USE OF POISONS FOR DESTROYING NOXIOUS MAMMALS.

By

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Very respectfully,

JOS. A. ARNOLD,

Editor and Chief.

CONTENTS.

	Page.
Waste in the use of poisons	421
The problem of destroying noxious mammals	422
Objections to poisons	422
Poisons in common use against noxious mammals	423
Poisoning wolves and coyotes	427
Poisoning prairie dogs	427
Poisoning ground squirrels	429
Poisoning pocket gophers	430
Poisoning rabbits	430
Poisoning meadow mice	431
Poisoning house rats and mice	431
Poisoning moles	432
Caution	432

USE OF POISONS FOR DESTROYING NOXIOUS MANMALS.

By David E. Lantz,

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WASTE IN THE USE OF POISONS.

Poisons are so extensively used in the United States for the destruction of noxious animals that the commerce in them is enormous. Almost all druggists have a considerable trade in substances intended to rid field, garden, orchard, or buildings of pests that destroy crops or other property. These poisons are sold in three forms—proprietary preparations, raw materials, and preparations mixed by the druggist ready for use.

Whatever the form, the purchaser often pays an excessive price for the poison, and then frequently wastes much because of lack of knowledge of how best to use it. Since in the West the people of a single county sometimes expend \$25,000 to \$30,000 a year for poisons for destroying rodent pests, and since insecticides and other poisons for the entire country cost many millions of dollars annually, the saving of waste in these items is important. At present fully half the expenditure in the United States for rodent poisons is wasted.

Probably the buyer of proprietary poisons has the greatest cause for complaint. Often 1 or 2 cents' worth of material is retailed at from 25 cents to a dollar. The difference between the cost of the material and the selling price represents the manufacturer's profit and the retailer's commission. Large returns enable proprietors to spend much money in advertising or otherwise exploiting their wares, some of which have no merit. But a man does not always complain of excessive cost if the poison proves efficacious. It is when little or no results follow its use that he considers himself defrauded. In reality he is cheated when he pays an unreasonably large price for the manufactured product, because the raw materials are cheap, and directions for their combination and use are now available.

The formulas for the common insecticides are the result of long-continued experiment by expert entomologists and orchardists. They have become standard by reason of long and successful use, and well-informed farmers are now comparatively safe from the impositions of venders of so-called insecticides. But until recently the destruction of noxious mammals has received less attention from experts than

the destruction of insect pests, and the buyer of poisons for mammals has had to depend upon scattered information or personal experiment.

One of the duties of the Biological Survey is to ascertain by experiment the most effective and economical methods of combating noxious mammals and birds. The present article aims to bring together the best formulas and methods, and thus to enable farmers, ranchmen, and others to save time, labor, and money.

THE PROBLEM OF DESTROYING NOXIOUS MAMMALS.

The destruction of noxious mammals is a more complicated problem than that of insect destruction. The farmer who fights these higher forms deals with instincts and intelligence well adapted to cope with his own in the struggle for existence. It is not enough that he place poisoned food or traps in the way of the creatures he desires to destroy; he must make the baits attractive and allay the natural suspicion of the animals by ridding traps of all suggestion of their real nature. He must know the traits of the animals and take advantage of any habit that will enable him to circumvent and destroy them. With such knowledge and the aid of plain, practical directions for carrying on his offensive operations he can in most cases do far more effective work with poisons than with traps, guns, and similar devices. The usefulness of traps, however, should not be overlooked, especially since they can be employed under conditions which preclude the use of poisons; but when large areas are involved and crops are threatened with immediate ruin, swifter methods are needed. Sometimes also the trap is a useful secondary agent for completing the work after the use of poisons.

OBJECTIONS TO POISONS.

It has been urged against poisons that their use is attended by danger, not only to domestic animals but to human beings; if carelessness attends their handling, this is undoubtedly true. In Great Britain the laying of poisons in the open is forbidden under heavy penalties, and the use of poisons for mammals is restricted to ricks, drains, and other places out of the reach of domestic animals. In this country nearly all the States have statutes regulating the sale of poisons, and several of them forbid the laying of poisoned baits for predatory animals on lands not owned by the person who puts out the poison. A few States require posting of special notices in the neighborhood when poisons are laid for wolves or other wild animals. The poisoning of predatory dogs is prohibited in some States and specifically permitted in a few. In general, it may be stated that in the West, where wolves, ground squirrels, prairie dogs, gophers, and similar pests abound, few laws restricting the use of

poisons exist. It is well, however, for anyone desiring to poison pests to first inform himself thoroughly as to the statutes of his State on the subject.

Another objection that has been urged to the destruction of mammal pests by poisons is that their use is inhuman, entailing much suffering upon the victims. The same objection holds to even greater degree against trapping, shooting, and other methods of taking life.

POISONS IN COMMON USE AGAINST NOXIOUS MAMMALS.

The poisons most commonly used to destroy mammal pests in America are phosphorus, arsenic, and strychnine. Nearly all the proprietary poisons on the market have phosphorus or arsenic as a base. Other substances that have been recommended are barium carbonate, potassium cyanid, corrosive sublimate, nux vomica, cicuta, and common squills.

PHOSPHORUS.

Yellow phosphorus seems to be the poison most used for the destruction of rodents. It is an irritant poison, usually slow, though quite variable in rapidity of action, but eventually destroying the life of any animal that eats it. One-fourth of a grain is a dangerous dose for a person, and in one instance a much smaller quantity proved fatal. Used medicinally, it is given in doses of one one-thousandth to one-thirtieth of a grain. Commercial or yellow phosphorus is usually kept under water in the form of waxy, translucent sticks. It is soluble in 4 parts of carbon bisulphid. Its efficiency as a poison depends on the fineness of division. That prepared and mixed by machinery is usually better than poorly mixed, homemade preparations. The fineness of division is accomplished by first dissolving the phosphorus in carbon bisulphid, after which the solution is mixed with any suitable medium. Phosphorus rat and roach pastes usually contain from 1 to 2 per cent of phosphorus in a medium of flour or meal and glucose. A popular English rat paste has 4 per cent of phosphorus.

There are several serious objections to the use of phosphorus. The first is that its slow, irritant action entails much unnecessary suffering. While the right to take the life of noxious animals is generally con-

ceded, it should be done without needless torture.

The danger to person and clothing in handling yellow phosphorus should be generally known. This substance is kept and cut under water and should not be touched with the hands. A nearly saturated solution in carbon bisulphid has been known to burst into flame while being carried, setting fire to everything which it touched.^a

^a Essence of turpentine is said to be a positive antidote for phosphorus poison and a cure for external burns by this element.

The chief objection to the use of phosphorus is the danger of serious conflagrations. In the West, where phosphorus is extensively used for killing ground squirrels, it has caused fires which destroyed entire fields of ripe wheat and barley and buildings in which prepared phosphorus was stored. Some hazard attends the use even of carefully prepared phosphorus pastes. Experiments with a commercial paste containing 1.6 per cent of phosphorus showed that it could not be ignited either by contact with flame or by friction; but when stirred after a few hours' exposure to the sun, it burst into flame. Another sample of paste, containing less than 1 per cent of phosphorus, was subjected to the same tests but could not be ignited. It was then left out of doors over night, and rain washed out part of the glucose. The residue, dried by exposure to sun and wind, soon charred and burned through the paper on which it lay.

ARSENIC.

The qualities of arsenic as a poison are pretty generally understood. In the form of Paris green or London purple it is widely employed as an insecticide. It is comparatively cheap, but is by no means as deadly as phosphorus or strychnine. The smallest quantity known to have been fatal to a human being is 2.5 grains. Ordinarily 2 grains would be a dangerous dose for an adult; but much larger quantities are known to have been taken by persons who had become arsenic eaters. Farriers often give a horse a dose of 20 grains without bad results. Its action on rodents is exceedingly variable, and there is ample proof that rats after taking small doses frequently become entirely immune to its further effects.

White arsenic is sparingly soluble in water, and the crystallized form is less soluble than the amorphous. Both forms are acid to test paper, and to some extent acidulate food with which they are mixed. Experience seems to prove that the souring of baits is often sufficient to keep rodents from eating them. This circumstance and the uncertainty of results even when baits are eaten are the chief objections to arsenic. As an alternative, when the bitterness of strychnine prevents baits from being eaten, arsenic is a useful poison.

STRYCHNINE.

Strychnine is one of four alkaloids obtained from nux vomica, the seed of a tree known to botanists as *Strychnos nux vomica*. The chief supply comes from the Malabar Coast, India. Strychnine occurs also in the bark of the same tree, and probably in all plants of the genus Strychnos.

The strychnine of commerce consists of the alkaloid in colorless crystals or white powder, and of several salts, chiefly the sulphate and the nitrate, in needle-like crystals or powder. The alkaloid is

very slightly soluble in water alone, but if an acid be added it dissolves readily. It is soluble also in about six parts of chloroform. The two salts named are freely soluble in 50 parts of cold water and in two or three parts of boiling water. On account of its solubility the sulphate is the most convenient for poisoning rodents, and it should always be used in preference to the alkaloid. It is usually slightly cheaper and is equally deadly.

