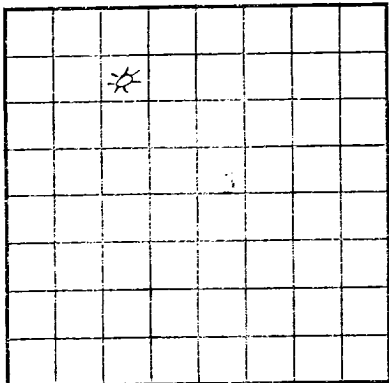


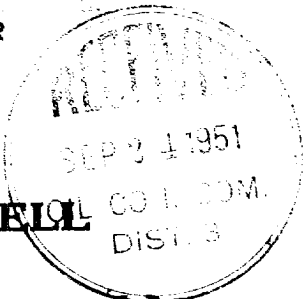


LOCATE WELL CORRECTLY

U. S. LAND OFFICE
SERIAL NUMBER 000382-1
LEASE OR PERMIT TO PROSPECT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL



Company The Frontier Refining Company Address 110 Boston St., Denver, Colo.
Lessor or Tract Charlottesville-Government Field Santa Canyon State New Mexico
Well No. 1 Sec. 5 T. 27N R. 11E Meridian 11E County San Juan
Location 390 ft. N. of R. Line and 1650 ft. E. of R. Line of Section 5 Elevation 6077' MSL (Derrick floor relative to sea level) 6000'

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 Norman S. Dalbreith

Date October 10, 1951 Title Norman S. Dalbreith, Geologist

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

Commenced drilling May 16, 1951 Finished drilling June 13, 1951

OIL OR GAS SANDS OR ZONES
(Denote gas by G)

No. 1, from 1040 to 1042 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—	
5 1/8"	10.5	4 1/2	Red	79'					Production
3 1/2"	14.15	5 1/2		120'					Production
1"	1.7	3 1/2		120'					Production

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
5 1/8"	107'	7 1/2 sacks	dry		
3 1/2"	145'	1 1/2 sacks	dry		

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
		110# dynamite	200 lbs	6/12/51	1040'	
		110# dynamite	200 lbs	6/12/51	1450'	

TOOLS USED

Rotary tools were used from _____ feet to 1751' feet, and from _____ feet to _____ feet
Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

Commenced 6/12/51, 1951 Put to producing that day, 1951

The production for the first 24 hours was _____ barrels of fluid of which _____ % was oil; _____ % emulsion; _____ % water; and _____ % sediment. Gravity, 36°

Gas well, cu. ft. per 24 hours 2300,000 Gallons gasoline per 1,000 cu. ft. of gas _____
Well pressure, lbs. per sq. in. 1450

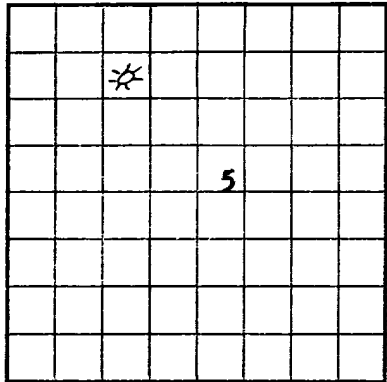
EMPLOYEES

Arvid Millin, Driller _____, Driller
English Millin, Driller _____, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	67	67	sand and shale. Top of sand at 67'. Corrosion—none at surface.
67	70	33	sand. To 70' shale.
70	1750 (1)	680	sand shale. To 1750' shale.
1750	1751	1	sand & shale with trace coal. Top of 1751' cliff formation and 1751' cliff formation at 1751'.
1751	1751		sand with shale streaks.

Form 9-330

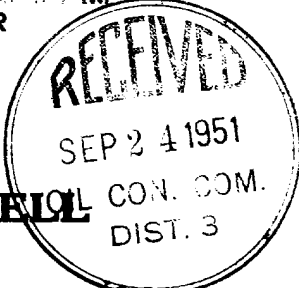


LOCATE WELL CORRECTLY

U. S. LAND OFFICE SANTA FE
SERIAL NUMBER 080382-A
LEASE OR PERMIT TO PROSPECT _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Schwerdtfeger #1
C 31 11 15



LOG OF OIL OR GAS WELL

Company The Frontier Refining Company Address 110 Boston Bldg., Denver, Colo.
Lessor or Tract Schwerdtfeger-Government Field W. Kutz Canyon State New Mexico
Well No. 1 Sec. 5 T. 27N. R. 11W Meridian N.M.P.M. County San Juan
Location 990 ft. {N. of N. Line and 1650 ft. {E. of W. Line of Section 5 Elevation 6077' KB 6068' Grd.
(Derrick floor relative to land level) CC

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 Herbert S. Calbraith

Date September 19, 1951 Title Herbert S. Calbraith, Geologist

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

Commenced drilling May 26, 19 51 Finished drilling June 13, 19 51

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 1840 to 1912 G 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—	
<u>9-5/8"</u>	<u>12.6</u>	<u>8</u>	<u>Ord</u>	<u>1933'</u>	<u>plug</u>	<u>1840'</u>			<u>Surface</u>
<u>5 1/2"</u>	<u>12.15</u>	<u>8</u>	<u>Ord</u>	<u>1933'</u>	<u>plug</u>	<u>1840'</u>			<u>Production</u>
<u>1"</u>	<u>1.7</u>	<u>8</u>	<u>Ord</u>	<u>1933'</u>	<u>plug</u>	<u>1840'</u>			<u>Siphon</u>

