #13 - 163' - 11-3/4 hours.

6-18-59 Core No. 1 5990'. Drilled to 5990'. Prep. to core. 9.9# 80 visc. 8.4 cc 2/32". 2-1/4° @ 5777'. 2° @ 5990'.
Bit #14 - 213' - 15 hours.

6-19-59 Coring 6040'. 7-3/4" hole. 10.2# 78 visc.

6-20-59 Reaming core hole. Core No. 1 - 5990-6040'.
Recovered 50'. 8' gray shale, 15' - sandstone. Vertical fractures 5998-6002, 6011-6013. 3' gray shale, 14' sandstone with vertical fractures 6018-6030. 10' sandstone, vertical fractures 6030-6034. Cored with 7-3/4" Tri-Di Diamond. Lost 50 bbls. mud during coring.

DST No. 1 5954-6040' Halliburton tools.
Double packers, safety joint, circulating sub, jars.
1 hour initial shut-in. 2 hour test, 1 hour final shut-in.
Weak blow for 2 minutes increasing to good after 10 minutes.
Steady, good blow throughout test. Recovered 840' gas-cut mud 630' heavily gas-cut mud. Perforations trying to plug throughout test.
ISIP 2810#, FSIP 2435#, IFP 510#, FFP 630#, IHP 3135#, FHP 3120#

6-21-59 Drlg. 6346. 3° @ 6197'. 9.9# 50 visc. 6.4 cc 2/32".
Bit #15 6040-6199' 159' - 15 hours.

6-22-59 Drlg. 6659'. 9.9# 43 visc 6.4 cc 2/32" 2-1/2° @ 6500.
Bit #16 - 301' - 19-1/4 hrs.

DRILLING RECORD - HARVEY-STATE NO. 1 (cont'd)

6-23-59 Drlg. 6942. 10#, 54 visc., 2-1/2° @ 6690'
Bit #17 - 180' - 12 hours

6-24-59 Core No. 2 6960-7010. Drilled 8-3/4" hole to 6960. Cored 6960-7010 with D & S Tri-Di 7-3/4" Diamond. Recovered 49'. Coring time 14 hours. 9.9#, 70 visc., 4cc 2/32"
Bit #18 - 270' - 18-1/4 hours.

6-25-59 Core No. 3 7010-7058 Recovered 48'.Coring time 18 hours. 9.7#, 74 visc. 4cc 2/32"

6-26-59 Reaming core hole. DST No. 2 6978-7058
Halliburton tools, 2 packers, safety joint, jars, circulating sub. 1 hour test. Tool open 2:17 A.M. for initial pressure buildup - Gas to surface in 3 minutes. Tool open 3:22 A.M. Immediate strong gas blow. Initial rate 310 M/D, 360 M/D in 32 minutes, 380 M/D in 49 minutes, final rate 395 M/D. Closed tool 4:22 A.M. for 1 hour final pressure buildup. Recovered 700' fluid. 300' heavy drilling mud. 400' heavy gas-cut mud. IHP 3620#, FHP 3605#, ISIP 2900#, FSIP 2850#, IFP 70#, FFP 105#.
Reamed 7-3/4" core hole to 8-3/4".

6-27-59 Core No. 4. Drilled 8-3/4" hole to 7133'. Cutting Core No. 4. D & S Tri Di 7-3/4" Diamond. 9.8#, 70 visc. 4 cc. 2/32". Bit #19 - 38' - 6 hours. Bit #20 - 37' - 4-1/4 hours.

6-28-59 Prep to DST No.3, Core No. 4 7133-7171. Recovered 38'. Coring time 7-1/4 hours. Ran Schlumberger ES-Induction log and sonic log. Reamed 7-3/4" hole to 8-3/4".

6-29-59 WOC. DST No. 3 7135-7171. Halliburton tools, safety joint, jars, circulating sub. Open 11:32 P.M. for 1 hour initial shut-in pressure. Open tool 12:37 A.M. Initial strong gas blow. Gas to surface in 1-1/2 minutes. After 2-1/2 minutes, gas rate 450 M/D. Decreased steadily to 100 M/D after 20 minutes. Remained steady @ 100 M/D for remainder of test. Closed tool 1:32 A.M. for 1 hour final shut-in pressure. Recovered 65' gas-cut mud. IHSP 3820#, FHP 3820#, ISIP 2705#, FSIP 2264#, IFP 65#, FFP 65#.
Ran 223 joints, 7" casing. Detail of string.

