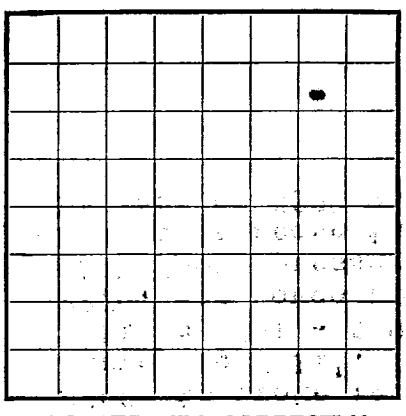
Form 9-330

Budget Bureau No. 42-R355.4.
Approval expires 12-31-60.

RECEIVED
1959
OIL CON. COM.
DIST. 3

U. S. Land Office Santa Fe
Serial Number NM 03733
Lease or Permit to Prospect "Breech"

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



LOCATE WELL CORRECTLY

LOG OF OIL OR GAS WELL

Company Caulkins Oil Company Address Box 967, Farmington, New Mexico

Lessor or Tract Federal Field South Blanco State New Mexico

Well No. PMD-228 Sec. 13 T. 26N R. 7W Meridian NMPM County Rio Arriba

Location 865 ft. [N.] of N Line and 1180 ft. [W.] of E Line of Section 13 Elevation 6463 KB
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed [signature]

Date June, 1959 Title Field Superintendent

The summary on this page is for the condition of the well at above date.

Commenced drilling 12-29-58, 19.. Finished drilling 1-20, 19 59

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from Dakota to 7099 No. 4, from Point Lookout to 4996

No. 2, from Graneros to 7010 No. 5, from Pictured Cliffs to 2716

No. 3, from Greenhorn to 6900 No. 6, from ..... to .....

IMPORTANT WATER SANDS

No. 1, from ..... to ..... No. 3, from ..... to .....

No. 2, from ..... to ..... No. 4, from ..... to .....

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated From—	Perforated To—	Purpose
13 3/8	48#	8rd	H-40	104'	Reg.				Surface
9 5/8	40#	8rd	J-55	2994'	Reg.				Production
7"	23#	8rd	J-55	7342'	Reg.				Production

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13 3/8	117'	150	Plug		
9 5/8	2997'	300	Plug		
7"	7342'	645	Plug, DV Tools & Squeeze*		

PLUGS AND ADAPTERS

Heaving plug—Material ..... Length ..... Depth set .....

Adapters—Material ..... Size .....

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

TOOLS USED

Rotary tools were used from 0 feet to 7342 feet, and from ..... feet to ..... feet

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

DATES

....., 19..... Put to producing ....., 19.....

The production for the first 24 hours was ..... barrels of fluid of which .....% was oil; .....% emulsion; .....% water; and .....% sediment. Gravity, °Bé. .....

If gas well, cu. ft. per 24 hours ..... Gallons gasoline per 1,000 cu. ft. of gas .....

Rock pressure, lbs. per sq. in. .....

EMPLOYEES

....., Driller ....., Driller

....., Driller ....., Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	41	41	Surface
41	94	53	Sand-Shale-Rock
94	117	23	Sand and Rock
117	270	153	Sand and Shale
270	593	323	Sand-Shale and Rock
593	2989	2396	Sand and Shale
2989	3000	11	Shale
3000	7314	4314	Gas drilled-see logs for formation information
7314	7342	28	Sand

FORMATION TOPS

Pictured Cliffs	2716
Point Lookout	4996
Greenhorn	6900
Graneros	7010
Dakota	7099

FROM— TO— TOTAL FEET [OVER] FORMATION 16—43094-4

*See history for cementing information.

