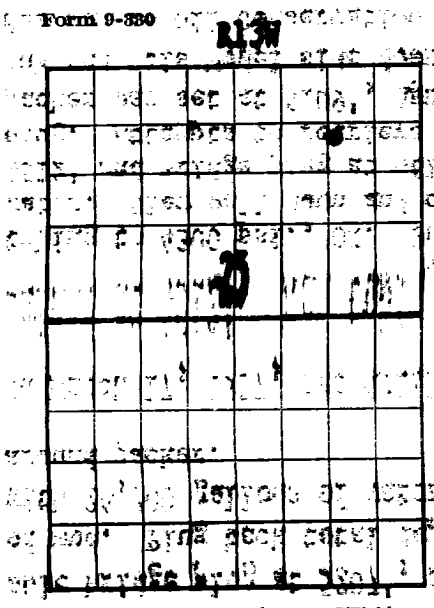
Budget Bureau No. 42-R355.1.
Approval expires 11-30-49.

Form 9-330



U.S. LAND OFFICE Santa Fe
SERIAL NUMBER 078484
LEASE OR PERMIT TO PROSPECT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company The Hoel Drilling Co. Address 1018 Patterson Bldg., Denver, Colo.
Lessor or Tract Government-Cain Field Hilltop State or Territory New Mexico
Well No. F Sec. 25 T. 31N R. 13W Meridian N.M.P.M. County San Juan
Location 1095 ft. {S.} of N Line and 1075 ft. {W.} of E Line of Section 25 Elevation 5829' (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 [signature]
Date June 21, 1957 Title Secretary-Treasurer

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

Commenced drilling December 3, 19 56 Finished drilling January 21, 1957

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

* Mesa Verde
** Dakota

No. 1, from C 4460 to 4760 * No. 4, from ____ to ____
No. 2, from C 6676 to 6810 ** 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 From—	Perforated To—	Purpose
10-3/4"	32.75	8	Republic	138	None	None	--	--	Surface
7"	20.0	8	CF&I	4368	Baker	None	--	--	Intermediate
*4-1/2"	11.0	8	CF&I	2474	Baker	None	6676	6708	Dakota
							4488	4756	Mesa Verde

*4-1/2" Liner from 4258' to 6472'

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
10-3/4"	152	70	Pump & Plug	Water	Hole Full
7"	4378	150	Pump & Plug	Water	Hole Full
4-1/2"	6742	275	Pump & Plug	Water	Hole Full

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DIST. 3

FOLD | 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
40,778 Gals.		Fractured	Perforations:		6676-6708	2-3-57
108,000 Gals.		Fractured	Perforations:		4488-4756	2-7-57
26,700 Gals.		Fractured	Perforations:		4648-4756	3-16-57
100,000 Lbs.		Fractured	Perforations:		4488-4618	3-17-57

TOOLS USED

Rotary tools were used from 0 feet to 6750 (TD) feet, and from ____ feet to ____ feet
Cable tools were used from ____ feet to ____ feet, and from ____ feet to ____ feet

DATES

____, 19____ Put to producing ____, 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 ____ Gallons gasoline per 1,000 cu. ft. of gas ____

Rock pressure, lbs. per sq. in. Calc. 2070 psi. (Dakota)
Calc. 1052 psi (Mesa Verde)

EMPLOYEES

____, Driller Roy Heatherington, Driller
____, Driller John Heatherington, Tool Pusher

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	315		Surface Sand and Shale
315	2124		Kirtland Shale
2124	2316		Pictured Cliff
2316	3690		Lewis Shale
4460	4760		Mesa Verde
4760	6676		Mancos Shale
6676	6810		Dakota Sand
6810	6900 TD*		Morrison Shale

* Plug back Total Depth! 6742. Original hole was lost. Plugged back and whipstocked at 5880'. New hole was drilled to total depth at 6750'. A 4-1/2" liner was run from 4258' to 6742'.