Halliburton Guide Shoe	1.00 ft.
1 joint 7" - N-80 - 23#	31.68
Halliburton Fillup Collar	1.59
48 joints 7"-N-80 - 23#	1584.67
53 joints 7" - J-55 - 23#	1707.05
7 joints 7" - J-55 - 20#	228.63
Baker Stage Collar	1.80
96 joints 7" - J-55 - 20#	3055.66
18 joints 7" - J-55 - 23#	581.74
	7193.82 ft.

Landed casing at 7166'. Installed tubing head. Stage collar at 3614'. Cemented 1st stage with 300 sacks regular construction cement. Preceded cement with 20 bbls. water. Maintained 14# slurry. Mixing time 20 minutes. Displaced with 286 bbls. mud. Plug down 8-12/P. Pressured up to 1400#. Held for 30 minutes OK. Bled pressure off. Float collar would not hold.

DRILLING RECORD - HARVEY-STATE NO. 1 (cont'd)

6-29-59 (cont'd) Pressured up to 200# and shut-in at head.

6-30-59 W.O.C. Attempted to run temperature survey. Element would not go below 655'. Heavy mud for 20'. Spudded and worked bomb for 10 hours. Ran temperature survey. Top of cement 5600'. Cemented second stage with 200 sacks regular construction cement. Preceded cement with 10 bbls. water. Mixing time 15 minutes. Plug down 3:30 P.M. Pressured to 1000# for 30 min. Ok. Bled back to 0# OK

7-1-59 W.O.C. Ran temperature survey. Top of cement 2600'.

7-2-59 Drlg. cement. Drilled out stage collar. Located top of solid cement 7096'. Drilled out float collar, cement and guide shoe.

7-3-59 TD 7196. Drilled 6-1/4" hole 7171-7196. Ran Lane Wells Correlation log. Displaced mud with oil.
Bit #21 - 25' - 1 hour
DST #4 7166-7196. Halliburton tools, single packer, jars, circulating sub. Open 7:00/P for 1 hour initial build-up. Open 8:03 PM for 1 hour test. Steady weak blow throughout test. Closed tool 9:03 PM for 30 minutes. Shut-in. Recovered 5' oil, 35' slightly oil cut drlg water. IHP 2547#, FHP 2547#, ISIP 2578#, FSIP 1833#, IFP 32#, FFP 32#.

7-4-59 TD 7196, PD 7163. Ran Halliburton DC-DM squeeze packer and bridge plug. Packer would not hold. Checked depth with Lane Wells. Found top of packer @ 7167 or 1' below bottom of casing. Ran second DC-DM squeeze packer and bridge plug. Set @ 7163. Circulated with oil, spotted 5 bbls. water in drill pipe and pumped in 25 sacks cement. Displaced with 78 bbls. water. Formation broke down with oil, @ 3300#. Closed circulation valve and squeezed cement. Maximum squeeze pressure 3800#. Final pressure 2000#. Open circulation valve and reversed out water. Back washed 1 sx. cement. Closed circulation valve and dropped bridge trip plug. Pressured up to 4000# OK,

7-5-59 TD 7196, PD 7163. Jet Perforated 7134-7161. 4 holes per ft. Frac treatment Halliburton service. Fraced down 7" casing. Formation broke down @ 3050#. Minimum treating pressure 2500#. Pumped 21,205 gallons Gallup crude and 20,000# 40-60 sand into formation. Flushed with 12,100 gallons oil. Final shut-in pressure 2250#. Average injection rate 30.1 bbls. per minute. Started back flowing well @ 1:30 PM. Casing pressure 1800#.

2:30 P.M.	Flowed	60 bbls. oil	1175#
3:30 P.M.	"	43 " "	900#
4:30 P.M.	"	37-1/2 "	600#
5:30 P.M.	"	36-1/2 "	325#
6:30 P.M.	"	28 " "	210#
12:00 Midnight	"	54 " "	75#

Total oil recovery 259 bbls.

DRILLING RECORD - HARVEY-STATE NO. 1 (cont'd)

7-6-59 TD 7196, PD 7163. Started in hole with drill pipe. Well started flowing. Flowed 105 bbls. in 1 hour. Started making gas. Died. Ran tubing to bottom with Otis Blank Choke. Pulled blank choke. Washed out 68' sand. Waiting on swab unit. Total oil recovery to date 462 bbls. Total oil pumped into well equals approx. 1300 bbls.

7-7-59 TD 7196, PD 7163. Rigged up swab unit. Swabbed oil and water. Water 6700 ppm. Chlorides. Fluid recovery approximately 80-90% water. Set Baker Model N Bridge Plug @ 7080. Dumped 2 sacks cement on top of plug. Top of plug 7070.