FOLD

MARK

FORMATION RECORD—Continued

FROM—	TO—	TOTAL FEET	FORMATION

15—43094-2 U. S. GOVERNMENT PRINTING OFFICE

HISTORY OF OIL OR GAS WELL

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

Spudded 5:00 AM 12-29-58.
Drilled to TD 117'. Cemented 104' 13 3/8" 40# H-40 casing @ 117' w/150 sacks common cement. Cement circulated-plug down 10:45 PM 12-29-58.
1-8-59 - Drilled to TD 3000'. Cemented 2997' 9 5/8" OD 40# J-55 Short 8rd Casing with centralizers at 2806 and 2714'. Used 7 scratchers spaced 15' apart. Cemented casing w/250 sacks 4% aquagel and 50 sacks neat cement. Plug down 9:30 AM 1-9-59.
Drilled to TD 7342'.
Ran 7" OD 26# & 23# 8 rd J-55 casing to 7342. Cemented w/200 sacks. DV Collars are at 5398.33 & 3868.85. Pulled 2920' of 7" casing. Top of liner now in hole is 2920'. Cement baskets at 4416.06' 4656.24' and 4403.92'. Centralizers at 7293, 7209, 7117, 7028, 6937, 5137, 5038, 4943, 4854, 4755, 4659, 4560, 4465, 4374, 4283, 4182, 4089, 3995, 3903, 3704, 3610, 3515 & 3416.
Opened DV Tool at 5398'. Ran Howco RTTS Packer to 3783'. Cemented with 110 sacks 4% aquagel and 28# Flocele.
Pulled packer and opened DV tool at 3869'. Ran Howco DM SQueeze Packer to 3849' and cemented w/135 sacks 4% aquagel cement.
Ran Howco 9 5/8" DM Squeeze packer at 2891 and cemented w/50 sacks common cement.
Drilled up 9 5/8" Squeeze Packer at 2891. Tested 9 5/8" & 7" casing w/3100#. Held OK. Drilled up retainer set at 3843. Tested casing pressure broke at 2000# back to 1200#.
Ran another retainer to 3814 and cemented w/100 sacks common cement. Final pressure 800#-casing was cleared of cement so another batch could be pumped in.
Squeezed DV Tool at 2869 w/50 sacks final pressure 4500#.
Drilled out retainer set at 3814 and tested casing w/3000#. Held OK.
Drilled out DV Tool at 5398 and tested. When test pressure reached 2900# it broke to 1600#. Drilled cement to 7342'. Ran Temperature Survey to 7311', found indication of cement outside of casing at 7311 to 6351 - 5398 to 3488 - 3346 to 3310 - 3046 to 2719 - 2602 to 2276. Ran Howco DM Squeeze Packer to 5361. Could not break formation with 3500# pressure. Drilled out Squeeze Packer, tested casing w/3000# had no decrease in 25 minutes. Believe drill pipe must have closed DV tool at 5398 while cleaning out to bottom.

(continued)

HISTORY CONTINUED:

2-7-59 - Perforated Dakota as follows:

7099-7122	23'	2 jets per foot	46 holes
7148-7166	18'	4 jets per foot	72 holes
7172-7176	4'	4 jets per foot	16 holes
7204-7216	12'	4 jets per foot	48 holes
7224-7236	12'	2 jets per foot	24 holes

Fractured with 97,608 gallons water and 80,000# 40-60 sand. Breakdown pressure 2200#; treating pressure 2200 to 3050#; final pressure 2400#. Pressure decreased from 2400# to 1900# in one hour. Average injection rate 35.5 BPM. Used 410 bbls for flush. Dropped 41 rubber covered nylon balls after 21,000 gallons; dropped 40 more after 42,000 gallons.

2-8-59 - Perforated Graneros 7010' to 7030' with 2 jets per foot.

2-10-59 - Set bridge plug at 7050'.

2-11-59 - Fractured Graneros 7010'-7030' w/20,000# 40-60 sand using 3 HR-400s. Used 35,805 gal. water and flushed w/16,640 gal. water. Breakdown pressure 3000#; treating pressure 3000 to 2600 to 3000#; final pressure 2200# which decreased to 1800# in 2½ hours. Set Baker Magnesium bridge plug at 6980' under pressure. Perforated 6900 to 6940' with 75 shaped charges. Fractured 6900 to 6940 (Greenhorn) w/20,000# 40-60 sand and 34,660 gal. water. Flushed w/16,500 gal. water. Breakdown pressure 3000#; treating pressure 3000 to 2900 to 3125#; final pressure 2550# which decreased to 1975# in 4 hours.

2-14-59 - Set bridge plug at 5180'. Perforated Point Lookout as follows:

4996 to 5002	2 jets per foot
5006 to 5014	2 jets per foot
5024 to 5048	2 jets per foot
5054 to 5068	2 jets per foot
5092 to 5146	2 jets per foot

2-15-59 - Fractured 4996 to 5146' w/100,000# 20-40 sand and 58,862 gal. water. Flushed w/8,200 gal. Dropped 45 rubber balls after 20,000#, 45 more after 40,000# and 25 more after 60,000#. Breakdown pressure 1100#; treating pressure 1100# to 2754#. Sand screened out leaving approximately 10,000# in casing. Average rate of injection 56.9 BPM. Perforated Pictured Cliffs 2716' to 2754' with 2 jets per foot. Fractured w/50,000# 10-20 sand and 45,088 gal. water. Flushed w/9,800 gal. water. Dropped 38 rubber balls after 30,000#. Breakdown pressure 1200#, treating pressure 1200# to 1800#. Final pressure 1250#. Average rate of injection 75.6 BPM.

2-19-59 - Drilled bridge plug at 5180'.

2-21-59 - Bit hung up at 6874'. Backed off and milled up all tubing on top of three drill collars and moved the three drill collars 45' up the hole so that the bit is now at 6829'. Top of drill collars is at 6735'. Efforts to recover drill collars abandoned after fishing for 55 days. Baker Magnesium paraffin impregnated bridge plugs are still in place at 6980' and 7050'. After fishing operations were stopped, Baker Model "D" Production Packers were set at 5184' and 4954'.

5-19-59 - Ran 2 3/8" OD EUE 8 rd 4.70# J-55 tubing with special clearance couplings at 6302'. Seals were set in Baker Packers at 5184' and 4954', 5' perforation on bottom. Otis Side Door Choke installed at 5153'. Ran 1¼" EUE 10rd 2.4# J-55 Smls tubing with regular couplings to 2709'.

Well shut in for AOF and Packer Leakage tests.