Strychnine is exceedingly bitter, and this bitterness is a partial safeguard against the accidental swallowing of the poison. It acts upon the nervous system of animals, producing tetanus, convulsions, and speedy death. The least dose known to have been fatal to a human being is half a grain, but a quarter of a grain is regarded as a dangerous dose. The medicinal dose is one one-hundredth to one-twentieth of a grain.

The bitterness of strychnine sometimes causes baits to be rejected by animals. To counteract this, sugar is generally used. The same object is sometimes accomplished by mixing powdered strychnine with honey or with its own weight of commercial saccharine. For poisoning rabbits and field mice, which are accustomed to bitter foods, no sweetening is required, and it is probable that the bitterness of strychnine is no obstacle to poisoning certain other rodents.

As a poison for noxious animals strychnine has several advantages over the others commonly in use. It kills quickly, without the long tortures of corrosive poisons. In spite of its bitterness, baits containing it are rejected less often than those containing arsenic. If strychnine is properly labeled and kept from children, it is less dangerous to have on the premises than most other poisons. Should strychnine be accidentally swallowed by an adult, antidotes are usually available, and by prompt action a fatal result may be prevented. Finally, considering both cost and efficiency, strychnine is an economical poison.

Comparative cost of strychnine and arsenic.—The cheapness of arsenic leads many to select it for poisoning noxious mammals. But experiments by the Biological Survey show that strychnine, all things considered, is a cheaper poison than arsenic. Strychnia sulphate may be purchased in bulk at about 75 cents an ounce; white arsenic costs about 15 cents a pound. An ounce of strychnine will

^a In case of poisoning by strychnine an emetic should be promptly given—a teaspoonful of mustard in a glass of water (warm, if available). Another excellent emetic is zinc sulphate (10 to 60 grains in tepid water) or apomorphine (4 drops by hypodermic injection). A stomach pump can not be used after the first few minutes. As soon as the emetic has acted, the patient should be put slightly under the influence of chloroform or ether, and kept so for several hours. He should be kept in a darkened room and away from noise of all kinds. Further treatment may be left to the physician, who should be summoned as soon as the poisoning is discovered.

thoroughly poison 60 pounds of wheat intended for field mice; a pound of arsenic will poison only 10 or 12 pounds of the grain for the same purpose. The cost of preparing the 60 pounds of wheat, therefore, will be about the same with either poison; but more of that containing arsenic is required to kill. Actual field experiments clearly demonstrated the advantages of strychnine. The baits containing strychnine were eaten freely and many dead mice were found, while on the areas treated with arsenic little of the wheat was eaten and dead mice were few. Experiments show that an ounce of strychnine, if properly distributed, and if none is wasted, is enough to kill 4,500 prairie dogs or large ground squirrels or 9,000 field mice.

OTHER POISONS.

Barium carbonate.—As sold commercially, this is a dense, heavy white powder, insoluble in water but dissolving in the presence of several of the common acids. It is a rather cheap mineral poison without taste or smell. For this reason it has been recommended for destroying rats and mice. It is poisonous to larger animals when taken in considerable quantities, and in one case of human poisoning 60 grains of the salt proved fatal. Its action is corrosive and very slow.

Potassium cyanid.—This intensely poisonous substance has been employed for destroying prairie dogs in the West, but usually in combination with strychnine. Although cheap, the fact that in contact with the soil and atmosphere it rapidly decomposes and loses its poisonous qualities impairs its usefulness. It has been found too that dogs, when given doses of 2 or 4 grains of potassium cyanid, vomit the poison and recover.

Corrosive sublimate.—Corrosive sublimate, or mercuric chlorid, of commerce occurs in heavy colorless masses, which dissolve in 16 parts of cold water and 3 parts of boiling water. A dose as small as 3 grains has been known to be fatal to man. Its corrosive action on the digestive tract is rapid, and somewhat like that of carbolic acid, but death results usually from exhaustion. Although this poison has often been recommended for rodents, the burning sensation in the mouth and the constriction of the throat it causes preclude its employment.

Nux vomica.—The nux vomica of commerce, extensively used in medicine, is largely employed in the Old World for poisoning rodents. It contains from 2 to 5 per cent of poisonous alkaloids, mainly brucine and strychnine, but the proportions of each vary so greatly that the strength of the poison is uncertain, and it is better to use the purer strychnine instead. The baits can then be made of definite strength and the poison economically applied.

Cicuta and squill.—These two plants have been recommended for destroying rats and mice, and published formularies contain directions for preparing the poisons. The first is Cicuta virosa or C. maculata, known as water hemlock, a common marsh plant, the roots of which contain a very active poisonous principle known as cicutowin. This produces tetanic convulsions and death in animals. The bulbs of the common squill or sea onion contain scillitin, a poisonous glucoside which dissolves in alcohol or ether. This poison is sometimes used in connection with barium carbonate, the squill, it is said, being used chiefly to attract rats or mice to the bait. The writer has not yet tested the efficiency of these poisons.

POISONING WOLVES AND COYOTES.

Passing from the general consideration of poisons to their practical use by the farmer and stockman for the protection of his property against pests, it may be stated that strychnine is the most effective poison known for wolves. The strychnia sulphate is to be preferred on account of its quicker action. The proper dose for a wolf is 4 grains; for a covote, 2 grains. The common 3-grain gelatin capsules of the drug stores, if well filled, will hold 4 grains of strychnine. The 2-grain capsule should be used for coyotes. Fill, cap, and carefully wipe each capsule to remove every trace of the drug from the outside. Insert it into a piece of beef suet the size of a walnut and close the cavity. The baits should be carried in a can or pail and not handled except with gloved hands or forceps. They should be dropped from horseback along trails followed regularly by wolves or along an artificial trail made by dragging an old bone or piece of hide well saturated with the fetid scent described in Circular 63 of the Biological Survey, which should be consulted for more detailed directions for destroying wolves. These baits are very effective when placed around or partly under a carcass on which wolves or covotes are feeding.

POISONING PRAIRIE DOGS.

Poison and fumigation with carbon bisulphid are the only means that have proved successful in destroying prairie dogs over large areas. The cost of poisoning is less than half the cost of fumigation. The area should first be gone over with poison and the bulk of the animals thus destroyed. The few that escape may then be located in their burrows and destroyed with carbon bisulphid.

Wheat treated with strychnine has proved an economical and efficient poison, but is objectionable because it kills numerous valuable birds. Rolled grain and meal are less likely to be eaten by

birds, particularly if carefully placed close to the mouths of the burrows. As a medium for conveying the poison there is little doubt that alfalfa, either green or dry, will prove equally or even more successful, and it has the advantage that it is not eaten by birds.

One and a half ounces of strychnia sulphate is enough to prepare a bushel of wheat. Dissolve the strychnine in a quart of boiling water and add a quart or more of thick sugar sirup. Pour this mixture over the wheat in a clean metal vessel and stir until all the wheat is wet. Stir in corn meal to take up any surplus moisture, if the poison is to be used immediately, or add more water and leave the wheat to absorb the strychnine over night. Many experienced persons prefer the latter plan, but the writer has been equally successful with both. About a teaspoonful of the poisoned wheat is placed at the mouth of each occupied burrow. It is important to choose a time when the animals are both active and hungry, preferably in winter or early spring.

The Kansas formula.—A few years ago the State of Kansas carried on extensive operations against prairie dogs, destroying them almost completely over nearly 2,000,000 acres of thickly infested land. The poison was prepared at the State agricultural college experiment station, and for more than three years the writer had charge of its preparation and distribution. It was sold to townships and individuals at cost, or the formula for preparing it was given to citizens of the State who asked for it. The formula was adapted from one patented by David W. Staples, formerly of Quanah, Tex.^a The State purchased the right to use the poison, but the writer found the formula impractical for large operations and it was modified into the following:

For 1 gallon poisoned sirup, use—

- 4 ounces powdered strychnia sulphate:
- 4 ounces potassium cyanid;
- 4 ounces green coffee;
- 6 ounces alcohol;
- 4 eggs (whites only);
- ½ gallon thick sugar sirup.

Preparation.—Mix the coffee and whites of eggs, and let the mixture stand over night. Dissolve the cyanid of potassium in a little less than a quart of hot water, and let it cool before using. Prepare the sugar sirup previously, so that it is not hot when used. Pour the cyanid of potassium solution over the coffee-and-egg mixture, stir, and then strain into the mixing vessel through a sieve fine enough to hold the coffee, which is rejected. Add the sugar sirup and stir thoroughly. Dissolve the strychnia in a little less than a quart of boiling water. Pour the alcohol into this solution and stir. Then add the mixture of strychnine, alcohol, and water to the contents of the mixing vessel and stir thoroughly.

