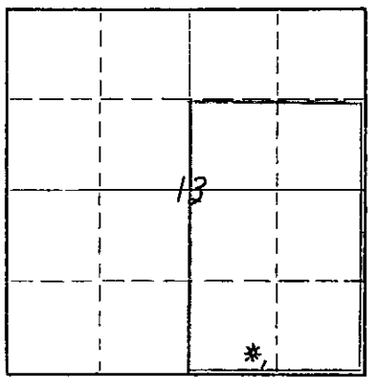
15-007-00814-00-00

STATE OF KANSAS
STATE CORPORATION COMMISSION

Give All Information Completely
Make Required Affidavit
Mail or Deliver Report to:
Conservation Division
State Corporation Commission
211 No. Broadway
Wichita, Kansas

WELL PLUGGING RECORD

NORTH



Locate well correctly on above Section Plat

Barber County. Sec. 13 Twp. 33S Rge. (E) 12 (W)
Location as "NE/CNW¼SW¼" or footage from lines SE/4 SW/4 SE/4
Lease Owner Skelly Oil Company
Lease Name Harbaugh "C" Well No. 1
Office Address P.O. Box 1650, Tulsa, Oklahoma
Character of Well (completed as Oil, Gas or Dry Hole) Gas
Date well completed September 1, 19 51
Application for plugging filed December 20, 19 56
Application for plugging approved December 21, 19 56
Plugging commenced January 25, 19 57
Plugging completed February 2, 19 57
Reason for abandonment of well or producing formation Well depleted - Would not produce against KP&L gathering line
If a producing well is abandoned, date of last production March 1, 19 56
Was permission obtained from the Conservation Division or its agents before plugging was commenced? Yes

Name of Conservation Agent who supervised plugging of this well Mr. M. A. Rives
Producing formation Douglas Sand Depth to top 3659' Bottom 3668' Total Depth of Well 5058 Feet
Show depth and thickness of all water, oil and gas formations. PB 3663'

OIL, GAS OR WATER RECORDS — CASING RECORD

FORMATION	CONTENT	FROM	TO	SIZE	PUT IN	PULLED OUT
Douglas Sand	Gas	3659'	3668'	8-5/8"	625'3"	None
				5-1/2"	4694'6"	2191'0"

Describe in detail the manner in which the well was plugged, indicating where the mud fluid was placed and the method or methods used in introducing it into the hole. If cement or other plugs were used, state the character of same and depth placed, from feet to feet for each plug set.

Sand	3663'	to 3650'
5 sacks of cement	3650'	to 3605'
Mud	3605'	to 300'
Rock	300'	to 295'
20 sacks of cement	295'	to 235'
Mud	235'	to 30'
Rock	30'	to 25'
10 sacks of cement	25'	to 6'
Surface soil	6'	to 0'

(If additional description is necessary, use BACK of this sheet)

Name of Plugging Contractor Ace Pipe Pulling Company
Address P.O. Box 304, Great Bend, Kansas

STATE OF Kansas, COUNTY OF Reno, ss.

H. E. Wamsley (employee of owner) ~~or owner or operator~~ of the above-described well, being first duly sworn on oath, says: That I have knowledge of the facts, statements, and matters herein contained and the log of the above-described well as filed and that the same are true and correct. So help me God.

(Signature)

Box 391, Hutchinson, Kansas
(Address)

SUBSCRIBED AND SWORN TO before me this 8th day of April, 1957

Josephine L. Johnson
Notary Public.

My commission expires April 7, 1959

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APR 9 - 1957
CONSERVATION DIVISION
Wichita, Kansas

PLUGGING
FILE SEC 13 T 33 R 12W
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N-136 Rev. 1M

SKELLY OIL COMPANY

REPORT OF CHANGE IN WELL RECORD

Give complete description of all cleaning out, deepening, plugging back and fishing jobs, changes in casing, material lost in hole, etc., not recorded in original well record.

Herbaugh "C" — LEASE
1 — WELL NO.
Western Kansas — DISTRICT

SEC. 13 T. 33S R. 12W
COUNTY Barber
2317 — JOB NO.

SURVEY _____ BLOCK _____
STATE Kansas

CLEANING OUT RECORD

Date commenced ..... 19 .....
Date completed ..... 19 .....
Cleaned out from ..... to ..... T. D. .....
Prod. before ..... bbls. oil ..... bbls. water ..... cu. ft gas
Prod. after ..... bbls. oil ..... bbls. water ..... cu. ft. gas
Kind of tools used: .....
Tools owned by: .....

