

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	X	REPORT ON DEEPENING WELL	
REPORT ON RESULT OF PLUGGING OF WELL			

December 27, 1949

Date

Midland, Texas

Place

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 _____

HONOLULU OIL CORPORATION State of New Mexico Well No. 2 in the _____
Company or Operator Lease
SW/4 of NE/4 of Sec. 13, T. 11-S, R. 27-E, N. M. P. M.,
Wildcat Field, _____ Chaves County.

The dates of this work were as follows: December 18, 1949

Notice of intention to do the work was (was not) submitted on Form C-102 on December 15 19 49
and approval of the proposed plan was (was not) obtained. (Cross out incorrect words.)

DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED

5-1/2", 15.50# casing was run to 1938 feet and cemented with 150 sax of cement. Temperature survey showed top of cement outside the casing to be at 1260 feet. Rotary tools were moved off and cable tools moved in. Rotary mud was swabbed out down to top of plug. No casing leaks developed. Cement and plugs were drilled out and hole bailed dry. At the end of a 4-hour test no fluid was found in the hole. Casing and cement holding.

Witnessed by George R. Hoy Honolulu Oil Corporation Division Development Engineer
Name Company Title

Subscribed and sworn before me this _____

27th day of December 19 49

N. F. Simpson N. F. Simpson
Notary Public

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

Name George R. Hoy
Position Division Development Engineer

Representing HONOLULU OIL CORPORATION
Company or Operator

My commission expires June 1, 1950

Address P. O. Drawer 1391, Midland, Texas

Remarks:

Name

Title

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 311

LECTURE 10: THE HARMONIC OSCILLATOR

1. THE HARMONIC OSCILLATOR

The harmonic oscillator is a system that can be approximated by a simple harmonic potential. The potential energy is given by

$$V(x) = \frac{1}{2}kx^2$$

where k is the spring constant. The force is given by

$$F = -\frac{dV}{dx} = -kx$$

The equation of motion is given by

$$m\ddot{x} = -kx$$

The solution to this equation is given by

$$x(t) = A\cos(\omega t + \phi)$$

where A is the amplitude, ω is the angular frequency, and ϕ is the phase constant.

The angular frequency is given by

$$\omega = \sqrt{\frac{k}{m}}$$

The period of oscillation is given by

$$T = \frac{2\pi}{\omega}$$

The energy of the harmonic oscillator is given by

$$E = \frac{1}{2}mv^2 + \frac{1}{2}kx^2$$

The total energy is constant and is given by

$$E = \frac{1}{2}kA^2$$