^a Patent No. 456602, issued July 28, 1891. Expired July 28, 1908.

The strychnine will be precipitated by the cyanid, and when the poison is placed in a can and allowed to stand will settle at the bottom. The poison should be kept closely corked until used.

A gallon of this poisoned sirup is enough to poison two bushels of wheat. Before it is mixed with the wheat it should be thoroughly stirred or shaken, and a few pounds of corn meal added to make the sirup adhere to the grain. This preparation may be used immediately. Another way is to add more water and leave the wheat over night to absorb the strychnine.

The potassium cyanid in this formula makes the poison a quick killer when first put out. The quantity of strychnine is probably

somewhat in excess of actual requirements.

Green alfalfa or alfalfa hay for poisoning prairie dogs should be chopped into short lengths and sprinkled with strychnine water or sirup until thoroughly wet. A large metal washtub should be used as a mixing vessel. An ounce of strychnia sulphate dissolved in a half gallon of water will prepare 30 pounds of green alfalfa; or the same quantity of strychnine dissolved in 3 or 4 gallons of water will prepare 20 pounds of alfalfa hay.

POISONING GROUND SQUIRRELS.

Ground squirrels are a serious pest in many parts of the West. The larger species are usually more difficult to poison than the smaller ones; but as they ordinarily eat more food, the difference in the formulas is less than one might expect. For the smaller ground squirrels, use—

1 ounce strychnia sulphate,35 pounds clean wheat,2 gallons water.

Dissolve the strychnine in the water in a large mixing vessel. Then pour in the wheat and allow all to simmer for an hour, the vessel being covered. Stir occasionally. The water will probably be entirely absorbed by the grain, but if not, a little corn meal will take up the extra moisture. If preferred, the strychnine may first be dissolved in a pint of boiling water, the ingredients then mixed in a large vessel, and all left over night to absorb the poison. Distribute the poisoned wheat, a half teaspoonful at a place, at the mouth of the squirrel burrows. Do not scatter broadcast on account of the danger of killing birds.

For the larger ground squirrels reduce the quantity of wheat in the above to 25 pounds and the water in proportion. Experiments in California in destroying the digger ground squirrel (*Citellus beecheyi*) with pieces of sugar beets into which crystals of strychnia sulphate had been inserted with a knife gave good results.

POISONING POCKET GOPHERS.

The several species of pocket gophers in the United States differ considerably, but they are much alike in their destructive habits and are a pest wherever they occur in cultivated lands.

The pocket gophers of the Mississippi Valley and the southern States east of the Mississippi belong to the genus Geomys, and are readily poisoned with strychnine. The writer has had excellent success in destroying them with various baits in the late fall and early winter and reasonably good results at other seasons. Crystals of strychnine may be inserted into pieces of potato, carrot, or sweet potato, or in raisins, and the baits placed in the tunnels several feet from the fresh mounds. If placed in the laterals near the mounds they are likely to be pushed out by the animals in bringing out soil and so not found. An instrument consisting of a spade handle shod with a metal point and having a metal bar for the foot about 15 inches from the point is admirably adapted to making openings into the tunnels into which the baits may be dropped. The holes need not be closed.

With the instrument described it is possible for one man in a day to distribute gopher poison on 30 to 40 acres of badly infested meadow or alfalfa land. A sharp-pointed stick may be substituted for the spade handle, but it can not be operated successfully in any but loose soils.

Corn soaked in strychnine sirup prepared as recommended for poisoning prairie dogs is an excellent bait for pocket gophers. A few kernels are dropped into holes made in runways as described above.

(For methods of trapping gophers, see revised edition of Circular 52 of the Biological Survey, "Directions for Destroying Pocket Gophers," 1908.)

POISONING RABBITS.

Rabbits, especially jack rabbits, are pests in many parts of the West. Winter has proved the best time for poisoning them. In summer the baits are often eaten by grasshoppers, and because of the abundance of green foods, are much less likely to be taken by rabbits.

Pieces of apple, carrot, sweet potato, or melon rind are favorite baits for rabbits. Crystals of strychnia sulphate are inserted in them and they are left along rabbit runs, either on the ground or elevated on short sticks. Artificial runs may be made in orchards with a drag or one-horse scraper. Another excellent bait is oatmeal soaked in a sweetened solution of strychnine. Bran or chop, prepared with arsenic for poisoning grasshoppers, has sometimes proved effective for rabbits.

In winter rabbits may be poisoned with alfalfa hay prepared by the formula for poisoning prairie dogs, or by baiting with twigs cut from apple trees and dipped in a rather thick solution of strychnine and sugar. Both baits have the advantage of not endangering birds, but the poisoned alfalfa should be fed in inclosures from which live stock is excluded. At the same time the rabbits must be carefully fenced away from haystacks, or they may not eat the poisoned bait.

POISONING MEADOW MICE.

The most effective poison for the short-tailed field mice is strychnine. In the recent outbreak of these pests in Nevada, the best baits proved to be alfalfa and crushed wheat.

An ounce of strychnia sulphate dissolved in 5 or 6 gallons of water will effectually prepare 30 pounds of chopped dry alfalfa hay; or, with $1\frac{1}{2}$ gallons of water, will prepare 45 pounds of green alfalfa cut into short lengths. The poisoned food is distributed near or in the mouth of burrows, a small pinch at a place, especially in cold weather, when the animals do not feed in the open. Green alfalfa bait should not be put out when the sun is hot.

In the absence of alfalfa, crushed wheat is an excellent bait. An ounce of strychnia sulphate in 2 gallons of water will poison 60 pounds of crushed wheat. The prepared wheat is distributed in the mouse runs near burrows, very small quantities at a place. No more food than the mice can eat should be put out, especially as the wheat endangers a number of kinds of birds.

Mice in orchards and other places where they occur in normal numbers may be destroyed by feeding the prepared baits under shelters where birds will not find them. Piles of brush, wide boards, old tin cans with the ends crushed inward, and drain pipes have all been recommended as coverings for the poisoned food. Twigs of apple trees poisoned as for rabbits have also given excellent results with field mice without danger to other animals or birds.

POISONING HOUSE RATS AND MICE.

It is usually undesirable to poison rats or mice in occupied dwellings, since, notwithstanding statements to the contrary, no poison is known which when eaten will prevent decomposition of the animal's body. Hence traps are the chief reliance of the householder to keep his home free from these rodents. The more slowly acting poisons have sometimes been recommended as permitting the rats time to leave houses before dying. Barium carbonate most nearly fulfills this requirement, but if rats eat much of the poison they frequently die on the premises. The powder may be spread or sprinkled upon small pieces of buttered bread; or one part by bulk of barium car-

bonate may be mixed with eight parts of rolled oats, and enough water added to wet the mixture and make a thick dough.

For poisoning rats in fields or in places where the lives of domestic animals are not endangered, grain soaked in strychnine sirup is successful. A good plan is to bait the animals for several nights with unpoisoned grain, until they are accustomed to feeding at a particular place. Then feed nothing or very little for a single night, and the next follow with a liberal quantity of poisoned grain.

The common brown rat becomes wary and suspicious with age and experience, and is then difficult to trap or to poison. Care to avoid handling baits or traps and skill in choosing localities and otherwise allaying suspicion are essential to success with old rats. The young are no more difficult to trap or poison than are mice.

POISONING MOLES.

Moles are not vegetarians, but feed almost exclusively on earthworms and insects. They do much good by destroying white grubs, the larvæ of various species of June bugs, or May beetles. They do no harm except to lawns; and the actual injury is slight, except in times of drought, when the grass dies along their tunnels. Rolling is usually a remedy for the injury.

The disrepute attaching to moles as destroyers of crops or plants is due largely to a misapprehension of facts. The pine mouse and other species of meadow mice habitually utilize the mole runs and destroy potatoes and other roots and vegetables, while the innocent mole bears the blame. The mice may be readily killed by placing poisoned grain in the mole runs.

It is claimed that moles may be poisoned by small bits of meat into which strychnine has been inserted, or by earthworms cut and sprinkled with powdered strychnine. Experiments by the writer have given negative results. Experiments with the soft, milky kernels of fresh green sweet corn soaked in strychnine sirup and placed in the mole's tunnels were more successful, several dead moles having been dug out by dogs within short distances of the places where the poison had been inserted.

CAUTION.

All operations with poisons for noxious mammals should be conducted with every safeguard against accidents to persons, domestic animals, and game. Wisely used and carefully handled, poisons need not endanger lives other than those aimed at. Ordinarily, beneficial birds have suffered much from squirrel and prairie-dog poisons, especially in winter. Experience has taught the writer that during poisoning operations on the plains, if unpoisoned grain is scattered freely in the vicinity of watering places, the birds will remain there and few of them will find the poisoned grain intended for the rodents.