7-8-59 TD 7196, PD 7070 Jet perforated with 4 holes per foot. 6974-6984 and 7000-7044. Fraced with Halliburton tools. Formation borke down @ 3300 psi. Minimum treating pressure 2800 psi. Total oil pumped into formation 29,190 gals. Total sand injected 26,200 pounds 40-60 grade. Max. injection rate 40 bbls. per min. Ave. injection rate 28 bbls. per minute. Well sanded off after pumping 7560 gals. flush. Est. 22,000 # sand in formation. Back flowed well. Flowed 282 bbls. oil in first 1-1/2 hours. Flowed 54 bbls. next 1/2 hour. Went to gas. Gauged rate on 21/64" choke 3.5 to 4.0 million cu. ft. per day. Total oil recovered 373 bbls. Separator would not handle well fluid. Turned well to flare pit. Connected up two 2" flare lines. Set both on 21/64" chokes. Est. gas rate 8-10 million.

7-9-59 TD 7196, PD 7070. Connected up Halliburton to kill well. Pumped in 180 bbls mud. Pressure rose to 3500#. No pressure decrease. Lubricator valve cut out and well blew out of control. Pressure on rams 1400#. Blowout preventers cut out.

7-10-59 TD 7196 - PD 7070. Able to replace lubricator valve. Gauged gas rate 8:30/A 8.5 million c.f. after blowing wide open 16 hrs. and blowing with two 2" lines on 24/64" 36 hours well head pressure had decreased from 1400# to 75# @ time of guage. Well head pressure build up to 350# in 3 minutes on being shut-in. Pumped in 270 bbls. 10# mud. Killed well. Well dead @ 11:30/A. Set Baker Model D packer @ 6950.

7-11-59 TD 7196, PD 7070. Displaced mud with oil. Set Baker DR plug. Jet perforated, 4 holes per foot, 5966-6045. Fraced with Halliburton. Breakdown pressure 1500psi. Max. treating pressure 2150#, minimum 1850#. Total frac oil displaced - 42,000 gals. oil, flushed with 10,000 gals. oil. Ave. injection rate 51 bbls/min. Displaced 40,000 lbs. 20-40 sand. Final shut-in pressure 1250#. Shut-in @ head for 5 hours.

7-12-59 TD 7196, PD 7070. Started backflowing at 450# on 16/64" choke. Flowed 170 bbls. in 7 hours. Located top of sand @ 6980'. Cleaned out to 6950. Laid down drill pipe. Went in hole with tubing. Circulated to bottom. Retrieved DR plug. Ran 2-3/8" Eve. 4.7# J-55 tubing string for Dakota as follows:

DRILLING RECORD - HARVEY-STATE NO. 1 (cont'd)

7-12-59 (cont'd)

1 Jt. Pinned collar	0.50
Tubing, N-80, Beveled Collar	31.66
Otis Choke Nipple	0.83
1 jt. tubing - N-80-Beveled Collar	31.80
Baker Packer Seal Unit	0.60
29 jts. tubing, regular collars	916.41
Baker Dual String Anchor	0.92
189 Jts. tubing, N-80 Beveled Collars	5987.13
2 - 8' Pups	16.00
2 - 6' Pups	12.00
1 - 2' Pup	2.00
	6999.85

Dual tubing anchor set @ 6017' below tubing head. In attempting to set Model D Seal Unit well blew in. Well head pressure rose to 1675# in 5 minutes. Unloaded oil in hole. Killed well with mud. Ran packer seal unit and set doughnut. Ran Gallup tubing string as follows:

Anchor Unit	.43
1 jt.	30.78
Perf. Jt.	6.06
Seat	1.10
189 jt.	5972.31
	6010.68

7-14-59

Installed Xmas tree. Unable to retrieve Otis Choke. TD 7196, PD 7070. Swabbed Dakota in. Commenced flowing @ 6:30/A. Pressures @ well head

6:30 A.M.	1500 psi	Shut-in
6:45 A.M.	1800 psi	30/64" choke
6:50 A.M.	2000 psi	30/64"
7:00 A.M.	2100 psi	30/64"

Gauged gas rate @ 7:30 A.M. on 30/64" choke with blank Otis choke stuck on bottom was 10,000,000 cfpd. Retrieved Otis choke. Swabbed in Gallup. Flowed and swabbed by heads. Shut-in to move out rotary rig.

Rig released 8:00 P.M.

7-29-59

Took potential test on Dakota and Gallup. Dakota flowed 9000 MCF plus distillate thru 1" choke, flowing tubing pressure 388#, shutin tubing pressure 2310# after 15 days.

Gallup flowed 152 BOPD, 3% emulsion & water, gravity 41°.