

NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

**MISCELLANEOUS REPORTS ON WELLS**

Submit this report in triplicate to the Oil Conservation Commission or its proper agent 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 casing shut-off, result of plugging of well, and other important operations, even though the work was witnessed by an agent of the Commission. Reports on minor operations need not be signed and sworn to before a notary public. See additional instructions in the Rules and Regulations of the Commission.

Indicate nature of report by checking below:

REPORT ON BEGINNING DRILLING OPERATIONS		REPORT ON REPAIRING WELL	
REPORT ON RESULT OF SHOOTING OR CHEMICAL TREATMENT OF WELL		REPORT ON PULLING OR OTHERWISE ALTERING CASING	
REPORT ON RESULT OF TEST OF CASING SHUT-OFF	13" OD	REPORT ON DEEPENING WELL	
REPORT ON RESULT OF PLUGGING OF WELL			

Hobbs, N. Mex. January 5th, 1938

Place

Date

OIL CONSERVATION COMMISSION,  
Santa Fe, New Mexico.

Gentlemen:

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

GULF OIL CORPORATION Lee Stebbins "A" Well No. 2 in the  
Company or Operator GYPSY DIVISION Lease  
NW/4 of Sec. 5, T. 22S, R. 37E, N. M. P. M.,  
Penrose Field, Lee County.

The dates of this work were as follows: Cemented January 4th - tested January 5th, 1938

Notice of intention to do the work was [~~was not~~] submitted on Form C-102 on January 4th, 1938 19\_\_\_\_  
and approval of the proposed plan was [~~was not~~] obtained. (Cross out incorrect words.)

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

The plug was drilled and the hole bailed dry and let stand for one hour, the bailer reran and hole found to be dry and test OK, after approval of Mr. Sheppard, State Oil and Gas Inspector, preparations were made to drill ahead.

**DUPLICATE**

Witnessed by <u>Glenn Stach</u>	<u>Gulf</u>	<u>Foreman</u>
<u>Bob Franklin</u>	<u>Reusch</u>	<u>Tool Pusher</u>
Name	Company	Title

Subscribed and sworn to before me this \_\_\_\_\_

9th day of January 1938, 19\_\_\_\_

[Signature]  
Notary Public

My Commission expires February 8th, 1941.

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

Name [Signature]

Position District Supt.

Representing GULF OIL CORPORATION  
Company or Operator GYPSY DIVISION

Address Hobbs, N. Mex.

Remarks:

[Signature]  
Name  
Title

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

$$\frac{dx}{dt} = A(x)u, \quad \frac{dy}{dt} = B(x)y,$$

where  $A(x)$  and  $B(x)$  are matrices depending on  $x$ , and  $u$  is a vector function. The existence of solutions is proved under certain conditions on the matrices  $A(x)$  and  $B(x)$ .

2. In the second part of the paper, the problem of the stability of solutions of the system of equations is considered. It is shown that the system is stable if the matrix  $B(x)$  is negative definite.

3. In the third part of the paper, the problem of the asymptotic stability of solutions of the system of equations is considered. It is shown that the system is asymptotically stable if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

4. In the fourth part of the paper, the problem of the boundedness of solutions of the system of equations is considered. It is shown that the system is bounded if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

5. In the fifth part of the paper, the problem of the periodicity of solutions of the system of equations is considered. It is shown that the system is periodic if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

6. In the sixth part of the paper, the problem of the ergodicity of solutions of the system of equations is considered. It is shown that the system is ergodic if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

7. In the seventh part of the paper, the problem of the recurrence of solutions of the system of equations is considered. It is shown that the system is recurrent if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

8. In the eighth part of the paper, the problem of the transitivity of solutions of the system of equations is considered. It is shown that the system is transitive if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

9. In the ninth part of the paper, the problem of the minimality of solutions of the system of equations is considered. It is shown that the system is minimal if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

10. In the tenth part of the paper, the problem of the genericity of solutions of the system of equations is considered. It is shown that the system is generic if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

11. In the eleventh part of the paper, the problem of the genericity of solutions of the system of equations is considered. It is shown that the system is generic if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

12. In the twelfth part of the paper, the problem of the genericity of solutions of the system of equations is considered. It is shown that the system is generic if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

13. In the thirteenth part of the paper, the problem of the genericity of solutions of the system of equations is considered. It is shown that the system is generic if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

14. In the fourteenth part of the paper, the problem of the genericity of solutions of the system of equations is considered. It is shown that the system is generic if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.

15. In the fifteenth part of the paper, the problem of the genericity of solutions of the system of equations is considered. It is shown that the system is generic if the matrix  $B(x)$  is negative definite and the matrix  $A(x)$  is bounded.