UNITED STATES DEPARTMENT OF THE INTERIOR

General Land Office

Circular No. 1386

REGULATIONS

CONCERNING

OIL AND GAS PERMITS AND LEASES AND RIGHTS OF WAY FOR PIPE LINES

Under Sections 13, 14, 17, and 28 of the Act of February 25, 1920 (41 Stat., 437) as amended by the Act of August 21, 1935 (49 Stat., 674)

APPROVED MAY 7, 1936



UNITED STATES
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UNITED STATES

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CONTENTS

P
Oil and Gas Permits
1. Applications
2. Extensions
3. Reward for discovery
4. Exchange for leases
Oil and Gas Leases
5. Offer of lands for lease
6. Notice of offer
7. Auction of lease
8. Award of lease
Leases without Competitive Bidding
9. Preference rights
10. Applications for leases
11. Leases on permit applications
12. Conflicting applications for leases
13. Form of lease
14. Bonds
Form of bond
15. Rentals
16. Suspension of rentals
17. Royalties
18. Reduction of Royalties
19. Drainage
20. Exchange of leases
21. Acreage limitations
22. Rights of way
Appendix

Applications for oil and gas leases filed pursuant to section 10 of Circular 1386 must be accompanied by proper filing fees. A minimum fee of \$10.00 is charged for applications embracing not more than 800 acres, and an additional fee of \$2.00 for each 160 acres or fraction thereof over 800 acres, the maximum fee being \$32.00.

Circular No. 1386

Regulations Under Sections 13, 14, 17, and 28 of the Act of February 25, 1920, as Amended by the Act of August 21, 1935

United States Department of the Interior, General Land Office, Washington, May 7, 1936.

REGISTERS,

U. S. Land Offices.

Sirs: By the act approved August 21, 1935 (49 Stat. 674), sections 13, 14, 17, and 28 of the leasing act of February 25, 1920 (41 Stat. 437), were amended. A copy of the act is appended hereto.

This act changes materially the system of disposing of the oil and gas resources on the public domain in the United States and Alaska, chiefly, by providing for the issuance of leases instead of prospecting

permits for unproven oil and gas lands.

In general, the amended act authorizes and directs the Secretary of the Interior to issue oil and gas prospecting permits on applications filed 90 days or more prior to its approval. Applications for prospecting permits filed after 90 days prior to the date of the act shall be considered as applications for leases. All lands subject to disposition under the leasing act which are known or believed to contain oil and gas deposits may be leased in units of not exceeding 640 acres to the highest responsible qualified bidder by competitive bidding under general regulations, except that the first qualified applicant for lease of lands not within a known geologic structure of a producing oil or gas field and applicants for permits whose applications were filed after 90 days prior to the date of the act are entitled to preference rights over others to lease such lands without competitive bidding. Rights to leases in case of a discovery under existing permits and permits which may issue under the pending applica-tions are not changed or affected. The holder of any permit in good standing may at any time prior to termination thereof exchange said permit for a lease without proof of discovery. Leases for terms of 5 and 10 years and so long thereafter as oil or gas is produced in paying quantities are authorized at a royalty of not less than 121/2 per centum of the amount of production and an annual rental charge of not less than 25 cents per acre. Rights-of-way granted under section 28 shall be upon the additional condition that the grantee accept, convey, transport, or purchase without discrimination oil or natural gas produced from Government lands in the vicinity of the pipe line.

The following rules and regulations are prescribed for the administration of the amended sections of the act, existing oil and gas regulations to continue in force except as modified by the amendatory act and by these regulations:

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PROSPECTING PERMITS

1. Applications for permits.—Prospecting permits are authorized by section 13 as amended only in cases where the applications were filed 90 days or more prior to the date of the amendatory act. Accordingly, the pending applications for permits filed on or prior to May 23, 1935, will be considered, and where found allowable permits will be granted for periods of 2 years, but in no case beyond December 31, 1938, except that in Alaska permits will be granted for the full 4-year periods. Applications for permits filed after May 23, 1935, and prior to August 21, 1935, will be considered as applications for leases pursuant to the last two provisos to section 13 of the amendatory act of August 21, 1935. Any applications for permits filed on or after August 21, 1935, will be considered as regular applications for leases under section 17, as amended.

2. Extension of permits.—Outstanding permits heretofore extended by the Secretary of the Interior and which are not subject to cancelation for violation of the law or operating regulations are extended by the act to December 31, 1937, subject to the applicable conditions of such prior extensions, and such permits may be further extended by the Secretary of the Interior for an additional period

of not exceeding 1 year.

Permits which have not been extended or which may be issued under the pending applications may be extended by the Secretary of the Interior for not exceeding 2 years, but not beyond December 31, 1938, where he shall find that the permittee has been unable, with the exercise of diligence, to test the lands in the time granted by the permit, the extensions to be upon such conditions as the Secretary may prescribe.

No extension of any permit may be made beyond December

31 1938.

Any applications for extension of time should contain full and definite information regarding work done in compliance with the terms of the permit and money expended for developing the permit area and for reliable geological surveys of the lands involved. The showing must be by affidavit and state in detail the amounts and dates of such expenditures, purposes for which made, to whom the payments were made, and if the permittee has secured a geological survey of the land, copies of the reports and maps thereof should be filed. Any other facts which the permittee believes will show equities in support of his application should be included in the showing.

3. Reward for discovery.—Upon discovery of valuable deposits of oil or gas within the permit area during the life of the permit, the permittee will be entitled to lease the lands under the original provisions of section 14 (see circular 1094, 51 L. D. 597), no change being made in such rights by the amendatory act, except that in case a permit is issued upon any structure after discovery based upon an application filed prior to discovery the royalty to be paid under the preferential or earned lease shall be 10 per centum instead of 5 per centum in amount or value of the production. Applications for leases based on discovery should conform to the instructions of October 1, 1926, circular 823 (51 L. D. 600).

4. Exchange of permits for leases.—Any person holding a prospecting permit not subject to cancelation for violation of the law or operating regulations, and otherwise in good standing, has the right, prior to the termination of the permit, to exchange the same for a lease to the area described therein, without proof of discovery, at a royalty rate of not less than 121/2 per centum of the amount or value of the production, such lease not to be subject to the acreage limitation of the law until 1 year after the discovery of oil or gas thereon, or to payment of rental within the first 2 lease years, unless valuable deposits of oil or gas are sooner discovered within the boundaries of the lease.

If the permits are in good standing, applications for such exchanges may be made at any time by the parties in interest, as shown by the records of the Land Department. No formal application will be required, but such application should be addressed to the Secretary of the Interior, and filed with the Register or the Commissioner of the General Land Office. If the Secretary of the Interior approves the exchange, lease forms will be transmitted to the permittee who will be allowed 30 days to execute and file the lease, and furnish such bond as may be required.

OIL AND GAS LEASES

5. Designation and offer of lands for lease.—Pursuant to the provisions of section 17 of the act, as amended, the unappropriated lands and deposits subject to disposition under the act will be divided into leasing blocks or tracts in units of not exceeding 640 acres each, which shall be as nearly compact in form as possible, and offered for lease at a stated royalty and rental by competitive bidding to the

highest responsible qualified bidder.

6. Notice of lease offer.—Notice of the offer of lands for lease will be given by publication for a period of 30 days in a newspaper of general circulation to be designated by the Commissioner of the General Land Office in the county in which the lands or deposits are situated, or in such other paper or papers as the Secretary of the Interior may direct. Such notice will set the day and hour on which the offer will be made at public auction at the United States land office of the district in which the lands are situated, or at such other place as may be fixed in the notice, to the qualified bidder offering the highest bonus (not less than the minimum bonus fixed in the notice) for the lease at the stated rental and royalty. Copy of the notice will be posted in the district land office during the period of This notice will be published at the expense of the publication. Government. All bidders at any such auction are warned against violation of the provisions of section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders.

7. Auction of lease.—At the time fixed in the notice the register will, by public auction, offer the land for lease on the terms and conditions fixed in the notice to the qualified bidder of the highest amount offered as a bonus for the privilege of leasing the land. The successful bidder must deposit with the register on the day of sale certified check on a solvent bank, or cash, for one-fifth of the amount bid by him, which payment the register will credit to "Trust funds—Unearned moneys." At the time of such payment the successful bidder will also file the requisite showing of his qualifications to receive a lease, which should include the following:

(a) Proof of citizenship: By affidavit of such fact if native born or, if naturalized, affidavit stating date of naturalization, court in which naturalized and number of certificate, if known; if a corporation, by certified copy of the articles of incorporation and a showing

as to the residence and citizenship of its stockholders.

(b) The affidavit of the bidder or the affidavit of one of the officers of a corporate bidder, stating in full the interests, direct or indirect, held in permits and leases, and applications therefor, in the same State, identifying the records wherein such interests may be found.

The register will thereupon transmit such showing, together with a report of the proceedings had at the auction by a special letter to

the Commissioner of the General Land Office.

