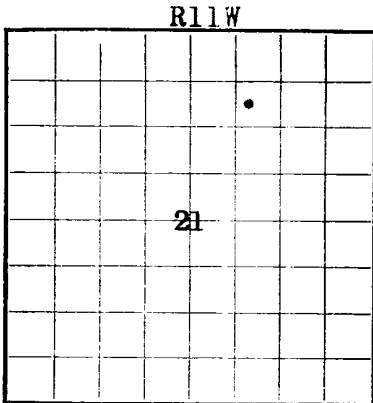




T27N

UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

U. S. LAND OFFICE Santa Fe
SERIAL NUMBER SF 078872A
LEASE OR PERMIT TO PROSPECT

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

4040 East Louisiana Ave.

Company The Frontier Refining Co. Address Denver 22, ColoradoLessor or Tract Bolack Field Basin Dakota State New MexicoWell No. 3-D Sec. 21 T. 27N R. 11W Meridian N.M.P.M. County San JuanLocation 990 ft. S. of N. Line and 1850 ft. W. of E. Line of Section 21 Elevation 6330' (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 S. MorrisonDate March 1, 1961 Title Petroleum Engineer

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

Commenced drilling December 17, 1960 Finished drilling December 31, 1960

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from (G) 6512 to 6580 No. 4, from _____ to _____

No. 2, from _____ to _____ No. 5, from _____ to _____

No. 3, from _____ to _____ 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		Purpose
							From—	To—	
8 5/8"	24.0	8RD	Spang	192'	None	—	—	—	Surface
4 1/2"	11.6	8RD	CF&I	6625	Larkin	—	6515	6574	Oil String
2 3/8"	4.70	8RD	CF&I	6491	None	—	—	—	Prod. String

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8 5/8"	204	200	Pump	Water	Water
4 1/2"	6636	275	Pump	9.5#/gal	—

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 _____ feet, and from _____ feet to _____ feet

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

DATES

Put to producing January 24, 1961The production for the first 24 hours was 31.67 barrels of fluid of which 100% was oil; 0%emulsion; 0% water; and 0% sediment. Gravity, 57.8° APIIf gas well, cu. ft. per 24 hours 2,863,000 Gallons gasoline per 1,000 cu. ft. of gasRock pressure, lbs. per sq. in. 2100 psi 31 Note: 32/64 choke

500 psi back pressure

1.32 bbl. distillate/hour

F. C. Seale

FORMATION RECORD

FROM	TO	TOTAL FEET	FORMATION
—	—	—	From the Schlumberger Induction
—	—	—	Electrical Log
—	—	—	Kirtland 975'
—	—	—	Pictured Cliffs 1720'
—	—	—	Chacra 1940'
—	—	—	Chacra 2848'
—	—	—	Chacra 4310'
—	—	—	Chacra 4687'
—	—	—	Gallup 5540'
—	—	—	Huerfano 5905'
—	—	—	Sanastee 6048'
—	—	—	Greenhorn 6396'
—	—	—	Graneros Sh. 6458'
—	—	—	1st Graneros S.S. 6483'
—	—	—	2nd Graneros S.S. 6510'
—	—	—	Dakota "A" 6555'
—	—	—	Total Depth 6640'
—	—	—	P.B.T.D. 6602'

[OVER]

16-48094-4

FORMATION RECORD—Continued

FROM—	TO—	TOTAL FEET	FORMATION
			Spudded 12-17-60. Drilled 12 1/4" hole to 228' and set 8 5/8" casing @204 w/200 sacks cement, 2% calcium chloride added. Cement circulated. Drilled 7 3/8" hole to 4257' and 6 3/4" hole from 4257' to total depth @ 6640', 12-31-60. Cored from 6545' to 6605'. Set 4 1/2" casing @ 6636' w/baffle collar @ 6603' and Halliburton 6 3/4" cement. @ 2177'. Cemented 1st stage w/300 sacks 50/50 Posmix cement, 48 sacks gel added. Cemented 2nd stage w/75 sacks regular cement, 48 sacks added, 1-2-61. Moved completion rig on location 1-4-61. Drilled DV tool and tested 4 1/2" casing @ 4000 psi, OK. > INSERT SEE BELOW Perforated: 6512' - 6524' w/4 jets per foot. Treated with 6,000 gallons of lows of water, no sand, then treated with 4,000 gallons of water 2,000 pounds 20/40 sand. Screened out. Cleaned out to top of bridge plug @ 6548'. Sand-drilled @ 6515'. Treated w/20,000 gallons of water, 5,000 pounds 20/40 sand. Drilled bridge plug @ 6548', cleaned out to plugged-back total depth @ 6602', and landed 2" EUE tubing @ 6601'. Kicked well off, blew to clean up, and shut-in for hook-up the Schlumberger Induction Tested 1-25-61 through 32/64" choke @ 500 psi. back pressure to simulate deliverability. Shut-in casing pressure: 2100 psi. Shut-in tubing pressure: 2100 psi. Recovery gauged 2863 MCF gas/day (uncorrected pilot tube measurement), and stabilized flowing casing and tubing pressure at the end of the 24-hour test were 1,100 psi. and 900 psi. respectively. Oil produced during the test was 31.67 barrels @ 600 psi. and water was estimated at 31.67 barrels per day. No gas Shut-in, FPC approval of gas sales contract has been received. Waiting on pipe line connection. Note: Two copies each of Schlumberger Induction-Electrical Log and Sonic Log, core analysis, and temperature surveys are attached. Insert: Perforated: 6558' - 6574' w/one slot-jet per foot. Treated w/40,000 gallons of water, 20,000 pounds 20/40 sand. Set bridge plug at 6548'.

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of reworking 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 burning.

HISTORY OF OIL OR GAS WELL

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Oil or Gas Wells or Formations
December 31, 1960
Petroleum Engineer

Black
The Frontier Refining Co.
4040 Cass Louisiana Ave.
New Orleans, Louisiana 70112