PLUGGING BACK OR DEEPENING RECORD

Date commenced ..... January 25, ... 19 57
Date completed ..... February 2, ... 19 57
Plugged back ~~or deepened~~ from 3663' to 0' T.D. P & A
Prod. before --- bbls. oil --- bbls. water * cu. ft. gas
Prod. after ..... bbls. oil ..... bbls. water ..... cu. ft. gas
Kind of tools used: .....
Tools owned by: Aco Pipe Pulling Co.

SHOT RECORD

Date				
Size shot	Qts.	Qts.	Qts.	Qts.
Shot between	Ft. and Ft.	Ft. and Ft.	Ft. and Ft.	Ft. and Ft.
Size of shell				
Put in by (Co.)				
Length anchor				
Distance below casing				
Damage to casing or casing shoulder				

CHANGES IN CASING RECORD

OD SIZE	Wt.	Thds.	Where Set	PULLED OUT Jts.	PULLED OUT Feet	PULLED OUT In.	LEFT IN Jts.	LEFT IN Feet	LEFT IN In.	KIND	Cond'n	CEMENTING Sacks Used	CEMENTING Method Employed
4-1/2"	14	8R	6652'	60	2191	0	91	2503	6	S-D	B		

Liner set at ..... Length ..... Perforated at .....
Packer set at ..... Size and kind .....

*Unable to produce against K.P. & L. gathering line

Superintendent.

PLUGGING
FILE SEC 13 T 33 R 12W
BOOK PAGE 127 LINE 28

REMARKS (Give review of work accomplished and any other comment of interest)

Moved in machine of Ace Pipe Pulling Company on January 25, 1957, and plugged the well as follows:

Sand	3663' to 3650'
5 sacks of cement	3650' to 3605'

Shot off 4½" casing at 3088', 2977', 2927', 2493', 2300', 2185', and pulled 2191' of 4½"OD, 15#, SR thd., R-2, S.S. casing (D cond.)

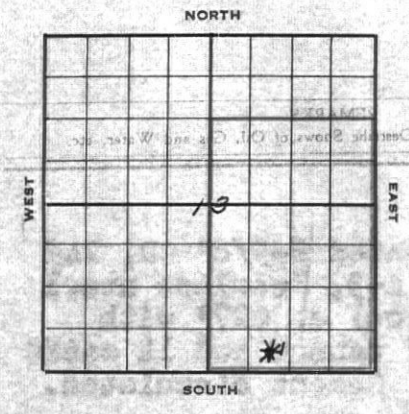
Mud	3605' to 300'
Rock	300' to 295'
20 sacks of cement	295' to 235'
Mud	235' to 30'
Rock	30' to 25'
10 sacks of cement	25' to 6'
Surface soil	6' to 0'

Plugged and abandoned February 2, 1957.

RECORD OF FORMATIONS

FORMATION	TOP	BOTTOM	REMARKS Indicate Casing Points, Describe Shows of Oil, Gas and Water, etc.

Form N47A Rev.



SKELLY OIL COMPANY

Well Record

1426'RB
1424'DF
1419'BH

Lease Name and No. Harbaugh "C" Well No. 1 Elev.

Lease Description SE/4 & S/2 NE/4 Sec. 13-33S-12W, & Lots 2,3,4 & SE/4 SW/4 Sec. 16-33S-11W, Barber Co., Kansas (400 Acres)

Location made June 19 1951 by R. G. Coshow

330 feet from North line 990 feet from East line } SE/4 of Sec. 13
feet from South line feet from West line

Work com'd June 26 1951 Rig comp'd June 27 1951 Drlg. com'd June 27 1951 Drlg. comp'd July 25 1951

Rig Contractor Chas. Hulme Drilling Company

Drilling Contractor Chas. Hulme Drilling Company, Great Bend, Kansas

Rotary Drilling from Top to 5058' Cable Tool Drilling from To Complete to

Commenced Producing September 1 1951 { Initial Prod. before shot or acid Tested 1 gal. free oil Bbls.
Initial Prod. after shot or acid Bbls.

Dry Gas Well Press. SI TP 1357# Volume 7,079 M Cu. ft.

Casing Head Gas Pressure Volume Cu. ft.