8. Award of lease.—Upon receipt of the report of the auction from the register, the Secretary of the Interior will take action thereon and either award the lease to the successful bidder or reject same, notice of which will be forthwith transmitted to the bidder through the local office. If the lease shall be awarded, the notice will be accompanied by copies of the lease for execution by the lessee who shall within 30 days from receipt of such notice, execute said lease in triplicate, and pay to the register the balance of the bonus bid by him, together with the first required rental, and also cause to be filed any bond required in connection with the lease. If the bid be rejected the register will return by his official check the deposit made at the auction. In case of the award of a lease and failure on the part of the bidder to execute same and otherwise comply with the applicable regulations, the deposit will be considered forfeited and disposed of as other receipts under this act.

If two or more units are awarded to any bidder such units, not exceeding in area the maximum allowed by law, may be included in a

single lease if circumstances warrant.

LEASES WITHOUT COMPETITIVE BIDDING

9. Preference right to lease.—A preference right over others to a lease without competitive bidding is granted under section 17, as amended, to—

(a) The person first making application for the lease of any lands not within any known geologic structure of a producing oil or

gas field who is qualified to hold a lease under the act.

(b) Applicants for permits whose applications were filed after 90

days prior to the effective date of the amendatory act.

10. Applications for leases.—Applications for leases of lands not within the known geologic structure of a producing oil or gas field may be filed in the proper district land office, or in States in which there is no district land office, in the General Land Office, addressed to the Commissioner of the General Land Office. Such applications when filed will be promptly noted of record, the date and exact hour of filing noted thereon, and where filed in the district land office, promptly forwarded to the General Land Office with a report

as to the status and conflicts. No specific form of application is required and no blanks will be furnished, but such application must be under oath of the applicant, or if sworn to by his attorney in fact, the power of attorney and the applicant's own affidavit as to his citizenship and holdings must be attached thereto.

The application must cover in substance the following points:

(a) The applicant's name and address.

(b) Statement as to citizenship: In case of an individual, whether native born or naturalized and, if naturalized, date of naturalization, court in which naturalized, and number of certificate if known; if a corporation, by certified copy of the articles of incorporation and a showing as to residence and citizenship of the stockholders.

(c) A statement of the interests, direct and indirect, held by the applicant in permits and leases, and applications therefor, in the same State, identifying the records wherein such interests may be

found.

(d) Description of the lands for which a lease is desired, which may not exceed 2,560 acres as nearly compact in form as possible and should involve only one geologic structure, describing the lands by legal subdivisions if surveyed or, if not surveyed, by the approximate subdivisions and metes and bounds description connected with a corner of the public surveys by courses and distances.

(e) A statement that to the best of applicant's knowledge and belief the lands applied for are not within the known geologic structure of any producing oil or gas field and are believed to contain

oil and gas.

(f) The names and addresses of three references as to the appli-

cant's reputation and business standing.

(g) A statement that the applicant is ready to pay in advance the annual rental under the lease, and to furnish such bond or bonds as may be required under the lease or regulations.

Payment of a bonus for leases made without competitive bidding

will not be required for the present.

11. Leases based on permit applications.—Applications for permits filed after May 23, 1935, are considered as applications for leases under section 17 of the amended act. Such leases are subject to the acreage limitations of section 27 of the act and, if otherwise regular, will be issued without bonus requirement at the royalty rate provided in section 17 hereof and at a rental as provided in section 15 hereof.

12. Conflicting applications for leases.—Should more than one application for lease of the same lands be filed, the applications will be considered in the order filed and a lease granted to the qualified applicant first in point of time in filing application. If two or more applications are filed simultaneously, the right to lease will be determined pursuant to existing regulations governing simultaneous filings of applications for oil and gas prospecting permits. (See circular 1320, 54 I. D. 400.)

13. Form of lease.—The lease referred to in the preceding sections

will be in form and substance substantially as follows:

_years, and so long thereafter as oil or gas is

Serial -

LEASE OF OIL AND GAS LANDS UNDER THE ACT OF FEBRUARY 25, 1920, AS AMENDED

This indenture of lease, entered into, in triplicate, as of the ______day of _____, by and between the United States of America, party of the first part, hereinafter called the lessor, by the Secretary of the Interior, and _____, party of the second part, hereinafter called the lessee, under, pursuant, and subject to the terms and provisions of the act of Congress approved February 25, 1920 (41 Stat. 437), entitled "An act to promote the mining of coal, phosphate, oil, oil shale, gas, and sodium on the public domain", as amended, hereinafter referred to as the act, which is made a part hereof, witnesseth:

SEC. 1. Rights of lessee.—That the lessor in consideration of rents and royalties to be paid, and the conditions and covenants to be observed as herein set forth, does hereby grant and lease to the lessee the exclusive right and privilege to drill for, mine, extract, remove, and dispose of all the oil and gas deposits in or under the following-described tracts of land situated in the field and more particularly described as follows: _______containing______acres, more or less, together with the right to construct and maintain thereupon all works, buildings, plants, waterways, roads, telegraph or telephone lines, pipe lines, reservoirs, tanks, pumping stations, or other structures necessary to the full enjoyment

thereof, for a period of_____produced in paying quantities.

SEC. 2. In consideration of the foregoing, the lessee hereby agrees:

(a) Bond.—To furnish prior to beginning of drilling operations and maintain at all times thereafter as required by the lessor a bond in the penal sum of \$5,000 with approved corporate surety, or with deposit of United States bonds as surety therefor, conditioned upon compliance with the terms of this lease; and, until such bond is furnished, to submit and maintain a bond in the sum of \$1,000 with acceptable surety, similarly conditioned.

(b) Within 30 days of demand, to subscribe to and to operate under such reasonable cooperative or unit plan for the development and operation of the area, field, or pool embracing the lands included herein as the Secretary of the Interior may determine to be practicable and necessary or advisable, which plan shall adequately protect the rights of all parties in interest, including the

United States.

(c) Wells.—(1) To drill and produce all wells necessary to protect the leased land from drainage by wells on lands not the property of the lessor or lands of the United States leased at a lower royalty rate, or in lieu of any part of such drilling and production, with the consent of the Secretary of the Interior, to compensate the lessor in full each month for the estimated loss of royalty through drainage in the amount determined under instructions of said Secretary; (2) at the election of the lessee, to drill and produce other wells in conformity with any system of well spacing or production allotments affecting the field or area in which the leased lands are situated, provided such system is authorized and sanctioned by applicable law or by the Secretary of the Interior; and (3) promptly after due notice in writing, to drill and produce such other wells as the Secretary of the Interior may require to insure reasonable

diligence in the development and operation of the property.

(d) Rentals.—To pay the lessor in advance for each acre or fraction thereof, a rental of 50 cents for the first lease year beginning on the first day of the month in which the lease issues, and a rental of 25 cents for each subsequent lease year beginning prior to discovery of a valuable deposit of oil or gas within the limits of the geologic structure on which all or part of the leased lands are situated, and \$1 for each lease year beginning on or after such discovery, the rental so paid for any one lease year to be credited on the royalty for that year: Provided, That if this lease is granted in exchange for an oil and gas prospecting permit or pursuant to an application for a prospecting permit filed after May 23, 1935, no rental shall be payable for the first two lease years unless valuable deposits of oil or gas are sooner discovered within the boundaries of the lease, but a rental of \$1 shall be payable, as above provided, for each lease year beginning on or after such discovery: And provided further, That when the Secretary of the Interior shall direct or shall assent to suspension

of operations or of production of oil or gas under this lease, after a valuable deposit of oil or gas shall have been discovered within the lands leased, any payment of acreage rental prescribed herein likewise shall be suspended during such period of suspension of all operations and production; and this lease shall not be deemed to expire by reason of suspension of prospecting, drilling, or production, pursuant to any order or consent of the said Secretary.

(e) Royalties.—To pay the lessor royalties, as follows, on the amount or value of all production from the leased lands (except that portion thereof

used for production purposes on said lands or unavoidably lost):

(1) When the price of oil used in computing royalty value is \$1 or more per barrel, the per centum of royalty shall be as follows:

When the average production for the calendar month in barrels per well per day is—

Not over 50, the royalty shall be 12.5 percent. Over 50 but not over 60, the royalty shall be 13 percent. Over 60 but not over 70, the royalty shall be 14 percent. Over 70 but not over 80, the royalty shall be 15 percent. Over 80 but not over 90, the royalty shall be 16 percent. Over 90 but not over 110, the royalty shall be 17 percent. Over 110 but not over 130, the royalty shall be 18 percent. Over 130 but not over 150, the royalty shall be 19 percent. Over 150 but not over 200, the royalty shall be 20 percent. Over 200 but not over 250, the royalty shall be 21 percent. Over 250 but not over 300, the royalty shall be 22 percent. Over 300 but not over 350, the royalty shall be 23 percent. Over 350 but not over 400, the royalty shall be 24 percent. Over 400 but not over 450, the royalty shall be 25 percent. Over 450 but not over 500, the royalty shall be 26 percent. Over 500 but not over 750, the royalty shall be 27 percent. Over 750 but not over 1,000, the royalty shall be 28 percent. Over 1,000 but not over 1,250, the royalty shall be 29 percent. Over 1,250 but not over 1,500, the royalty shall be 30 percent. Over 1,500 but not over 2,000, the royalty shall be 31 percent. Over 2,000 the royalty shall be 32 percent.

