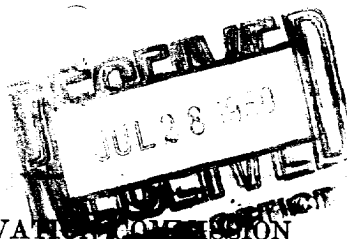


DUPLICATE

FORM C-105



NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

Grid for locating well. AREA 640 ACRES. LOCATE WELL CORRECTLY.

WELL RECORD

Mail to Oil Conservation Commission, Santa Fe, New Mexico, or its proper agent not more than twenty days after completion of well. Follow instructions in the Rules and Regulations of the Commission. Indicate questionable data by following it with (?). SUBMIT IN TRIPLICATE. FORM C-110 WILL NOT BE APPROVED UNTIL FORM C-105 IS PROPERLY FILLED OUT.

Buffalo Oil Company, Artesia, N. Mex.  
Wm. Mitchell B, Well No. 22-P in NW 1/4 Sec. 20, T. 17S  
R. 32E, N. M. P. M. Maljamar Paddock Field, Lea County.  
Well is 3300 feet south of the North line and 4820 feet west of the East line of Sec. 20.  
If State land the oil and gas lease is No. Assignment No.  
If patented land the owner is. Address.  
If Government land the permittee is Wm. Mitchell. Address.  
The Lessee is Buffalo Oil Company. Address Dallas, Texas.  
Drilling commenced May 25, 1950. Drilling was completed July 8, 1950.  
Name of drilling contractor Clay & Gackle. Address Hobbs, New Mex.  
Elevation above sea level at top of casing 3960 DF feet.  
The information given is to be kept confidential until 19.

OIL SANDS OR ZONES

No. 1, from 5253 to 5255 No. 4, from to  
No. 2, from 5278 to 5298 No. 5, from to  
No. 3, from to 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 5304 to 5308 feet.  
No. 2, from to feet.  
No. 3, from to feet.  
No. 4, from to feet.

CASING RECORD

SIZE	WEIGHT PER FOOT	THREADS PER INCH	MAKE	AMOUNT	KIND OF SHOE	OUT & FILLED FROM	PERFORATED		PURPOSE
							FROM	TO	
13-3/8" OD	48#	8 rd		64'	guide				Surface
8-5/8" OD	24#	8 rd	J-55	541					
"	28#	"	H-40	1970	Float				Intermediate
5-1/2" OD	15.5#	8 rd	J-55	5373	Float		5278	5294	Oil string

MUDDING AND CEMENTING RECORD

SIZE OF HOLE	SIZE OF CASING	WHERE SET	NO. SACKS OF CEMENT	METHODS USED	MUD GRAVITY	AMOUNT OF MUD USED
17"	13-3/8"	80'	60	ex Pump		
11"	8-5/8"	2510'	1445	"		
7-7/8"	5 1/2"	5387	600 (2 3/4 gal)	Pump		

PLUGS AND ADAPTERS

Heaving plug—Material. Length. Depth Set.  
Adapters — Material. Size.

RECORD OF SHOOTING OR CHEMICAL TREATMENT

SIZE	SHELL USED	EXPLOSIVE OR CHEMICAL USED	QUANTITY	DATE	DEPTH SHOT OR TREATED	DEPTH CLEANED OUT
		Acid	300 gal	7/16/50	5304-08	
		Acid	1500 gal	7/22/50	5278-94	

Results of shooting or chemical treatment.

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 5442 feet, and from feet to feet.  
Cable tools were used from feet to feet, and from feet to feet.

PRODUCTION

Put to producing July 23, 1950.  
The production of the first 24 hours was 110 barrels of fluid of which 98% was oil; 2% emulsion; % water; and % sediment. Gravity, Be. 37.4°  
If gas well, cu. ft. per 24 hours. Gallons gasoline per 1,000 cu. ft. of gas.  
Rock pressure, lbs. per sq. in.

EMPLOYEES

C. L. Edwards, Driller Roy Solomon, Driller  
J. P. Buchanan, Driller

FORMATION RECORD ON OTHER SIDE

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.

Subscribed and sworn to before me this 27th day of July, 1950. Artesia, New Mexico July 27, 1950  
Name: J. J. Lewis  
Position: Vice President