Braden Head (8-5/8" Size 4½"OD) Gas Pressure Volume Cu. ft.

Braden Head (Size) Gas Pressure Volume Cu. ft.

5058'
PB 4480'

PRODUCING FORMATION Douglas Sand (Name) Top 3659' Bottom 3668' TOTAL DEPTH

CASING RECORD

Size	Wt.	Thds.	Where Set	PULLED OUT Jts.	PULLED OUT Feet	PULLED OUT In.	LEFT IN Jts.	LEFT IN Feet	LEFT IN In.	KIND	Cond'n	CEMENTING Sacks Used	CEMENTING Method Employed
8-5/8"	24#	8R	627'				17	625	3	R3 SS	B	350	Halliburton
4-1/2"	15#	8R	4652'	(Lot #104)			171	4694	6	Grade"D"SS	C	300	Halliburton

(8-5/8"OD Casing set 6' in cellar & 4½" cased to derrick floor)

4-1/2" OD Casing perforated between 4470' and 4478' with 32 Lane-Wells Kone/Shots and Perforated between 3659' and 3668' with 36 Lane-Wells holes

(Used 1 - 4½"OD Larkin Combination Guide and Float Shoe)

Liner Set at Length Perforated at

Liner Set at Length Perforated at

Packer Set at Size and Kind

Packer Set at Size and Kind

SHOT OR ACID TREATMENT RECORD

	FIRST	SECOND	THIRD	FOURTH
Date	August 20, 1951			
Acid Used / Size Shot	27 Gals. Qts.	Gals. Qts.	Gals. Qts.	Gals. Qts.
Shot Between	4470 Ft. and 4478 Ft.	Ft. and Ft.	Ft. and Ft.	Ft. and Ft.
Size of Shell	7"3"			
Put in by (Co.)	Ind.-Eastern			
Length anchor				
Distance below Cas'g				
Damage to Casing or Casing Shoulder	None			

SIGNIFICANT GEOLOGICAL FORMATIONS

NAME	Top	Bottom	GAS From	GAS To	OIL From	OIL To	REMARKS
Douglas Sand	3660'		3659'	3739'			Gas est. 5,000 M - H.D.O.T.
Lansing Lime	3786'						
Mississippi lime	4471'				4474'	4480'	Good oil stain & sat.
					4481'	4485'	Good oil stain & sat.
Red Zone	4581'						
Kinderhook	4659'						
Viola Lime	4773'						
Simpson Sand	4861'						
Arbuckle Lime	5021'						

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APR 9 1957
CONSERVATION DIVISION
Wichita, Kansas

CLEANING OUT RECORDS

	DATE COMMENCED	DATE COMPLETED	PROD. BEFORE	PROD. AFTER	REMARKS
1st					See Reverse for other details.
2nd					" " " " "
3rd					" " " " "
4th					" " " " "

PLUGGING BACK AND DEEPENING RECORDS

	Date Commenced	Date Completed	No. Feet Plugged Back or Deepened	Prod. Before	Prod. After	REMARKS
1st						See Reverse for other details.
2nd						" " " " "
3rd						" " " " "
4th						" " " " "

(See Reverse for Record of Formation)