(2) When the price of oil used in computing royalty value is less than \$1 per barrel, the per centum of royalty shall be the foregoing multiplied by the ratio of said price to a price of \$1 per barrel: *Provided*, *however*, That the per centum of royalty shall never be less than 12.5.

(3) If the United States shall take its royalty in oil, the price received by the lessee, as well as that received by the lessor, shall be considered in determining the price to govern the percentum of royalty, unless both prices are \$1 or more per barrel.

(4) On gas, including inflammable gas, helium, carbon dioxide, and all other natural gases and mixtures thereof, and on natural or casing-head gasoline

and other liquid products obtained from gas:

When the average production of gas per well per day for the calendar month does not exceed 5,000,000 cubic feet, 12½ percent; and when said production of gas exceeds 5,000,000 cubic feet, 16¾ percent of the amount or value of the gas and liquid products produced, said amount or value of such liquid products to be net after an allowance for the cost of manufacture: Provided, That the allowance for cost of manufacture may exceed two-thirds of the amount or value of any product only on approval by the Secretary of the Interior, and that said value of gas and of liquid products shall be as determined by said Secretary.

The average production per well per day for oil and for gas shall be determined under rules and regulations approved by the Secretary of the

Interior.

(5) It is expressly agreed that the Secretary of the Interior may establish reasonable minimum prices for purposes of computing royalty in value on any or all oil, gas, natural gasoline, and other liquid products obtained from gas; and that in no case shall the price so established be less than the estimated reasonable value of the product, due consideration being given to the highest price paid for a part or for a majority of production of like quality in the same field, to the price received by the lessee, to posted prices and to other relevant matters.

(6) When paid in value, such royalties on production shall be due and payable monthly on the last day of the calendar month next following the calendar month in which produced. When paid in amount of production, such royalty products shall be delivered in merchantable condition on the premises where produced without cost to lessor, unless otherwise agreed to by the parties hereto, at such times, and in such tanks provided by the lessee as reasonably may be required by the lessor: Provided, That the lessee shall not be required to hold such royalty oil or other liquid products in storage beyond the last day of the calendar month next following the calendar month in which produced: And provided further, That the lessee shall be in no manner responsible or held liable for the loss or destruction of royalty oil or other liquid products in storage from causes over which the lessee has no control.

(7) Royalties, whether in amount or value of production, shall be subject to reduction whenever the average daily production of the oil wells on the entire leasehold or on any tract or portion thereof segregated for royalty purposes shall not exceed ten (10) barrels per well per day, or where the cost of production of oil or gas is such as to render further production economically impracticable, if in the judgment of the Secretary of the Interior the wells

cannot be successfully operated upon the royalties fixed herein.

(f) Contracts for disposal of products.—To file with the Federal oil and gas supervisor or such other officer as the Secretary of the Interior may design nate, copies of all contracts immediately upon execution thereof, and full information as to all other arrangements for the disposal of oil, gas, natural gasoline, and other products, produced hereunder (except products used for production purposes on the leased lands or unavoidably lost), and not to sell or otherwise dispose of the products of the land leased except in accordance with a contract or other arrangement first approved by said officer, such approval to be subject to review by the Secretary of the Interior but to be effective unless and until revoked by said Secretary or his said subordinate.

(g) Monthly statements.—To furnish monthly statements in detail at such time and in such form as may be prescribed by the lessor, showing the amount, and quality of all oil, gas, natural gasoline, and other substances produced during the preceding calendar month and the amounts thereof used for production purposes on the leased lands or unavoidably lost, and to furnish current records and monthly statements of the amounts thereof sold or otherwise disposed of

and the proceeds therefrom.

(h) Payments.—Unless otherwise directed by the Secretary of the Interior, to make rental, royalty, or other payments to the lessor to the order of the Commissioner, General Land Office, such payments to be tendered to the Federal oil and gas supervisor of the district in which the leased land is situated.

(i) Inspection.—To keep open at all reasonable times for the inspection of any duly authorized officer of the Department, the leased premises and all wells, improvements, machinery, and fixtures thereon or connected therewith and all books, accounts, maps, and records relative to operations and surveys or investigations on the leased lands or under the lease.

(j) Plats and reports.—To furnish at such times and in the manner and form prescribed by or on behalf of the lessor, a plat showing all development work and improvements on the leased lands, and other related information, with a report as to all buildings, structures, or other works placed in or upon said leased lands; and to report in detail when required as to the stock holders. investment, depreciation, and cost of operation, and the amount, nature, and quality of products sold, and the amount received therefor.

(k) Well records.—To keep a daily drilling record, a log and complete information on all well surveys in form acceptable to or prescribed by or on behalf of the lessor of all the wells drilled on the leased lands, and an acceptable record of all subsurface investigations affecting said lands, which log, information, and records, or copies thereof, shall be furnished to the lessor as requested

or required.

(1) Diligence-Prevention of waste-Health and safety of workmen.-To exercise reasonable diligence in drilling and producing the wells herein provided for unless consent to suspend operations temporarily is granted by the Secretary of the Interior; to carry on all operations hereunder in a good and workmanlike manner, in accordance with approved methods and practice as provided in the operating regulations, having due regard for the prevention of waste of oil or gas developed or damage to deposits or formations containing oil, gas, or water, or to coal measures or other mineral deposits, for conservation of gas energy, for the preservation and conservation of the property for

future productive operations, and for the health and safety of workmen and employees; to plug properly and effectively all wells before abandoning the same; not to drill any well within 200 feet of any of the outer boundaries of the lands covered hereby, unless the adjoining lands have been patented or the title thereto otherwise vested in private owners; to carry out at expense of the lessee all reasonable orders of the lessor relative to the matters in this paragraph, and that on failure of the lessee so to do the lessor shall have the right to enter on the property and to accomplish the purpose of such orders at the lessee's cost; *Provided*, That the lessee shall not be held responsible for delays

or casualties occasioned by causes beyond lessee's control.

(m) Regulations.—To abide by and conform to any and all reasonable regulations of the Secretary of the Interior now or hereafter in force, all of which regulations are made a part and condition of this lease: Provided, That such regulations are not inconsistent with any express and specific provisions hereof; and particularly that no regulations hereafter approved shall affect a change in the rate of royalty or annual rental herein specified without the

written consent of the parties to this lease.

(n) Taxes and wages—Freedom of purchase.—To pay when due, all taxes lawfully assessed and levied under the laws of the State or the United States upon improvements, oil, and gas produced from the lands hereunder, or other rights, property, or assets of the lessee; to accord all workmen and employees complete freedom of purchase, and to pay all wages due workmen and employees at least twice each month in the lawful money of the United States.

(o) Reserved deposits.—To comply with all statutory requirements and regulations thereunder, if the lands embraced herein have been or shall hereafter be disposed of under the laws reserving to the United States the deposits of oil and gas therein, subject to such conditions as are or may hereafter be pro-

vided by the laws reserving such oil or gas.

(p) Assignment of lease.-Not to assign this lease or any interest therein by an operating agreement or otherwise, nor to sublet any portion of the leased premises, except with the consent in writing of the Secretary of the Interior first had and obtained.

(q) Deliver premises in cases of forfeiture.—To deliver up the premises leased, with all permanent improvements thereon, in good order and condition in case of forfeiture of this lease; but this shall not be construed to prevent the removal, alteration, or renewal of equipment and improvements in the ordinary

course of operations.

(r) Pipe lines to purchase or convey at reasonable rates and without discrimination.—If owner, or operator or owner of a controlling interest in any pipe line or of any company operating the same which may be operated accessible to the oil or gas derived from lands under this lease, to accept and convey and, if a purchaser of such products, to purchase at reasonable rates and without discrimination the oil or gas of the Government or of any citizen or company not the owner of any pipe line, operating a lease or purchasing or selling oil, gas, natural gasoline or other products under the provisions of the

SEC. 3. The lessor expressly reserves:

(a) Rights reserved-Easements and rights-of-way.-The right to permit for joint or several use easements or rights-of-way, including easements in tunnels upon, through or in the lands leased, occupied, or used as may be necessary or appropriate to the working of the same or of other lands containing the deposits described in the act, and the treatment and shipment of products thereof by or under authority of the Government, its lessees or permittees, and for other public purposes.

(b) Disposition of surface.—The right to lease, sell, or otherwise dispose of the surface of the lands embraced within this lease under existing law or laws hereafter enacted, insofar as said surface is not necessary for the use of the lessee in the extraction and removal of the oil and gas therein: Provided, That this reservation shall not apply to any lands herein described, title to which has

passed from the United States.

