Form 9-330

Budget Bureau No. 42-R-355.3.
Approval expires 12-31-55.

U. S. LAND OFFICE Navajo

SERIAL NUMBER

LEASE OR PERMIT TO PROSPECT
Lease #I-149-IND-8113
Chaco Unit #14-08-001-2026

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOCATE WELL CORRECTLY

LOG OF OIL OR GAS WELL

Company Great Western Drilling Company Address 211½ West Main, Farmington, N. M.

Lessor or Tract Chaco Unit Field Wildcat State New Mexico

Well No. 1 Sec. 14 T. 23N R. 9W Meridian County San Juan

Location 1450 ft. [N/S] of N Line and 1660 ft. [E/W] of W Line of Sec. 14 Elevation 6721 Gr.
(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 L. E. Williford

Date October 6, 1955 Title Division Geologist

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

Commenced drilling March 10, 1955, 19 Finished drilling April 1, 1955

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 4652 to 4770 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 5537 to 5822 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
10-3/4	32.75	8	J & L	194	T-Pattern	----	---	---	Surface
5-1/2	15.5	8	CF & I	Float	Guide	----	---	---	Production

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
10-3/4	206	200	Pump	Water	
5-1/2	4619	275	Pump	9.1	

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
3-1/2	4" (107')	100% SNG	270	4-16-55	4663 to 4770	4770

TOOLS USED

Rotary tools were used from 0 feet to 5830 feet, and from feet to feet

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

DATES

October 6, 1955 Put to producing May 17, 1955

The production for the first 24 hours was 12 barrels of fluid of which 96 % was oil; % emulsion; 4 % water; and trace % sediment.

Gravity, °Bé. 37

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
TOPS:			
1090			Pictured Cliffs
1453			Mesa Verde
2524			Cliff House
2621			Menefee
3532			Point Lookout
3650			Mancos
4630			Tocito
5145			Sanastee
5440			Green Horn
5501			Graneros
5537			Dakota
5828			Morrison
5830	T. D.		

FOLD | MARK

[OVER]

16—43094-3

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.

HISTORY OF OIL OR GAS WELL

The Chase Unit #1 was spudded March 10, 1955 and 10-3/4" casing was set @ 206' with 200 sacks.

The well was drilled to 5830' with a 9" bit with tests, coring, etc. as follows:

March 15, 1955 - Ran Schlumberger to 3800'.

Core #1: 4560-5612. Rec. 52' dark gray shale with calcareous streaks.

Core #2: 4652-4705. Rec. 53' shaley sand and shale - saturated.

Core #3: 4705-4757. Rec. 53' shaley sand and shale - saturated.

D. S. T. #1: 4641-4757. Open 1½ hours, weak blow air immediately, died 26 minutes. Recovered 145' drilling mud. No show. Flow Pressure - 0, Shut-in - 0 in 30 minutes, Hydrostatic - 2325. 3-22-55 - Tocito Formation.

Core #4: 4757-4807. Rec. 50' sand with shale partings. Top 12' saturated.

Core #5: 4807-4619. Rec. 12' sandstone with shale partings. No show.

D. S. T. #2 and 3: Failed. 3-24-55 and 3-25-55

D. S. T. #4: 4756-4819. Open 1 hour, very weak blow air immediately, decreased and died in 14 minutes. Recovered 5' very slightly oil cut mud. Flow Pressure - 0, Shut-In - 0 in 30 minutes. Hydrostatic - 4050. 3-26-55. Tocito Formation.

Average Oil Saturation - 19.0%
Average Water Saturation - 49.0%
Average Porosity - 13.0 %
Average Permeability - 0

D. S. T. #5: 5524-5830. Open 1 hour, strong blow air immediately, decreased in 35 minutes to weak and remained weak. Recovered 4006' fluid; top 240' mud, 3766' water. Flow Pressure - 380-1960. Shut-In - 2400 in 30 minutes. Hydrostatic - 2960. 4-2-55. Dakota Formation.

The well was plugged back and casing run as follows:

April 2, 1955 - 170 sacks from 5830' to 5450'.
90 sacks from 4950' to 4750.
April 4, 1955 - Plug dressed down to 4770' R. M.
April 5, 1955 - 4609' - 5-1/2" - 15.5# J-55 casing set @ 4619' with 275 sacks.
April 7, 1955 - Drilled shoe and displaced mud with water.

Thr rotary rig was released and a cable tool rig was moved in April 13, 1955 and the well treated as follows:

The hole was swabbed and bailed dry and in a three hour test no fluid was recovered. No oil was recovered by bailing or swabbing.

The well was shot with 270 quarts SNG from 4760' to 4653' (Or.) with a 14' gravel tamp April 16, 1955. The hole was not loaded. The shot collapsed the bottom joint of casing.

The bottom joint of casing was drilled up or out and the hole cleaned out to 4760' with a sand pump. There was a show of oil but production could not be determined using the sand pump. The open hole sluffed and bridged frequently.

500 gallons of mud acid was dumped in the well May 2, 1955 and the casing was swabbed. Five or six barrels of oil was recovered and and the acid water was pumped out with the sand pump. Another 500 gallons of mud acid was dumped in the well May 3, 1955 and this treatment seemed to "block" the formation. Acid water and only a trace of oil were recovered by swabbing and pumping.

The water was pumped down using the sand pump and the well showed signs of making water. While running the pump the hole bridged at 4725' and did not show any water above the bridge.

The well was sand-frac'ed down the casing with the bridge at 4725' May 4, 1955 with 476 barrels of crude and 33,000# of sand. Total fluid used was 906 barrels. Break-down pressure was 1900 psi, average injection 28 barrels per minute @ 1650 psi, shut-down pressure 1000 psi, 780 psi on well after 16 hours. Well flowed back 164 barrels in 12 hours and died.

The rig was released May 11, 1955 after 679 barrels of fluid had been recovered. The well was swabbing four barrels per hour through 2" tubing.

The well was put on pump May 17, 1955 and the load oil was recovered May 23, 1955. The well was pumping three barrels per hour with a G. O. R. of 1100 to 1 at this time.

The production declined to 30 barrels per day by June 6 and to 18 barrels per day by July 6, 1955.

A reverse circulation rig was moved on the well July 8, 1955 and the hole was cleaned out from 4712' to 4760' using oil. The formation took oil while cleaning out and 701 barrels were put in the well to clean out to bottom. The hole sluffed and bridged several times. A sand pump was also used.

The well was put to pumping again July 27, 1955and the load oil had been recovered by August 7, 1955.

Cleaning the well out did not increase the production any and the production was down to about 16 barrels September 1, 1955 and by October 1, 1955 was down to 12 barrels per day with 3% water and a G. O. R. of 275 cubic feet per barrel.