RECORD OF FORMATIONS

FORMATION	TOP	BOTTOM	REMARKS Indicate Casing Points, Describe Shows of Oil, Gas and Water, etc.
Surface soil and sand	0	75	
Red bed, shale & shells	75	490	
Shale and shells	490	627	Set and cemented 8-5/8" OD, 24# 8 Rd. Thd., R-3, Seamless steel ("B" Condition) at 627' with 350 sacks of cement and 14 sacks of aquagel. Cement circulated.
Shale and shells	627	1380	
Sandy lime	1380	1665	
Lime	1665	2040	
Lime and shale	2040	3000	
Lime	3000	3100	
Shale and lime	3100	3465	
Sand and lime	3465	3535	
Shale	3535	3635	
Shale and sand	3635	3698	
Sand	3698	3739	TOP DOUGLAS SAND 3660' Ran Halliburton drill stem test with packer set at 3659', open 30 minutes, gas to surface in less than 1 minute, gas estimated 5,000 MCF, recovered 250' of water and 230' of gas cut mud, BHP 1500#.
Sand	3739	3789	TOP LANSING LIME 3786'
Lime	3789	4255	
Lime and shale	4255	4413	
Lime	4413	4474	TOP KANSAS CITY LIME 4471'
Porous chert	4474	4480	Good oil stain and saturation, free oil in sample
Chert	4480	4481	
Porous, very soft chert	4481	4485	Good oil stain and saturation Ran Halliburton drill stem test with packer set at 4475', open 1 hour, recovered 70' of gas cut and slightly oil cut mud, BHP 550#.
Grey porous, oil stained tripolitic chert	4485	4520	
Grey, slightly porous chert	4520	4558	Fair oil stain
Light grey fine to medium crystalline dense cherty lime	4558	4570	Ran Halliburton drill stem test with packer set at 4487', open 1 hour, recovered 360' of slightly gas cut muddy water, BHP 1215#.
Lime	4570	4675	TOP RED ZONE 4581' TOP KINDERHOOK 4659'
Shale	4675	4750	
Lime	4750	4765	TOP VIOLA LIME 4773'
Shale	4765	4784	
Lime	4784	4860	
Grey medium grained sand	4860	4873	TOP SIMPSON SAND 4861' Ran Halliburton drill stem test with packer set at 4860', open 30 minutes, recovered 10' of mud, no oil or gas, BHP 1325#.
Sand	4873	4874	
Grey, dense dolomite	4874	4881	No shows
Grey, coarse grained sand	4881	4920	No shows Ran Halliburton drill stem test with packer set at 4873', open 30 minutes, recovered 3900' of salt water, BHP 1950#.
Sand	4920	4953	
Sand and shale	4953	4975	
Sand	4975	5021	TOP ARBUCKLE LIME 5021'
Porous crystalline dolomite	5021	5031	
Light brown, medium to coarse crystalline dolomite	5031	5038	No shows or odor
Sand and dolomite	5038	5058	Ran Schlumberger Survey Set and cemented 4-1/2" OD, 15#, 8 Rd. Thd., Grade "D" Seamless steel casing with J-55 couplings ("C" Condition at 4652' with 300 sacks of cement and 12 sacks of aquagel. Finished cementing at 7:00 PM July 26, 1951.

PLUGGING, SHOOTING AND DEEPENING RECORDS

	Date Commenced	Date Completed	No. Feet Plugged Back or Deepened	Prod. Before	Prod. After	REMARKS
1st						See Reverse for other details
2nd	" "	" "				" " " " "
3rd	" "	" "				" " " " "
4th	" "	" "				" " " " "

Rigged up cable tools and bailed the hole to top of cement plug on August 6th and 4½" casing tested dry. Top of

(See Reverse for Record of Formation)

cement plug at 4589' SLM. On August 7th perforated 4½" OD casing from 3659' to 3668' with 36 holes by Lane-Wells - not tested. Ran 2" tubing, open end to 3630', and spotted 25 sacks of cement from 3659' to 3668' - Maximum TP 500#, estimated 8 sacks into formation. Pulled tubing and shut down for cement to set.

On August 10th drilled cement plug and cleaned out to 4589'. On August 12th PB with crushed rock from 4589' to 4497' and cement from 4497' to 4487'. On August 13th perforated 4½" casing from 4479' to 4485' with 24 holes by Lane-Wells jet perforator. Ran bailer and found 1100' of salt water in hole. Bailed and tested 8 hours, unable to lower water level.

On August 15th ran 2" tubing and set Baker retainer at 4428' - Cemented off perforations from 4479' to 4485' with 125 sacks of cement - Maximum TP 2500#. Pulled tubing and shut down for cement to set.

On August 18th bailed the hole dry and drilled cement plug to 4480', hole tested dry. Perforated 4½" casing from 4470' to 4478' with 32 holes by Lane-Wells Kone shots. Let stand 6 hours, then tested 1 gallon of free oil. On August 20th shot with 27 quarts of Nitroglycerin from 4478' to 4478' using one 7"3" shell with 10 quarts and dumping 17 quarts using Zero Hour Bomb. Shot tamped with 150' of sand and 1200' of water. Shot went off at 2:00 PM August 20, 1951. After shot, well started showing gas. Loaded hole with water, found 4½" casing swelled at 4135'. Swedged out casing and cleaned out to bottom.

Bailed and tested 10 hours, 1 gallon oil and 4 gallons of water per hour. Loaded hole with water and perforated 4½" casing from 3659' to 3668' with 36 holes by Lane-Wells jet perforator. Ran 2" tubing and set Baker retainer at 3625'. Swabbed well in through 2" tubing and well started flowing, gas gauged 5,681 MCF, SI TP 1375#.