(c) Monopoly and fair prices.-Full power and authority to promulgate and enforce all orders necessary to insure the sale of the production of the leased lands to the United States and to the public at reasonable prices, to protect the interests of the United States, to prevent monopoly, and to safeguard the public welfare.

(d) Helium .- Pursuant to section 1 of the act, and section 1 of the act of Congress approved March 3, 1927 (44 Stat. 1387), the lessor reserves the ownership and the right to extract, under such rules and regulations as shall be prescribed by the Secretary of the Interior, helium from all gas produced under this lease, but the lessee shall not be required to extract and save the helium for the lessor; in case the lessor elects to take the helium the lessee shall deliver all gas containing same, or portion thereof desired, to the lessor at any point on the leased premises in the manner required by the lessor, for the extraction of the helium in such plant or reduction works for that purpose as the lessor may provide, whereupon the residue shall be returned to the lessee with no substantial delay in the delivery of gas produced from the well to the purchaser thereof: Provided, That the lessee shall not, as a result of the operation in this paragraph provided for, suffer a diminution of value of the gas from which the helium has been extracted, or loss otherwise, for which the lessee is not reasonably compensated, save for the value of the helium extracted; the lessor further reserves the right to erect, maintain, and operate any and all reduction works and other equipment necessary for the extraction of helium on the premises leased.

(e) Taking of royalties.—All rights pursuant to section 36 of the act to take

royalties in amount or in value of production.

(f) Casing.—All rights pursuant to section 40 of the act, to purchase casing

and lease or operate valuable water wells.

SEC. 4. Drilling and producing restrictions.—It is covenanted and agreed that the rate of prospecting and developing and the quantity and rate of production from the lands covered by this lease shall be subject to control in the public interest by the Secretary of the Interior, and in the exercise of his judgment the Secretary may take into consideration, among other things, Federal laws, State laws, and regulationns issued thereunder, or lawful agreements among

operators regulating either drilling or production, or both.

SEC. 5. Surrender and termination of lease.—The lessee may, on consent of the Secretary of the Interior, first had and obtained in writing, surrender and terminate this lease upon payment of all rents, royalties, and other obligations due and payable to the lessor, and upon payment of all wages and moneys due and payable to the workmen employed by the lessee, and upon a satisfactory showing to the Secretary that the public interest will not be impaired; but in no case shall such termination be effective until the lessee shall have made full provision for conservation and protection of the property; upon like consent had and obtained the lessee may surrender any legal subdivisions of

the area included herein. Sec. 6. Purchase of materials, etc., on termination of lease. - Upon the expiration of this lease, or the earlier termination thereof pursuant to the last preceding section, the lessor or another lessee may, if the lessor shall so elect within 3 months from the termination of the lease purchase all materials, tools, machinery, appliances, structures, and equipment placed in or upon the land by the lessee, and in use thereon as a necessary or useful part of an operating or producing plant, on the payment to the lessee of such sum as may be fixed as a reasonable price therefor by a board of three appraisers, one of whom shall be chosen by the lessor, one by the lessee, and the other by the two so chosen; pending such election all equipment shall remain in normal position. If the lessor, or another lessee, shall not within 3 months, elect to purchase all or any part of such material, tools, machinery, appliances, structures, and equipment, the lessee shall have the right at any time, within a period of 90 days, to remove from the premises all the materials, tools, machinery, appliances, structures, and equipment which the lessor shall not have elected to purchase, save and except casing in wells and other equipment or apparatus necessary for the preservation of the well or wells. Any materials, tools, machinery, appliances, structures, and equipment including casing in or out of wells on the leased lands shall become the property of the lessor on expiration of the period of 90 days above referred to or such extension thereof as may be granted on account of adverse climatic conditions throughout said period.

SEC. 7. Proceedings in case of default.—If the lessee shall fail to comply with the provisions of the act, or make default in the performance or observance of any of the terms, covenants, and stipulations hereof and such default shall continue for a period of 30 days after service of written notice thereof by the lessor, the lease may be canceled by the Secretary of the Interior in accordance with section 17 of the act, as amended, and all materials, tools, machinery, appliances, structures, equipment, and wells shall thereupon become the property of the lessor, except that if said lease was earned as a preference right pursuant to section 14 of the act or covers lands known to contain valuable deposits of oil or gas, the lease may be canceled only by judicial proceedings in the manner provided in section 31 of the act; but this provision shall not be construed to prevent the exercise by the lessor of any legal or equitable remedy which the lessor might otherwise have. A waiver of any particular cause of forfeiture shall not prevent the cancelation and forfeiture of this lease for any other cause of forfeiture, or for the same cause occurring at any other time.

SEC. 8. Heirs and successors in interest.—It is further covenanted and agreed that each obligation hereunder shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors,

or assigns of the respective parties hereto.

SEC. 9. Unlawful interest.—It is also further agreed that no Member of, or Delegate to Congress, or Resident Commissioner, after his election or appointment, or either before or after he has qualified, and during his continuance in office, and that no officer, agent, or employee of the Department of the Interior, shall be admitted to any share or part in this lease or derive any benefit that may arise therefrom; and the provisions of section 3741 of the Revised Statutes of the United States, and sections 114, 115, and 116 of the Codification of the Penal Laws of the United States approved March 4, 1919 (35 Stat. 1109), relating to contracts, enter into and form a part of this lease so far as the same may be applicable.

In witness whereof-

Elikabash panagapanan sasanan		THE UNITED STATES OF AMERICA,
ves	Ву	Secretary of the Interior.
Witness to signature of—		

14. Bonds.—All leases under the amended act provide that a general lease bond in the penal sum of not less than \$5,000 conditioned upon compliance with all lease terms, shall be furnished prior to the beginning of drilling operations on leased land. Such bonds in every instance shall be either corporate-surety bonds or individual bonds accompanied, in the latter instance, by a deposit of negotiable Federal securities in a sum equal at their par value to the amount of the bond and by a proper conveyance to the Secretary of full authority to sell such securities in case of default in the per-

formance of the conditions of the lease bond.

Until a general lease bond is filed a lessee will be required to furnish and maintain a bond in the penal sum of not less than \$1,000 for compliance with the lease obligations, and for the protection of the owner of surface or subsurface rights or estates from damage resulting from the operations of such lessee, such bond to terminate upon acceptance of the \$5,000 lease bond. This and other special-purpose bonds involving penal sums less than \$5,000 may be furnished (a) with approved corporate-surety, (b) with two qualified individual sureties when duly supported by affidavits of justification by such sureties and by a certificate as to their identity, signatures, and financial competency, or (c) without surety, upon deposit of acceptable collateral as indicated above.

Bonds required under this section should be in substantially the following form:

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE.

U. S. Land Office —— Serial No. ——

BOND OF OIL AND GAS LESSEE

(Act of Feb. 25, 1920 (41 Stat. 437))

(Act of Feb. 25, 1920 (41 Stat. 457))
Know all men by these presents, that we,, of the county of, in the State of, as principal, and, of the county of, in the State of, in the State of, as surety, are held and firmly bound unto the United States of America in the sum of dollars, lawful money of the United States, for the use and benefit of the United States and of any entryman or patentee of any portion of the land covered by the hereinafter described lease heretofore entered or patented with a reservation of the oil and gas deposits to the United States, and any lessee under lease heretofore issued by the United States of other mineral deposits in any portion of such land, to be paid to the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents. Signed with our hands and sealed with our seals this day of, in the year of our Lord one thousand nine hundred and
The condition of the foregoing obligation is such that
Principal [L. S.]
Where United States bonds are submitted in lieu of surety the

Where United States bonds are submitted in lieu of surety the same form may be used (with the omission of the recitals as to sureties) with the additional provision substantially as follows:

That the said obligor does hereby constitute and appoint the Secretary of the Interior as his atorney, for him and in his name to collect or to sell, assign and transfer the said United States bonds above described and deposited by the obligor as aforesaid, pursuant to authority conferred by section 1128 of

the act of February 26, 1926 (44 Stat. 122), as security for the faithful performance of any and all of the conditions or stipulations as hereinbefore set out, and it is agreed that, in case of any default in the performance of the conditions and stipulations of such undertaking the said actorney shall have full power to collect said bonds or any part thereof, or to sell, assign, and transfer said bonds or any part thereof without notice, at public or private sale, free from any equity of redemption or without appraisement or valuation, notice and right to redeem being waived, and to apply proceeds of such sale or collection to the full amount of the bond to the satisfaction of any damages, or deficiencies arising by reason of such default, as said attorney may deem best. The interest accruing upon said United States bonds deposited as above stated, in the absence of any default in the performance of any of the conditions or stipulations of the bond, shall be paid to said obligor. The said obligor hereby for himself, his heirs, executors, administrators, successors, and assigns ratifies and confirms whatever his said attorney shall do by virtue of these presents.

In witness whereof I have hereunto set my hand and seal this _____ day of _____, 19____.

