Case 610

AMON G. CARTER
P.O. Box 1036
FORT WORTH, TEXAS

October 31st, 1953.

Oil Conservation Commission,
State of New Mexico,
Santa Fe, New Mexico.

Application to Dually Complete Amon G. Carter - Hill No. 4-M, Teague Devonian Pool, Lea County, New Mexico.

Gentlemen:--

By this letter of application Amon G. Carter wishes to state the following:

(1) That Amon G. Carter - Hill No. 4-M, located in the NE 1/4 of NE 1/4 of Section 34, T-23-S, R-37-E, Lea County, New Mexico was drilled to a total depth of 9,400 feet and seven inch casing was set at 9,399. The attached Exhibit "A" shows the location of this well on the Amon G. Carter Hill Lease together with the location of offset wells.

(2) That casing in said well was cemented from bottom with 65 sacks regular cement, plus five percent Howcogel and 65 cubic feet of Signalite with Halliburton DV Tool set at 7,704. Three hours later cemented through DV Tool with 200 sacks regular cement, plus three percent Howcogel. Temperature survey showed top of second stage cement to be approximately 6,300 feet.

(3) On drill stem test in this well from 7,150 to 7,194, well produced at rate of two million cubic feet gas per day and flowed 17 barrels distillate in one-half hour, gravity 59.6 at sixty degrees. Well was also tested from 9,107 to 9,145, tool open four hours, gas to surface in 20 minutes; circulated out 20 barrels clean oil to tank. Also tested from 9,147 to 9,320, tool open four hours, gas to surface in seven minutes; recovered 7,000 feet clean oil.

(4) Applicant proposes to dually complete the well in the following manner:

(a) Perforate seven inch casing opposite the McKee Producing Horizon from 9,120 to 9,140 and from 9.150 to 9,190 and from 9,224 to 9,244 and from 9,252 to 9,310.

(b) Perforate seven inch casing opposite Upper Devonian Horizon from 7,150 to 7,162 and from 7,172 to 7,196.

(c) Set production type packer in seven inch casing at approximately 7,476, being below the upper perforations and above the lower perforations, packer set on 2-1/2 inch tubing to separate the two producing horizons, said tubing to also contain Camco retrievable valve, which valve may be opened or closed with blank valve run

on wire line; valve to be opened for cleaning up gas section and closed for producing oil from McKee Section, and which will permit the taking of bottom hole pressures when absolutely necessary by pulling 1-1/4" tubing.

(d) Set Bradford Tubing Packer on 1-1/4" tubing in 2-1/2 inch tubing above seating nipple and standing valve set at 9,075. Run Camco Gas Lift Valves on 1-1/4" tubing.

(e) Produce McKee Oil through 1-1/4" tubing with gas lift valves with gas injected from surface into annulus between 1-1/4 inch and 2-1/2 inch tubing. Produce gas from Upper Devonian Horizon from annulus between 2-1/2 inch tubing and seven inch casing.

(5) Exhibit "B" attached shows diagrammatic sketch of all casing, tubing and production equipment to be installed in well.

(6) Exhibit "C" attached is a cross section showing the relative position of the various producing horizons in Hill Wells 1-E, 1-D, 2-E and 4-M.

Separation of Zones. Amon G. Carter No. 1-D Hill, a lower Devonian oil producer, is located approximately 180 feet North of Hill No. 4-M. This well has casing set at 7,104 and is currently producing from the open hole to a total depth of 7,484. It is now being produced by gas lift with flow valves and outside gas. A recent bottom hole pressure survey taken October 19th, 1953, after a shutin of 24.5 hours shows a pressure of 797 psig at 7,448 feet (-4177). Fluid level was 6,315 feet from the surface and the tubing pressure was 330 psig.