TOTAL DEPTH 5058' PB 4480' SLM

On September 1, 1951, open flow productivity test, gas gauged 7,079 MCF, SI TP 1357#.

SLOPE TEST DATA

DEPTH	ANGLE OF DEFLECTION	DEPTH	ANGLE OF DEFLECTION
250'	1/4 Degrees	2750'	0 Degrees
550'	1/4 "	3000'	1/2 "
750'	0 "	3250'	1/2 "
1000'	0 "	3500'	1/2 "
1250'	0 "	3650'	1/2 "
1500'	0 "	4000'	1 "
1750'	0 "	4250'	1 "
2000'	0 "	4500'	1 "
2250'	0 "	4800'	1 "
2500'	0 "		

Pawhuska Research Labratory

July 17, 1951 - No. 2394 - Water at 3739', Douglas Sand

Chlorides	as Cl	134,200 PPM
	as NaCl	221,200 PPM
Sulfates	as SO_4	1,533 PPM
	as $CaSO_4$	2,173 PPM

July 20, 1951 - No. 2401 - Water at 4485'

Chlorides	as Cl	72,700 PPM
	as NaCl	119,800 PPM
Sulfates	as SO_4	5,180 PPM
	as $CaSO_4$	7,340 PPM

July 25, 1951 - No. 2402 - Water at 4570'

Chlorides	as Cl	119,500 PPM
	as NaCl	197,000 PPM
Sulfates	as SO_4	1,248 PPM
	as $CaSO_4$	1,768 PPM

August 3, 1951 - No. 2417 - Water at 4920'

Chlorides	as Cl	94,000 PPM
	as NaCl	154,900 PPM
Sulfates	as SO_4	746 PPM
	as $CaSO_4$	1,057 PPM

Pawhuska Research Labratory

July 21, 1951 - No. 2436' - Water from 4479-4485'

Chlorides as Cl	130,300	PPM
as NaCl	214,800	PPM
Sulfates as SO_4	512	PPM
as $CaSO_4$	725	PPM

PLUGGING BACK RECORD AND RECEMENTING 4½" CASING

Date Commenced: May 13, 1955
Date Completed: June 9, 1955

Plugged back from 4480' to 3663' PB TD-3663'

Production Before: 100% water
Production After: Flowed through 2" tubing 4 hours, gas gauged 390 M.C.F.

4½" casing perforations open below 3663': 4470'-78' with 32 holes
4½" casing perforations open above 3663': 3659'-3662' with 38 holes

Producing Formation : Douglas Sand

\- - - - - -

On May 13, 1955, moved in and rigged up cable tools, loaded hole with water, pulled 2" tubing, drove Baker retainer from 3625' to 4025', and set Baker cast iron bridging plug at 3691'.

Tried to dump cement on plug and cement would not stay in bailer. Ran steel line measurement, correction: PB TD-3691' equals PB TD-3692'. Ran 2" tubing to 3636'. Swabbed through 2" tubing 30 minutes and well began to flow; flowed through 2" tubing 2 hours, 70 barrels of water used to load hole. Flowed 9 hours, 27 barrels of water used to load hole and 3,880 M.C.F. of gas, flowing CP-1000#, TP-670#.

On May 17, flowed through 2" tubing 21 hours, 30 barrels of water used in loading hole, 70 barrels of formation water and 3,210 M.C.F. of gas, flowing CP-925#, TP-600#. Loaded hole with 112 barrels of water, pulled and reran 2" tubing with Baker RT8 retrievable packer set at 3650'. Swabbed through 2" tubing 1 hour and well began to flow. Flowed through 2" tubing 10 hours, 78 barrels of water used to load hole and 33 barrels of formation water, gas gauged 2,630 M.C.F., flowing TP-550#.

Pulled 2" tubing and packer, reran 2" tubing to 3646' and cemented off perforations in 4½" casing from 3659' to 3668' with 100 sacks of cement, maximum TP-2000#, finished 12:00 m 5/19/55. Pulled tubing and shut down for cement to set.

