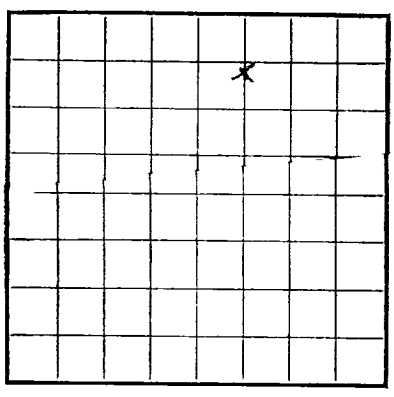
Form 9-330

U. S. LAND OFFICE Las Cruces
SERIAL NUMBER LC 02405 (b)
LEASE OR PERMIT TO PROSPECT



LOCATE WELL CORRECTLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Buffalo Oil Company Address 203 Carper Bldg., Artesia, N. M
Lessor or Tract Am Mitchell "B" Field Maljamar State New Mexico
Well No. 25 Sec. 17 T. 17 R. 31 Meridian NMPM County Lea
Location C.C. ft. {N./S.} of N. Line and 1.80 ft. {E./W.} of E. Line of Sec 17 Elevation 4047 DF
(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 Max L. Curry

Date May 1, 1956 Title Dist. Supt.

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

Commenced drilling Jan. 4, 1956 Finished drilling Jan 22, 1956

OIL OR GAS SANDS OR ZONES

(*Denote gas by G*)

No. 1, from 3636 to 3647 (Gas) No. 4, from 3902 to 3934 (Oil)
No. 2, from 3671 to 3706 (Gas) No. 5, from 3990 to 4012 (Oil)
No. 3, from 3734 to 3833 (Oil) 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
8 5/8	24#	8 rd		125'	Baker				
5 1/2	15.5#	8 rd		4122	Baker				

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8 5/8	137'	100 sax	HOWCO		
5 1/2	4122	750 sax	HOWCO		

MARK

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

DATES

March 1, 1956 Put to producing ....., 19.....

The production for the first 24 hours was 200 barrels of fluid of which 100% 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

W. C. Neltherutt, Driller A. E. Sullivan, Driller
Geo. C. McDaniel, Driller ....., Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	793	793	Sd. and sh.
793	2160	1367	Anhy and salt
2160	2477	317	Sd. sh. and anhy
2477	3098	621	Anhy. dolo. and sh.
3098	3505	407	Sd. sh. anhy. and dolo
3505	3869	364	Dolo. and sd.
3869	3983	114	Dolo.
3983	4010	27	Sd. and sh.
4010	4123	113	Dolo.

FOLD

FORMATION RECORD—Continued

FROM—	TO—	TOTAL FEET	FORMATION

16—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.

WELL HISTORY

CORED INTERVALS: The following intervals were cored with Hillmac 7 5/8" OD diamond core head and 78' rental core barrel. A Salt-starch gel mud was used with properties of 35 sec. viscosity and 12 cc/30 min. water loss.

Core No. 1	3580-3659'	Rec. 100%
Core No. 2	3659-3738'	Rec. 100%
Core No. 3	3738-3817'	Rec. 100%
Core No. 4	3817-3893'	Rec. 100%
Core No. 5	3893-3969'	Rec. 100%
Core No. 6	3969-4044'	Rec. 100%
Core No. 7	4044-4123'	Rec. 100%

COMPLETION DATA

Drilled out cement plug to 4103 (LW 4105). Ran Lane-Wells Neutron and Gamma Ray logs. Perforated with Lane-Wells "E" gun perforator, 4 shots/ft. as follows:

8th Zone	4012-4002', 3994-3990'.
7th Zone	3934-3902'.

Ran tubing and displaced water with crude oil, nipled up head and released rig at 8 o'clock PM, 1-25-56. Well shut in until 1-31-56, to move rig.

TREATMENT NO. 1: Perforations 4012-4002', 3994-3990', 3934-3902' (7th and 8th Zones) treated with 10,000 gals. Western Control-Frac with 1# sand/gal. Treating pressure 3800 psi. at 11.4 bpm. Treated down csg-tbg. annulus. SI 2000 psi. Shut in 18 hrs. CP 1000, TP 825. Opened up and pressure immediately went to zero, but kicked off shortly and flowed 429 BLO. Next day flowed 136 BLO/24 hrs. CP 230, TP zero, 3/4" choke. Next day flowed 71 BLO and 6 bbls. of new formation oil. CP 225, TP zero, 3/4" choke, next day flowed 58 bbls., CP 220.