Amon G. Carter No. 4-M Hill drillstem tested the upper Devonian section from 7,150 feet to 7,194 feet, recovering primarily gas with 59.6 gravity distillate. Drillstem test above the gas distillate zone of the interval from 7,119 feet to 7,152 feet (Basal Permian) showed section was dense and relatively non-permeable. Drillstem test below the gas distillate zone of the interval from 7,194 feet to 7,247 feet recovered primarily oil and gas cut drilling mud and sulphur water. A bottom hole pressure survey was taken of the tested gas distillate zone after casing had been perforated between 7,150 feet and 7,196 feet and the perforation washed with 1,000 gallons mud acid. The well was shut in for six hours before pressure measurement and the recorded pressure was 2,513 psig at 7,100 feet. No fluid was indicated and the tubing pressure was 1899 psig.

The McKee Sand zone occurs below a depth of 9,120 feet and is separated from the upper Devonian gas distillate section by approximately 870 feet of dolomites and shale. The normal Teague Field well in this zone does not have sufficient energy available for eruptive flow and must be artificially lifted shortly after completion.

Conclusions. The practicability of a dual completion of the Devonian Section and McKee Sand we think is apparent. The only question that might be raised by anyone is as to whether or not there is a definite distinction between the Upper Devonian section from which it is proposed to produce gas in Well No. 4-M and the Lower Devonian section from which Well No. 1-D is presently producing oil. We feel that the definite variation in bottom hole pressures of the two sections and the difference in gravity of the fluids produced; the fact that Well No. 1-D must be artificially lifted and a study of the comparative drillstem test intervals on the wells shown on our cross section, all show conclusively that the gas produced in Well No. 4-M is from a separate reservoir and could not be coming from the same reservoir from which Wells 1-D and 2-D are producing Devonian Oil on the same lease. Some type of shear or thrust fault is suspected to exist between Well No. 1-D and Well No. 4-M, however, its actual mode of occurrence is difficult to establish.

A copy of this application is being furnished each of the operators offsetting this lease and we are requesting a waiver from such offset operators giving their consent to such dual completion. Upon receipt of such waivers, they will be promptly filed with your office and upon receipt of same, we shall appreciate it very much if the Commission will authorize this dual completion without a hearing as the gas from the Upper Devonian section is badly needed for gas lift purposes on our Hill Lease.

