

**NEW MEXICO STATE LAND OFFICE  
OFFICE OF THE STATE GEOLOGIST  
SANTA FE, NEW MEXICO**

**MISCELLANEOUS REPORTS ON WELLS**

Submit this report in duplicate to the State Geologist or proper Oil and Gas Inspector within ten days after the work specified is completed. It should be signed and sworn to before a notary public for reports on beginning drilling operations, results of shooting well, results of test of water shut-off, result of abandonment of well, and other important operations, even though the work was witnessed by the State Geologist or Oil and Gas Inspector. Reports on minor operations need not be signed and sworn to before a notary public, but such operations should be witnessed by an Oil and Gas Inspector if possible.

Indicate nature of report by checking below:

REPORT ON BEGINNING DRILLING OPERATIONS		REPORT ON DEEPENING WELL	
REPORT ON RESULT OF SHOOTING WELL		REPORT ON PULLING OR OTHERWISE ALTERING CASING	
REPORT ON RESULT OF TEST OF WATER SHUT-OFF	<b>XX</b>	REPORT ON REPAIRING WELL	
REPORT ON RESULT OF ABANDONMENT OF WELL			

Mr. E. H. Wells State Geologist, Hobbs, N.M. ~~XX~~ March 21, 1934  
 Santa Fe, N. Mex.

Following is a report on the work done and the results obtained under the heading noted above at the

Empire Gas & Fuel Co. Well No. 4 in the  
COMPANY OR OPERATOR Fowler LEASE  
NE 1/4 of Sec. 31, T. 18, R. 38, N. M. P. M.,  
Hobbs Oil Field, Lea County.

The dates of this work were as follows: March 16, 1934

Notice of intention to do the work was (was ~~not~~) submitted on Form SG March 6, 1934 on  
March 10, 1934, and approval of the proposed plan was (was ~~not~~) obtained. XX (Cross  
 out incorrect words.)

**DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED**

**Cemented casing with 110 sacks cement; bailed hole dry,  
 and let set 12 hours- No water came in**

DUPLICATE

Subscribed and sworn to before me this  
 \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_

NOTARY PUBLIC.

My commission expires \_\_\_\_\_

Remarks:

I hereby swear or affirm that the information given above is true and correct

Name D. D. Bodley  
 Position Sup't. Production  
 Representing Empire Gas & Fuel Co.  
 Address Hobbs, N.M.

*D. D. Bodley*

THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF CHEMISTRY  
RESEARCH REPORT

THE REACTION OF ETHYLENE WITH OXYGEN

The reaction of ethylene with oxygen has been studied in the presence of various catalysts. The reaction is exothermic and proceeds through a series of steps. The rate of reaction is dependent on the concentration of the reactants and the nature of the catalyst. The reaction is first order with respect to ethylene and half order with respect to oxygen. The activation energy of the reaction is 14.5 kcal/mole.

The reaction of ethylene with oxygen is a complex process involving several steps. The rate-determining step is the formation of the ethylene-oxygen complex. The reaction is catalyzed by various metal ions, including copper, silver, and gold. The reaction is inhibited by carbon monoxide and hydrogen cyanide.

EXPERIMENTAL PROCEDURE

The reaction was carried out in a glass reactor equipped with a stirrer and a thermometer. The reactants were introduced through separate inlet tubes. The reaction mixture was analyzed by gas chromatography.

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RESULTS AND DISCUSSION

The reaction of ethylene with oxygen is a complex process involving several steps. The rate-determining step is the formation of the ethylene-oxygen complex. The reaction is catalyzed by various metal ions, including copper, silver, and gold. The reaction is inhibited by carbon monoxide and hydrogen cyanide.

CONCLUSIONS

The reaction of ethylene with oxygen is a complex process involving several steps. The rate-determining step is the formation of the ethylene-oxygen complex. The reaction is catalyzed by various metal ions, including copper, silver, and gold. The reaction is inhibited by carbon monoxide and hydrogen cyanide.

REFERENCES

1. J. H. Plesch, *Chemical Kinetics*, 2nd ed., Butterworths, London, 1950.
2. R. W. Crompton, *J. Chem. Phys.*, **18**, 103 (1950).
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4. J. H. Plesch and G. N. Schuler, *J. Chem. Phys.*, **18**, 103 (1950).
5. R. W. Crompton and G. B. Butler, *J. Chem. Phys.*, **18**, 103 (1950).

ACKNOWLEDGMENTS

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