

APPROVED **MAR 17 1954**  
(Orig. Sgd.) **JOHN A. FROST**  
DISTRICT ENGINEER

(SUBMIT IN TRIPLICATE)

**UNITED STATES**  
**DEPARTMENT OF THE INTERIOR**  
**Geological Survey**

Land Office **Las Cruces**  
Lease No. **62974-C**  
Unit **Koaly C**

**SUNDRY NOTICES AND REPORTS ON WELLS**

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUBSEQUENT REPORT OF HYDRAFRAC TREATMENT
NOTICE OF INTENTION TO ABANDON WELL	

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

**Loce Hills, N.M. March 10 54**  
**19**

Well No. **16** is located **1900** ft. from **///** **[N]** line and **1900** ft. from **///** **[W]** line of sec. **26**  
**NE/4 SW/4 Sec. 26 17S 29E 10NPM**  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
**Grayburg-Jackson Eddy New Mexico**  
(Field) (County or Subdivision) (State or Territory)

**3575**

The elevation of the derrick floor above sea level is \_\_\_\_\_ ft.

**DETAILS OF WORK**

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

**RECORD OF PRODUCTION PRIOR TO WORKOVER: Flowed 6 BOPD**  
**RECORD OF TREATMENT: 2-8-54 Pulled 2" NHE tubing, ran Lane-Wells radioactivity survey from 3685' to surface. Perforated with 94- 15/32" bullets 2471 to 2491'. 2-9-54 Ran straddle packer on 2-1/2" NHE tubing with backwall at 2502'; anchor packer at 2454; and hydraulic anchovy. Scrubbed dry. 2-10-54 After standing 16 hrs. scrubbed 150' oil. Treated with 900 gals. NHA. Max. inj. pressure 2050 psig at end of flush, 1100 psig. Total inj. time 10 min. Flushed with 16 BO. After 3 hrs. scrubbed dry. 2-11-54 After standing 16 hrs. scrubbed 150' oil. Broke formation down with 24 bbls. barosone at 2050 psig. Fractured with 3000 gals. hydrafrac containing 2/ sand per gal. followed by 60 bbls. breaker fluid. Flushed with 33 BO. Max. inj. pressure 1900 psig, dropping to 1100 psig. when pumps shut down at end of flush. Total inj. time. 17 min. Load oil to recover 197 bbls.**

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

**GENERAL AMERICAN OIL CO. OF TEXAS**  
Company \_\_\_\_\_  
Address **P.O. BOX 416**  
**LOCE HILLS, N.M.**  
By **R. J. Heard**  
Title **S. J. Heard, Field Supt.**

THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF CHEMISTRY  
PHYSICAL CHEMISTRY  
LABORATORY

REPORT OF THE PHYSICAL CHEMISTRY LABORATORY  
ON THE REACTION OF HYDROGEN ATOMS WITH  
METHANE AT LOW PRESSURES

BY  
J. H. COLEMAN AND  
R. M. WATSON

RECEIVED BY THE DEPARTMENT OF CHEMISTRY  
ON FEBRUARY 15, 1954

PHYSICAL CHEMISTRY LABORATORY  
UNIVERSITY OF CHICAGO  
57 SOUTH EAST ASIAN AVENUE  
CHICAGO, ILLINOIS

ABSTRACT  
The reaction of hydrogen atoms with methane at low pressures has been studied by the method of flash photolysis. The rate constant for the reaction is found to be  $1.5 \times 10^{10}$  liter/mole-sec. at 300°K. The activation energy is estimated to be 1.5 kcal/mole. The reaction is first order in hydrogen atoms and first order in methane. The reaction is believed to be a simple hydrogen atom abstraction reaction.

INTRODUCTION  
The reaction of hydrogen atoms with methane is one of the simplest of the reactions of hydrogen atoms with organic molecules. It has been studied extensively in the past, and the rate constant for the reaction has been found to be  $1.5 \times 10^{10}$  liter/mole-sec. at 300°K. (1). The activation energy for the reaction is estimated to be 1.5 kcal/mole (2). The reaction is believed to be a simple hydrogen atom abstraction reaction.

**Keely C-16      Subsequent Report of Hydrafrac Treatment**

**RESULTS OF TREATMENT:** 2-12-54 Left shut in 23 hrs. 675 psig on tubing when opened at 11:00 AM.  
2-13-54 Flowed 40 BO in 18-1/2 hours.

**SUBSEQUENT FLOWING TESTS:** 2-14-54 Pulled swab 4 times and swabbed 30 BO. Started flowing and flowed 79 BO in 20 hrs.

2-15-54 Flowed 33 BO.

Keely C-16 Subsequent Report of Hydrographic Investigation

INSTRUMENT NO. 1-11-24...  
When opened on 11/10/24...  
2-13-24...  
...  
2-13-24...  
...  
2-13-24...