

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

MISCELLANEOUS NOTICES

Submit this notice in triplicate to the Oil Conservation Commission or its proper agent before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or its agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate nature of notice by checking below:

NOTICE OF INTENTION TO TEST CASING SHUT-OFF	7-5/8"	NOTICE OF INTENTION TO SHOOT OR CHEMICALLY TREAT WELL	
NOTICE OF INTENTION TO CHANGE PLANS		NOTICE OF INTENTION TO PULL OR OTHERWISE ALTER CASING	
NOTICE OF INTENTION TO REPAIR WELL		NOTICE OF INTENTION TO PLUG WELL	
NOTICE OF INTENTION TO DEEPEN WELL			

Hobbs, New Mexico.

April 13th, 1936.

Place

Date

OIL CONSERVATION COMMISSION,
Santa Fe, New Mexico.

Gentlemen:

Following is a notice of intention to do certain work as described below at the

GULF OIL CORPORATION OF PENNSYLVANIA

GYPSY DIVISION

Company or Operator

Bell-Ramsay

Lease

Well No. **8** in **C Lot #12.**

of Sec. **4**, T. **21s**, R. **34e**, N. M. P. M., **Eunice** Field,

Lee County.

FULL DETAILS OF PROPOSED PLAN OF WORK

FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS OF THE COMMISSION

On April 11th, 1936 the 7-5/8" 26# 8-thd New Lapweld Steel Casing at 1281' in Anhydrite, w/ 550 Sax Cement by the Halliburton Cementing Process.

Propose to drill plug and test on April 14th, 1936.

DUPLICATE

Approved _____, 19_____
except as follows:

GULF OIL CORPORATION OF PENNSYLVANIA
GYPSY DIVISION

Company or Operator

By

Position

District Superintendent

Send communications regarding well to

Name

C.C. Cummings

Address

Hobbs, New Mexico.

OIL CONSERVATION COMMISSION,

By

Title

1. The first part of the problem is to find the energy levels of a particle in a potential well. The potential is given by $V(x) = \frac{1}{2}kx^2$ for $|x| \leq a$ and $V(x) = \infty$ for $|x| > a$. The energy levels are found by solving the Schrödinger equation $\nabla^2 \psi + k\psi = E\psi$ inside the well and $\psi = 0$ outside. The boundary conditions are $\psi(a) = 0$ and $\psi(-a) = 0$.

2. The second part of the problem is to find the wave functions for the first three energy levels.

The wave functions are found by solving the Schrödinger equation for the first three energy levels. The first energy level is $E_1 = \frac{1}{2}k a^2$ and the corresponding wave function is $\psi_1(x) = \cos(\frac{\pi x}{2a})$.

The second energy level is $E_2 = \frac{3}{2}k a^2$ and the corresponding wave function is $\psi_2(x) = \sin(\frac{\pi x}{2a})$.

The third energy level is $E_3 = \frac{5}{2}k a^2$ and the corresponding wave function is $\psi_3(x) = \cos(\frac{3\pi x}{2a})$.

The fourth energy level is $E_4 = \frac{7}{2}k a^2$ and the corresponding wave function is $\psi_4(x) = \sin(\frac{3\pi x}{2a})$.

The fifth energy level is $E_5 = \frac{9}{2}k a^2$ and the corresponding wave function is $\psi_5(x) = \cos(\frac{5\pi x}{2a})$.

- The first energy level is $E_1 = \frac{1}{2}k a^2$ and the corresponding wave function is $\psi_1(x) = \cos(\frac{\pi x}{2a})$.
- The second energy level is $E_2 = \frac{3}{2}k a^2$ and the corresponding wave function is $\psi_2(x) = \sin(\frac{\pi x}{2a})$.
- The third energy level is $E_3 = \frac{5}{2}k a^2$ and the corresponding wave function is $\psi_3(x) = \cos(\frac{3\pi x}{2a})$.
- The fourth energy level is $E_4 = \frac{7}{2}k a^2$ and the corresponding wave function is $\psi_4(x) = \sin(\frac{3\pi x}{2a})$.
- The fifth energy level is $E_5 = \frac{9}{2}k a^2$ and the corresponding wave function is $\psi_5(x) = \cos(\frac{5\pi x}{2a})$.

The sixth energy level is $E_6 = \frac{11}{2}k a^2$ and the corresponding wave function is $\psi_6(x) = \sin(\frac{5\pi x}{2a})$.