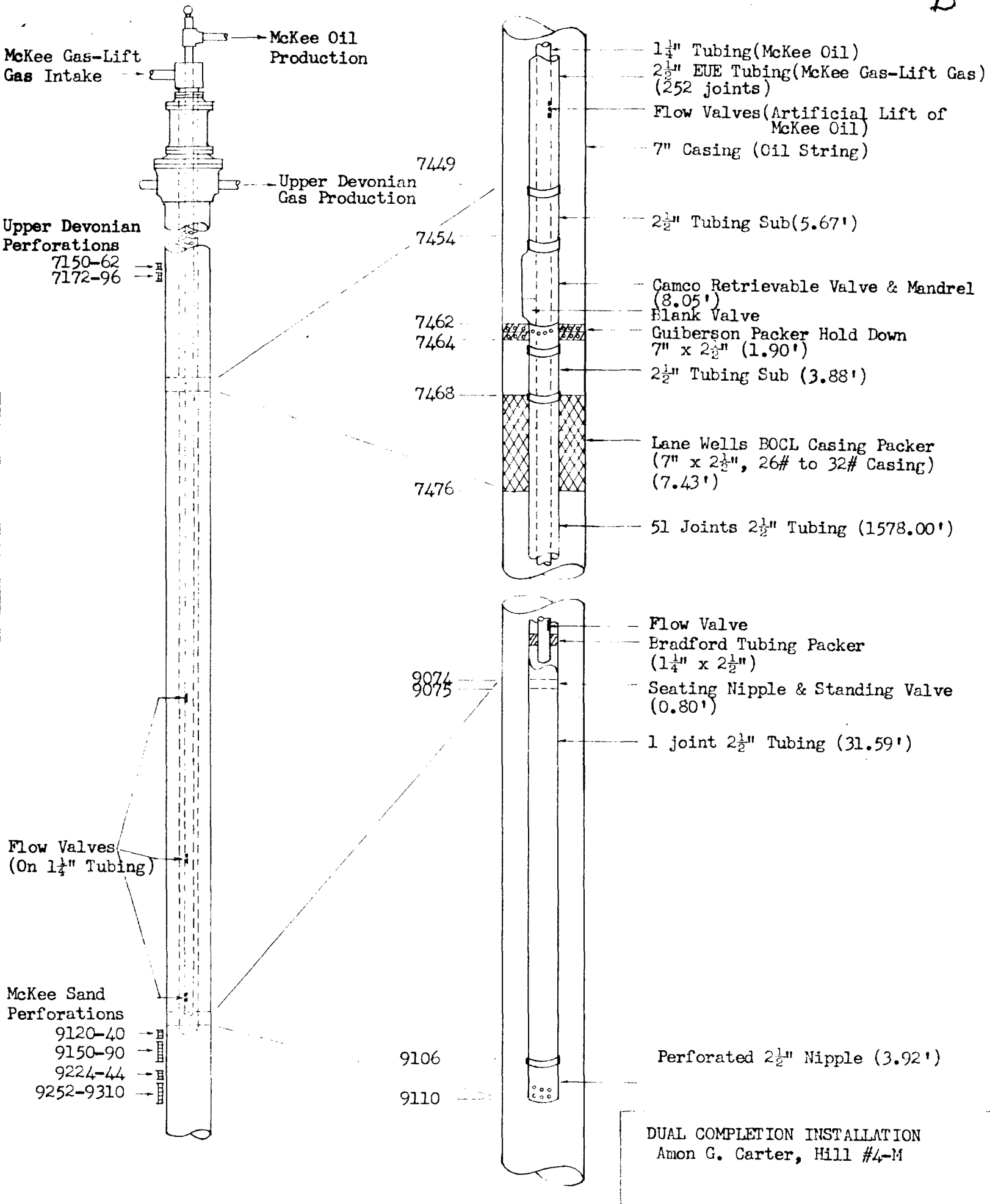
Yours very truly,

AMON G. CARTER

BY Kay Carter

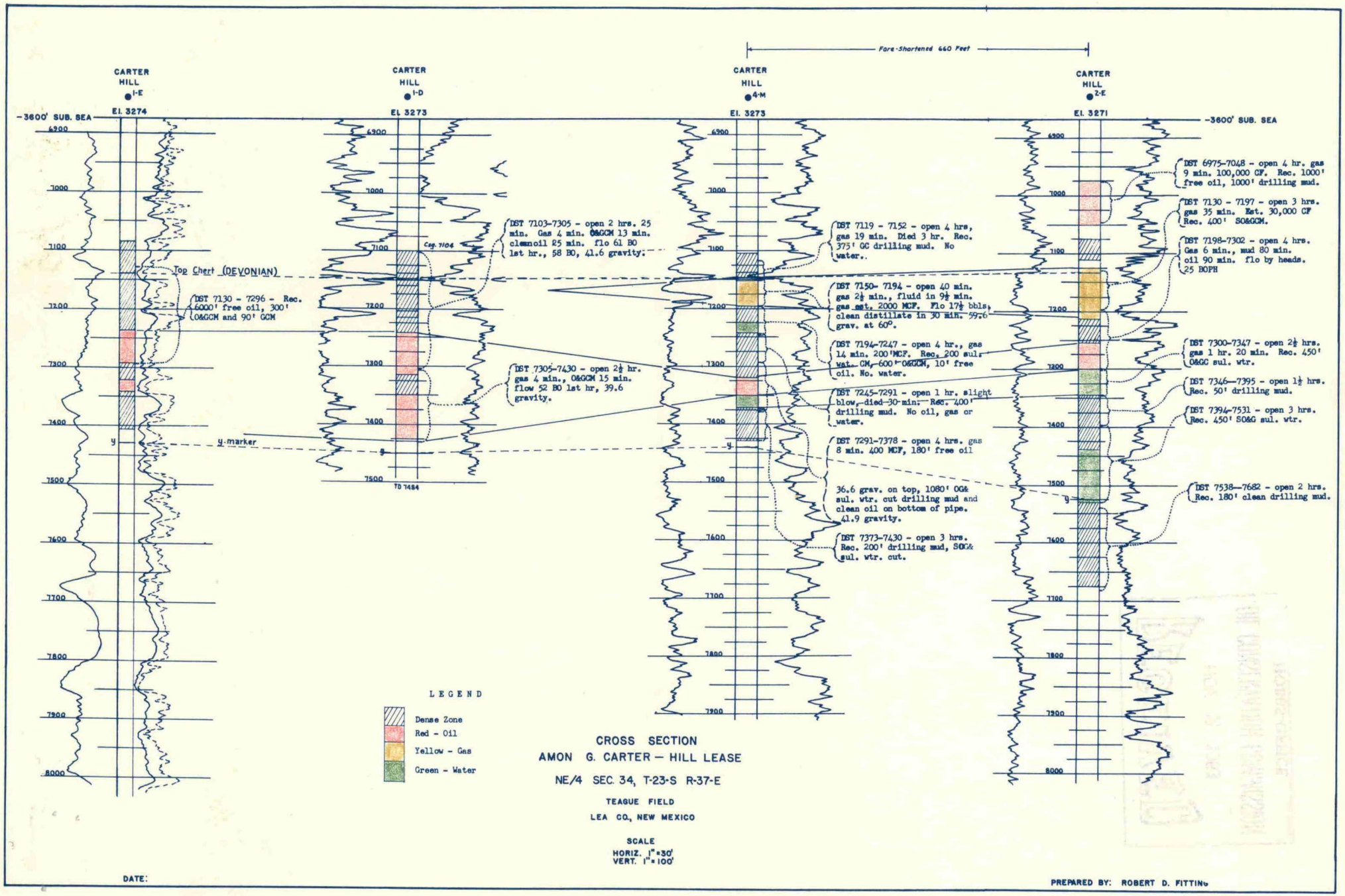
Field Manager.