# FORMATION RECORD

FROM	TO	THICKNESS IN FEET	FORMATION
DST #1	4248-66'	tool open 6 hrs. 15 min.	Fair blow. Recovered 5' free oil plus 35' oil and gas cut mud plus 135' salt water. Final flow pressure 110 psi.
DST #2	5215-72'	tool open 4 1/2 hrs.	Gas to the surface in 35 min. Good blow Unloaded with 1030' drill pipe left in hole. Recovered 180' clean oil plus 360' oil and gas cut mud plus 480' salty sulfur water. F.P. 175#, 30 min. SIP 1200 psi.
DST #3	5250-72'	Tool open 3 hrs.	gas to surface in 25 min. Good blow. Gas tested 11,800 cu. ft. per day. Recovered 157' free oil. F.P. 110#, 15 min. SIP 1000#.
DST #4	5273-5305'	Tool open 5 hrs. 45 min.	Gas to surface in 4 min. Oil to surface in 2 hrs. 10 min. Flowed 2-3/4 bbls. oil per hr. Recovered 60' mud plus 60' black sulfur water below circulating tool. Maximum flow pressure 450 psi. 15 min. SIP 1700 psi. Well died twice during flow test.
DST #5	5300-20'	Tool open 4 hrs.	gas to surface in 6 min. Strong blow. Pipe unloaded with 1643' pipe left in hole. Recovered 1330' free oil plus 310' salty sulfur water. Water tested 121,000 ppm. cl.
DST #6	5314-20'	Packer failed on first attempt. Reset and left tool open 1 hr.	Slight blow, died after 30 min. When tool was reopened packer again failed. Recovered 220' very slightly oil and gas cut mud plus 90' sulfur water.
DST #7	5312-47'	Tool open 4 hrs.	Gas to surface in 2 hrs. Good Blow. Recovered 154' oil and gas cut mud plus 744' sulfur water. Maximum flow pressure 440 psi. 15 min. SIP 1130 psi.
DST #8	5429-42'	Tool open 4 hrs.	Weak blow. Recovered 200' oil and gas cut mud plus 30' sulfur water. Maximum flowing pressure 130 psi. 15 min SIP 460 psi.

## CORES WITH 4-3/4" OD DIAMOND BIT

CORE #1 -	5220-46'	Recovered 25' 8" sand and shaley sand with streaks of dolomite.
CORE #2 -	5346-71'	Recovered 25.7' sand and shaley dolomite. 3' of good stain and porosity at 5253-56'.
CORE #3 -	5222-94'	Recovered 21'. Last 12' good porosity and stain. Corrected TD from 5294 to 5292'
CORE #4 -	5292-5305'	Recovered 13' dolomite top 6' showing good porosity and stain. Last foot also good.
CORE #5 -	5305-20'	Recovered 15' porous and stained dolomite.
CORE #6 -	5322-5347'	Recovered 23.8' stained dolomite.
CORE #7 -	5395-5420'	Recovered 25' porous wet dolomite.
CORE #8 -	5420-42'	Recovered 22' porous dolomite and sand. Showing water.

## FORMATION RECORD

FROM	TO	TOTAL FT	FORMATION
0	80	80	Surface sand and caliche
80	875	795	Red Bed
875	1126	251	Red Bed and salt
1126	1983	857	Anhydrite and salt
1983	3239	1256	Anhydrite
3239	3391	152	Anhydrite and Lime
3391	4520	1129	Lime
4520	4613	93	Lime and Chert
4613	5226	613	Lime
5226	5442	216	Lime and shaley sand

## WELL HISTORY

After reaching TD of 5442', 5 1/2" casing was cemented at 5387' and cement plug was drilled out to 5337'. Casing was perforated from 5304-07' with the jet shot using 6 shots per foot, and hole was swabbed dry. An attempt was made to acidize with 300 gallons but very little acid could be pumped in. This was swabbed and only a slight show of oil and gas was recovered. Casing was then reperfdrated from 5304-08' with 1/2" bullets, using 8 shots per foot. Hole was swabbed dry. A second attempt to acidize was unsuccessful at a maximum pressure of 2850 psi. The hole was swabbed for 24 hours and considerable BS was removed. Hole then took 300 gallons of acid at a maximum pressure of 2200 psi, which broke to 1850 psi. Injection rate started at 12 gallons per minute and finished at 20 gallons per minute. After swabbing of oil and acid load, swabbed 54 bbls. oil plus 10% BS & W in 6 hours. Water steadily increased to 98% salt water. A hookwall packer was then set below perforations to test cement plug in casing, but bullets in casing tore up packer. A casing scraper was run to bottom and a retrievable retainer was set at 5316'. Plug below was tested with 2800 psi and pressure held. Retainer was raised to 5246' and perforations were squeezed with 50 sacks of cement at a maximum pressure of 4400 psi. Perforations took 27 sacks. Cement was drilled out to 5298'. Casing was then perforated from 5278-94' with jet gun using 8 shots per foot. Hole was swabbed dry and swabbing continued for 30 hours, recovering considerable BS. Perforations were then acidized with 1500 gallons 15% acid. Acid started in at 4 gallons per minute and 2200 psi and at the end of treatment was going in at 16 gallons per minute and 2000 psi. Load was recovered and well started flowing. Next day, July 23, 1950, the well flowed 110 bbls. of oil in 24 hours with a gas-oil ratio of approximately 1400 cu. ft. per bbl. Casing pressure 490 psi. Well was completed July 23, 1950.