The seventh energy level is $E_7 = \frac{13}{2}k a^2$ and the corresponding wave function is $\psi_7(x) = \cos(\frac{7\pi x}{2a})$.

The eighth energy level is $E_8 = \frac{15}{2}k a^2$ and the corresponding wave function is $\psi_8(x) = \sin(\frac{7\pi x}{2a})$.

The ninth energy level is $E_9 = \frac{17}{2}k a^2$ and the corresponding wave function is $\psi_9(x) = \cos(\frac{9\pi x}{2a})$.

The tenth energy level is $E_{10} = \frac{19}{2}k a^2$ and the corresponding wave function is $\psi_{10}(x) = \sin(\frac{9\pi x}{2a})$.

The eleventh energy level is $E_{11} = \frac{21}{2}k a^2$ and the corresponding wave function is $\psi_{11}(x) = \cos(\frac{11\pi x}{2a})$.

The twelfth energy level is $E_{12} = \frac{23}{2}k a^2$ and the corresponding wave function is $\psi_{12}(x) = \sin(\frac{11\pi x}{2a})$.

The thirteenth energy level is $E_{13} = \frac{25}{2}k a^2$ and the corresponding wave function is $\psi_{13}(x) = \cos(\frac{13\pi x}{2a})$.

The fourteenth energy level is $E_{14} = \frac{27}{2}k a^2$ and the corresponding wave function is $\psi_{14}(x) = \sin(\frac{13\pi x}{2a})$.

The fifteenth energy level is $E_{15} = \frac{29}{2}k a^2$ and the corresponding wave function is $\psi_{15}(x) = \cos(\frac{15\pi x}{2a})$.

The sixteenth energy level is $E_{16} = \frac{31}{2}k a^2$ and the corresponding wave function is $\psi_{16}(x) = \sin(\frac{15\pi x}{2a})$.

The seventeenth energy level is $E_{17} = \frac{33}{2}k a^2$ and the corresponding wave function is $\psi_{17}(x) = \cos(\frac{17\pi x}{2a})$.

The eighteenth energy level is $E_{18} = \frac{35}{2}k a^2$ and the corresponding wave function is $\psi_{18}(x) = \sin(\frac{17\pi x}{2a})$.

The nineteenth energy level is $E_{19} = \frac{37}{2}k a^2$ and the corresponding wave function is $\psi_{19}(x) = \cos(\frac{19\pi x}{2a})$.

The twentieth energy level is $E_{20} = \frac{39}{2}k a^2$ and the corresponding wave function is $\psi_{20}(x) = \sin(\frac{19\pi x}{2a})$.

The twenty-first energy level is $E_{21} = \frac{41}{2}k a^2$ and the corresponding wave function is $\psi_{21}(x) = \cos(\frac{21\pi x}{2a})$.

The twenty-second energy level is $E_{22} = \frac{43}{2}k a^2$ and the corresponding wave function is $\psi_{22}(x) = \sin(\frac{21\pi x}{2a})$.

The twenty-third energy level is $E_{23} = \frac{45}{2}k a^2$ and the corresponding wave function is $\psi_{23}(x) = \cos(\frac{23\pi x}{2a})$.

The twenty-fourth energy level is $E_{24} = \frac{47}{2}k a^2$ and the corresponding wave function is $\psi_{24}(x) = \sin(\frac{23\pi x}{2a})$.

The twenty-fifth energy level is $E_{25} = \frac{49}{2}k a^2$ and the corresponding wave function is $\psi_{25}(x) = \cos(\frac{25\pi x}{2a})$.

The twenty-sixth energy level is $E_{26} = \frac{51}{2}k a^2$ and the corresponding wave function is $\psi_{26}(x) = \sin(\frac{25\pi x}{2a})$.

The twenty-seventh energy level is $E_{27} = \frac{53}{2}k a^2$ and the corresponding wave function is $\psi_{27}(x) = \cos(\frac{27\pi x}{2a})$.

The twenty-eighth energy level is $E_{28} = \frac{55}{2}k a^2$ and the corresponding wave function is $\psi_{28}(x) = \sin(\frac{27\pi x}{2a})$.

The twenty-ninth energy level is $E_{29} = \frac{57}{2}k a^2$ and the corresponding wave function is $\psi_{29}(x) = \cos(\frac{29\pi x}{2a})$.