"B"



DUAL COMPLETION INSTALLATION
Amon G. Carter, Hill #4-M

"C"



CROSS SECTION

AMON G. CARTER — HILL LEASE

NE/4 SEC. 34, T-23-S R-37-E

TEAGUE FIELD

LEA CO., NEW MEXICO

SCALE

HORIZ. 1" = 30'

VERT. 1" = 100'

DATE:

PREPARED BY: ROBERT D. FITTING

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

January 22, 1954

COPY

Mr. Roy Carter
AMOS G. CARTER
Box 1688
Kermit, Texas

Dear Mr. Carter: RE: Order R-402 in Case 610

In order that you may complete your file, we enclose signed copies of Order R-402 issued by the Commission in dismissal of Case No. 610.

Very truly yours,

W. B. Macey
Chief Engineer

WBM:nr

AMON G. CARTER
P. O. Box 1036
FORT WORTH, TEXAS

PLEASE ADDRESS REPLY
TO FIELD OFFICE
P. O. BOX 1688
KERMIT, TEXAS

November 28th, 1953.

Oil Conservation Commission,
State of New Mexico,
Santa Fe, New Mexico.

Re: Application to Dually Complete Amon G. Carter - Hill No. 4-M, Teague Devonian Field, Lea County, N. M.

Gentlemen:--

Please refer to our application of October 31st, 1953 for permission to dually complete the above well in the Upper Devonian Horizon and the McKee Horizon.

Please be advised that after the filing of above application we made sufficient preliminary tests of the Upper Devonian Section to determine that the volume of gas evidenced by the first two tests could not be maintained. In fact the gas volume had declined to such extent that it did not appear commercially feasible to undertake to produce gas from this horizon.

We have therefore squeezed off the perforations in the 7 inch casing from 7,150 to 7,196 and are now in process of completing this well as a single producer from the McKee Horizon. Complete information will be filed on the well in the usual manner as soon as we have secured a potential test on the McKee Section.

Yours very truly,

AMON G. CARTER

BY Ray D. Carter

cc - The Texas Company,
R. Olsen Oil Company,
The Atlantic Refining Co.,
Gulf Oil Corporation,