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
<u>9-5/8"</u>	<u>107' KB</u>	<u>75 sacks</u>	<u>plug</u>	<u>-</u>	<u>-</u>
<u>5-1/2"</u>	<u>1845' KB</u>	<u>150 sacks</u>	<u>plug</u>	<u>-</u>	<u>-</u>

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
<u>-</u>	<u>-</u>	<u>Ballist Nitro</u>	<u>100 lbs</u>	<u>6/21/51</u>	<u>1891-1912'</u>	<u>-</u>
<u>1 x 20</u>	<u>2</u>	<u>Ballist Nitro</u>	<u>60 "</u>	<u>6/21/51</u>	<u>1864-1891'</u>	<u>1915'</u>
<u>1 x 25</u>	<u>1</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>

TOOLS USED

Rotary tools were used from 0 feet to 1951' feet, and from _____ feet to _____ feet
Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

Completed 6/21, 19 51 Put to producing Shut in, 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 2180,000 Gallons gasoline per 1,000 cu. ft. of gas _____

Rock pressure, lbs. per sq. in. 4650

EMPLOYEES

Carden Drilling Company, Driller _____, Driller
English Drilling Company, Driller _____, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
<u>0</u>	<u>697</u>	<u>697</u>	<u>Sand and shale. Top Ojo Alamo at 697'. Torrehon-luerco at surface.</u>
<u>697</u>	<u>790</u>	<u>93</u>	<u>Sand. Top Kirtland shale at 790'.</u>
<u>790</u>	<u>1450 (?)</u>	<u>660</u>	<u>Sand & shale. Top Fruitland shale at 1450' (?)</u>
<u>1450</u>	<u>1838</u>	<u>388</u>	<u>Sand & shale with trace coal. Top Pictured Cliffs formation and Pictured Cliffs sandstone at 1838'.</u>
<u>1838</u>	<u>1951</u>		<u>Sand with shale breaks.</u>
	<u>1951 to</u>		
FROM—	TO—	TOTAL FEET	FORMATION

(over)

FORMATION RECORD—Continued

FORMATION RECORD—Continued

[illegible]

HISTORY OF OIL OR GAS WELL

16-48094-1 U. S. GOVERNMENT PRINTING OFFICE

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. Plugs or bridges were put in the well for the purpose of stopping the kind of material used, position, and results of pumping or bailing.

6/12/51 Ran 3 joints (99') of 9-5/8", Brd. thd., 40#/ft. casing and cemented to surface with 75 sacks. Tested casing with 300# pressure for 30 minutes with no drop in pressure. Tested after drilling plug with 300# pressure for 30 minutes. Drilling under 300# face.

6/13/51 Drilled to 1951' KB TD. Drilling completed.

6/14/51 Ran electric log from 107-1951'. Top Pictured Cliff's formation at 1838'. Ran 1840' of 5 1/2" OD, Brd. thd., 14, 15, and 17#/ft. casing set at 1845' KB and cemented with 250 sacks of regular cement. Plug down at 2:55 P.M.

6/19/51 Moved off rotary tools.

6/20/51 Moved in cable tools.

6/20/51 Drilled thru plug and baled hole dry down to casing shoe. Hole stood dry for 30 minutes.

6/21/51 Dumped 330 quarts of jellied nitro from 1831-1943' CC and ran 2 shells 4x20 and 1 shell 4x25 or 65 quarts of liquid nitro from 1864-1891' CC. Total of 395 quarts ran from 1831-1943' CC. Used 23 hour time bomb. Filled hole to 1860' CC with pea gravel. Dumped 8 sacks of Cal Seal from 1823-1860' CC.

6/23/51 Cleaned out to 1945' after shot. Ran 1935' of 1" siphon line and completed as a short in gas well. Gauged 2180 MC/D at 45% SEP.

20 JUL 82 GUN PG DOWNSHED FROM UP STAIRS TO LEGOLDS

The information given hereafter is a complete and correct record of the men and all work done thereon

Location of $\left\{ \begin{smallmatrix} S \\ N \end{smallmatrix} \right\}$ of Line and of $\left\{ \begin{smallmatrix} M \\ E \end{smallmatrix} \right\}$ of Line of Elevation

Ref. No. Sec. T. R. B. Meridian Contd.

Position of Atlas Elevation

Company Address

ГОСУДАРСТВЕННЫЙ СОВЕТ НА

A 10x10 grid with a small 'x' mark in the bottom-left cell.

LOC OF OIL OR GAS WELL

GEOLOGICAL ZONING

DEPARTMENT OF THE INTERIOR
UNITED STATES

LEVER OF DUBELL TO PROSECUTOR IN
QUESTIVE MEMBER OF CONGRESS AND
RECEIVED OFFICE OF THE ATTORNEY