Set Baker Model "N" magnesium BRIDGE PLUG at 3870'. The following perforations were made with Lane-Wells "E" gun perforator, 4 shots/ft.:

6th Zone: 3833-30', 3828-26', 3822-15', 3804-98'
3791-86', 3780-40', 3737-34'

TREATMENT NO. 2: 6th Zone perforations above treated with 10,000 gallons of Western Control-Frac, 1# sand/gal. down csg-tbg. annulus. Maximum casing pressure 2400 psi., 13 1/2 bbls/min. treatment. Flush injection rate 10.4 bpm. SI 1600 psi. 20 min. later SI 1300 psi. Tubing eventually went on vacuum. Swabbed off and well flowed 247 BLO/18 hrs., CP 260, TP 65, 3/4" choke, next day flowed 121 BLO, CP 220, TP 40. The following daily tests are shown below:

Fl. 81.5	BLO/24 hrs.	CP 200,	TP 50	3/4" choke
Fl. 66	BLO/24 hrs.	CP 200	TP 50	3/4" choke
Fl. 34	BLO/24 hrs. &			
11	BO /24 hrs.	CP 200	TP 40	3/4" choke
Fl. 50	BO	CP 200	TP 40	3/4" choke

Ran Worth-Well Delta Log and determined that fluid entry was from 3820-38' to as low as 3838'. Shut well in and after 48 hours, BHP was 571 psi. at 3800 psi. (6th zone only). Pulled tubing and ran Dowell Spinner Survey which showed that all fluid was coming below 3823'. Dowell then set Baker Model "N" magnesium Bridge Plug at 3810'. Ran 2 7/8" OD tubing with 2 3/8" x 5 1/2" packer and holddown and set packer above 6th zone perforations at 3707'. Cut paraffin and swabbed well dry with no fluid entry except a minute amount of gas (TSTM).

TREATMENT NO. 3: 6th Zone perforations 3791-86', 3780-40', 3737-40' were treated as follows:

30 gallons of Dowell Jelly seal were spotted with tubing on top of the bridge plug set at 3810', the tubing was raised to 3780' and excess Jelly-Seal was reversed out of hole. The packer was then set at 3707' and perforations 3780-40' and 3737-34' were treated with 10,000 gals. of Dowell Petro-Jel with 10,000# sand. Maximum CP 1500 psi. Maximum TP 4200 psi. which broke to 3200 psi. Injection rate of treatment, 8 bpm. at 3400 psi. overflushed with 100 bbls. lease crude. The well was shut in over night and tubing went on vacuum. The well was swabbed in and flowed as follows:

216 BLO	3/4" choke,	TP 65	
121 BLO	3/4" choke,	TP 60	
65 BLO and 45 BO	3/4" choke,	TP 60,	GOR 2430
107 BO	3/4" choke,	TP 50,	GOR 3700

Set Baker Model "N" magnesium BRIDGE PLUG at 3724'. Perforated 5th zone with Lane-Wells "E" gun perforator, 4 shots/ft. as follows:

3700-3693'; 3684-71'; 3647-38'.

Ran Lane-Wells BOCL packer on 2 7/8" OD tubing with HOWCO holddown, packer set at 3605'. Swabbed 16 BO/14 hrs., natural. Well swabbed dry. Left well open overnight, then swabbed 1.38 bbls. clean oil and well swabbed dry with very little gas showing.

TREATMENT NO. 4: Fraced with 6000 gal. Dowell Petro-Jel with sand at 1#/gal. Broke formation down with lease crude then started frac treatment. Max. injection 8.2 bpm. at 3800 psi. Max. CP 1500 psi., screen out after 8 bbls. flush in tubing, leaving 12 bbls. sand in tubing. Attempted to reverse out, but could not circulate. Pulled packer and tubing and found top of sand at 3838'. C.O. to 3638' with sand pump. Moved in Booker reverse circulating head and C. O. to top of plug set at 3724'; raised tubing to 3662'. Cut paraffin and swabbed 58 BLO/8 hrs. Casing pressure increased to 100 psi. and well head started leaking. Killed well and repaired casing head. Next day swabbed 58 BO then well kicked off and flowed 25 BLO for 83 BLO/24 hrs. Next day flowed 22 BLO on 3/4" choke, TP 40, with GOR 19,000. 6 BLO yet to be recovered at above test. 5th zone is apparently a gas zone.

Rigged up reverse circulation unit and DRILLED OUT magnesium BRIDGE PLUGS at 3724, 3810, and 3870'. Cleaned out to PBTD 4101', packer set at 3711'. Seating nipple at 3893'. Swabbed load oil and well flowed 49 bbls. new formation oil. Shut down, installed pilot head. Well flowed 25 bbls. on 5-32 min. flows and died. Kicked off and the following test was taken without intermitter, after 276 bbls. of new oil had been recovered above load oil.

INITIAL POTENTIAL TEST: Fl. 200 BO/22 hrs. on 16/64" choke, TP 170 psi. GOR 462. This test was produced from the 6th, 7th and 8th zones of the Maljamar Pool.

This well was first assigned a temporary allowable of 30 BOPD on March 1, 1956. The permanent allowable, as a result of the above test, of 44 BOPD becomes effective May 1, 1956.