Perforations (Dakota): 6676' - 6688'; 6692' - 6708'; 6711' - 6719'
Perforations (Mesa Verde): 4488' - 4492'; 4496' - 4510'; 4516' - 4536'; 4542' - 4552
4584' - 4588'; 4595' - 4599'; 4610' - 4613'; 4624' - 4629
4636' - 4640'; 4656' - 4670'; 4682' - 4685'; 4700' - 4704
4724' - 4730'; 4750' - 4756'.

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

Spudded: December 3, 1956. Set 10-3/4" surface casing at 152' with 70 sacks of cement. Set 7" intermediate string at 4378' with 150 sacks of cement. Drilled to total depth of 6905', January 3, 1957. Ran Gamma-Neutron log and shut down to wait on casing. Ran in with drill pipe to condition hole to run casing, January 5, 1957; stuck drill pipe. Backed off drill pipe at 6240'. Attempted to wash over fish and lost one joint of washover pipe in hole. Could not recover fish or washover pipe. Plugged back January 10, 1957, with 100 sacks of cement from 6240' to 5855'.

Drilled cement and set whipstock at 5890'. Drilled whipstock hole to new total depth at 6750', January 21, 1957. Set 4-1/2" liner from 4258' to 6742' with 275 sacks of cement, January 22, 1957. Temperature Survey showed top of cement behind 4-1/2" liner at 4430'. Perforated liner from 4415' to 4416' with 4 holes, set squeeze tool at 4315' and squeezed with 50 sacks of cement, January 24, 1957. Squeeze failed. Drilled out cement and squeeze tool. Set new squeeze tool at 4349' and squeezed with 100 sacks of cement at 2500 psi. Drilled cement and squeeze tool, loaded hole with water and tested with 2500 psi. for 30 minutes -- no pressure drop February 2, 1957.

Perforated Dakota: 6676'-6688', 6692'-6708' and 6711' - 6719' with 4 jets per foot and treated with 40,778 gallons of water, February 3, 1957. Cleaned up Dakota; set bridge plug at 5000' and perforated Mesa Verde: 4488' - 4492'; 4496' - 4510'; 4516' - 4536'; 4542' - 4552'; 4584' - 4588'; 4595' - 4599'; 4610' - 4619'; 4624' - 4629'; 4636' - 4640'; 4656' - 4670'; 4682' - 4685'; 4700' - 4704'; 4724' - 4730'; 4750' - 4758' with 4 jets per foot. Treated with 108,000 gallons of water, February 8, 1957. Cleaned up Mesa Verde and drilled bridge plug at 5000', February 11, 1957. Cleaned up to bottom and set Baker Model DA production packer at 5973'. Ran 2260.00 of 2" EUE and 3703.21' of 2-1/2" EUE tubing with 4' stinger of 1" through Model DA packer, and side-door choke at 5944'. Landed tubing February 14, 1957. Found hole in tubing while testing. Twisted off tubing while attempting to back out of Baker Model DA production packer, March 11, 1957. Left packer and 6 joints of tubing in hole. Set Baker Retrievable bridge plug at 5207', spotted 140' of sand on top of plug and 120' of cement on top of sand. Plug back total depth: 4947'. Set Baker Drillable packer at 4443' and fraced with 24,700 gallons of water, March 16, 1957 -- got circulation through formation around packer.

On March 17, 1957, set drillable bridge plug at 4618' and Baker Model K Drillable Retainer at 4512'. Ran tubing and broke circulation in annulus at 2700 psi. Tested tubing to 4300 psi., OK. Pulled tubing and fraced down casing with 100,000 gallons of water. Blew well down and cleaned up after frac. Drilled Baker Model K Retainer at 4512' and bridge plug at 4618'. Drilled cement and screwed into retrievable bridge plug. Attempts to retrieve plug were unsuccessful, and a Baker Model DA production packer was set at 5109', April 8, 1957. Tubing was run with latching device, 2" tubing sub and Otis Model side door choke on bottom. Ran packer leakage test, April 22, 1957, for New Mexico Oil Conservation Commission: shut-in pressure on the Dakota Section (tubing)