On May 22, bailed hole dry to 3650', tested 4½" casing 1 hour, casing tested dry. Drilled cement plug and cleaned out to 3664'. Perforated 4½" casing from 3659' to 3663' with 24 holes by Lane-Wells, failed to get penetration. Reperforated from 3659' to 3663' with 16 holes by Lane-Wells Kone shots. Bailed and tested 6 hours, 8 to 10 gallons of water per hour, gas gauged 100 M.C.F. Ran 2" tubing with Baker RT8 packer set at 3640' and ran Halliburton Vis-O-Frac as follows:

<u>VIS-O-FRAC NO. 1 - Between 3659' and 3663'</u>
Used 1000# of sand
24 barrels of heavy oil
86 barrels of oil to fill and flush
Maximum TP-5100#, no break in pressure
Time 13 minutes

Tried to swab well in and swab hung up at 2000'. Circulated out treating oil, loaded hole with water, pulled 2" tubing and recovered swab. Reran tubing to 3664', circulated and cleaned up hole, then raised tubing to 3636'. Circulated out water used to load hole.

On May 26, swabbed through 2" tubing 3 hours and well started flowing. Flowed through 2" tubing 10 hours, 15/64" choke, 100 barrels of oil used to load hole and 35 barrels of water, gas gauged 2,780 M.C.F., flowing CP-1300#, TP-1050#.

Cemented off perforations from 3659' to 3663' with 75 sacks of common cement, maximum TP-2500#. Pulled tubing and shut down for cement to set.

On May 30, bailed hole dry, 5½" casing tested dry. Drilled cement plug and cleaned out to 3662'. Perforated 4½" casing from 3659' to 3661' with 8 holes by Lane-Wells Kone shots. Loaded hole with oil, unable to pump into perforations at 2500#. Ran 2" tubing and set Baker RT8 packer at 3640'. Tried to treat with 250 gallons of Halliburton MCA acid and could not pump into formation at 5500#-TP. Pulled tubing and packer and reperforated 4½" casing from 3659' to 3661' with 12 holes by Lane-Wells. Loaded hole with oil, could not pump into formation with 2500#-CP.

Drilled cement and cleaned out from 3662' to 3663'. Reperforated 4½" casing from 3659' to 3662' with 18 holes by Welex. Ran 2" tubing and set Baker retrievable packer at 3640'. Treated through 2" tubing with 250 gallons of Halliburton MCA acid as follows:

ACID TREATMENT NO. 1 - Between 3659' and 3662'

Treatment put in 6/2/55 by Halliburton, using 250 gallons of acid and 20 barrels of oil.

TIME	CP	TP	REMARKS
8:00 pm			Start acid
8:10 pm	800#	5000#	Acid on bottom
11:08 pm	800#	3400#	125 gallons of acid in formation
11:10 pm	800#	3400#	250 gallons of acid in formation

Swabbed through 2" tubing 6 hours, 20 barrels of oil used in treating and 1 barrel of acid water, gas estimated 300 M.C.F. On June 3, swabbed through 2" tubing 24 hours, 1 barrel of water, gas gauged 30 M.C.F.

Tried to pressure up tubing and found leak in tubing. Pulled tubing and packer, ran 2" tubing and set Baker retrievable packer at 3649'. Ran Halliburton Sand-Oil-Frac.

SAND-OIL-FRAC NO. 1 - Between 3659' and 3662'

Used 250# of sand
22 barrels of heavy crude oil
Used 60 barrels of oil to fill and flush
Maximum TP-6000#
Time 14 minutes

Swabbed through 2" tubing 15 hours, 42 barrels of oil used in treating, gas estimated 400 M.C.F. On June 6, swabbed through 2" tubing 1 hour, well started flowing. Flowed through 2" tubing 23 hours, 16 gallons of water per hour, gas gauged 475 M.C.F.

Unseated packer, circulated out oil used in loading hole, pulled 2" tubing and packer and reran 2" tubing to 3659'. Swabbed through tubing 3 hours, 40 barrels of water used to load hole, well started flowing. On June 8, flowed through 2" tubing 4 hours to clean hole, gas gauged 390 M.C.F.

Turned into Kansas Power & Light Company line at 10:30 a.m. 6/9/55, flowing through 2" tubing with 1/2" orifice at rate of 90 M.C.F. daily, flowing TP-910#, CP-910#, line pressure 300#.

PLUGGED BACK TOTAL DEPTH 3663'

PLUGGING
FILE SEC. 13 T. 33 R. 12W
BOOK PAGE 127 LINE 28