(Signature) [L. s.]

Before me, the undersigned, a notary public within and for the county of _____, in the State of _____, personally appeared _____ and duly acknowledged the execution of the foregoing bond and power of attorney.

Witness my hand and notarial seal this _____day of _____

[NOTARIAL SEAL]

15. Rentals.—A lessee shall pay an annual rental of 50 cents per acre or fraction thereof for the first year of the lease, and shall pay an annual rental of 25 cents per acre or fraction thereof for the second and each succeeding lease year until oil or gas in commercial quantities is discovered on the leased lands. Thereafter, beginning with the first lease year succeeding discovery, the annual rental shall be \$1 per acre or fraction thereof, any rental paid for any one year to be credited against the royalties as they accrue for that year. For the purposes of making rental payments the lease year shall in all instances be deemed to start on the first day of the month in which the lease was issued. In all instances rental shall be paid in advance, the first payment being due prior to the execution and delivery of the lease: Except, That where a lease is granted in exchange for an existing permit or pursuant to an application for permit filed after May 23, 1935, and before August 21, 1935, no rental is required for the first two lease years, unless valuable deposits of oil or gas are sooner discovered within the boundaries of the lease.

16. Suspension of rentals.—Rentals under any leases issued pursuant to the provisions of the amendatory act, except as otherwise expressly provided in these regulations, may not be waived, suspended, or reduced until a valuable deposit of oil or gas is discovered within the lease area. In any lease on which discovery has been made, the Secretary of the Interior may direct or assent to the suspension of operations or of production of oil or gas, and no payment of rentals under the lease so suspended will be required during the period of suspension of all operations and production. Such suspension of payment of rentals, if so directed or assented to, shall be applied pro rata, by months, for lease years or portions thereof and shall begin with the first day of the lease month after the filing in the office of the oil and gas supervisor of written application

for suspension, or after actual cessation of operations if that be later, and end with the first day of the lease month in which the relief is terminated.

17. Royalties.—Royalties, as follows, shall be paid on the amount or value of all production from the leased lands (except that portion thereof used for production purposes on said lands or unavoidably lost):

(1) When the price of oil used in computing royalty value is \$1 or more per barrel, the per centum of royalty shall be as follows:

When the average production for the calendar month in barrels per well per day is—

Not over 50, the royalty shall be 12.5 percent.

Over 50 but not over 60, the royalty shall be 13 percent.

Over 60 but not over 70, the royalty shall be 14 percent.

Over 70 but not over 80, the royalty shall be 15 percent.

Over 80 but not over 90, the royalty shall be 16 percent.

Over 90 but not over 110, the royalty shall be 18 percent.

Over 110 but not over 130, the royalty shall be 19 percent.

Over 130 but not over 150, the royalty shall be 20 percent.

Over 150 but not over 200, the royalty shall be 20 percent.

Over 200 but not over 250, the royalty shall be 21 percent.

Over 250 but not over 300, the royalty shall be 22 percent.

Over 300 but not over 300, the royalty shall be 23 percent.

Over 350 but not over 400, the royalty shall be 24 percent.

Over 400 but not over 450, the royalty shall be 25 percent.

Over 450 but not over 500, the royalty shall be 26 percent.

Over 500 but not over 750, the royalty shall be 27 percent.

Over 750 but not over 1,000, the royalty shall be 28 percent.

Over 1,250 but not over 1,500, the royalty shall be 30 percent.

Over 1,500 but not over 2,000, the royalty shall be 31 percent.

Over 2,000 the royalty shall be 32 percent.

(2) When the price of oil used in computing royalty value is less than \$1 per barrel, the per centum of royalty shall be the foregoing multiplied by the ratio of said price to a price of \$1 per barrel: *Provided*, *however*, That the per centum of royalty shall never be less than 12.5.

(3) If the United States shall take its royalty in oil, the price received by the lessee, as well as that received by the lessor, shall be considered in determining the price to govern the per centum of royalty, unless both prices are \$1 or more per barrel.

(4) On gas, including inflammable gas, helium, carbon dioxide, and all other natural gases and mixtures thereof, and on natural or casing-head gasoline and other liquid products obtained from

When the average production of gas per well per day for the calendar month does not exceed 5,000,000 cubic feet, 12½ percent; and when said production of gas exceeds 5,000,000 cubic feet, 16½ percent of the amount or value of the gas and liquid products produced, said amount or value of the gas and liquid products to be net after an allowance for the cost of manufacture; *Provided*, That the allowance for cost of manufacture may exceed two-thirds of the amount or value of any product only on approval by the Secretary of the Interior, and that said value of gas and of liquid products shall be as determined by said Secretary.

The average production per well per day for oil and for gas shall be determined under rules and regulations approved by the

Secretary of the Interior.

18. Reduction of royalties.—Where the average daily production of the oil wells on an entire leasehold or on any tract or portion thereof segregated for royalty purposes does not exceed 10 barrels per well per day or where the cost of operation renders production economically impracticable, the Secretary of the Interior may reduce the royalty on future production when in his judgment the wells cannot be successfully operated upon the royalty fixed in the lease.

Applications for the reduction of royalties should be made in accordance with the instructions of June 28, 1927 (circular 1127,

52 L. D. 175).

Applications for the waiver, suspension, or reduction of rentals, and reduction of royalties under leases valuable only for the production of gas, should be filed in the same manner and with substantially the same showing as that provided by said instructions.

19. Drainage.—Upon determination that wells drilled upon lands not owned by the United States are draining oil or gas from lands or deposits owned in whole or in part by the United States, the Secretary of the Interior may negotiate agreements whereby the United States or the United States and its permittees, lessees or grantees shall be compensated for such drainage, such agreements to be made with the consent of any permittees and lessees affected thereby.

Steps looking to the negotiation of such special agreements may be initiated in the Department or by application of interested parties. The precise nature of any agreement negotiated will depend on all the conditions and circumstances involved in the

particular case.

20. Exchanges of leases.—Application for exchange of leases under section 2 (a) of the amendatory act may be filed with the register of the district land office or directly with the Commissioner of the General Land Office. Such application should be made by the record titleholder of the outstanding lease and joined in or consented to by any operator of record. Any lease issued in lieu of the outstanding lease will be issued to the record title holder or holders of the outstanding lease, bear current date, and at the royalties and rentals provided by these regulations and will be issued for a period of 10 years and so long thereafter as oil and gas are produced in paying quantities. The lessee will be required to furnish a new and satisfactory lease bond and to discharge any indebtedness against the lease before the new lease will be issued. Two or more outstanding leases may be combined into a single lease where held in common ownership and the lands are sufficiently compact to justify their inclusion in one lease.

21. Acreage limitation.—All leases operated under a cooperative or unit plan for the development and operation of any area, field, or pool approved by the Secretary of the Interior are excepted in determining holdings or control under the provisions of any section

of the act of February 25, 1920, as amended.

22. Rights-of-way for pipe lines.—Applications for rights-of-way under section 28 of the act as amended will be governed by the regulations of February 21, 1931 (circular 1237, 53 I. D. 277), insofar as applicable, appropriate changes being made in the forms prescribed to make them applicable to rights-of-way cases arising under this provision of the act for pipe lines to be constructed, maintained, and operated as comon carriers. In approving such right-of-way grant it shall be specifically stated that such pipe line shall be constructed, operated, and maintained as a common carrier and that the grantee shall accept, convey, transport, or purchase without discrimination oil or natural gas produced from Government lands in the vicinity of the pipe line in such proportionate amounts as the Secretary of the Interior may, after a full hearing with due notice thereof to interested parties and a proper finding of facts determine to be reasonable, and in addition that the use of such pipe line for the transportation of oil or gas shall be limited to oil and gas produced in conformity with State and Federal laws including laws prohibiting waste.

Failure on the part of the grantee to fulfill the conditions imposed by the act shall be grounds for forfeiture of the grant by the United States District Court for the district in which the property or some

part thereof is located in an appropriate proceeding.

Very respectfully,

(Sgd.) Fred W. Johnson, Commissioner.

I concur:

(Sgd.) W. C. Mendenhall,

Director, Geological Survey.

Approved May 7, 1936.

(Sgd.) Harold L. Ickes,

Secretary.

[Public—No. 297½—74TH Congress]

[S. 3311]

An Act to amend an act entitled "An Act to promote the mining of coal, phosphate, oil, oil shale, gas, and sodium on the public domain", approved February 25, 1920 (41 Stat. 437; U. S. C., title 30, secs. 185, 221, 223, 226), as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That sections 13, 14, 17, and 28 of the act entitled "An Act to promote the mining of coal, phosphate, oil, oil shale, gas, and sodium on the public domain", approved February 25, 1920 (41 Stat. 437; U. S. C., title 30, secs. 185, 221, 223, 226), as amended, are amended to read as follows:

"Sec. 13. That the Secretary of the Interior is hereby authorized and directed, under such necessary and proper rules and regulations as he may prescribe, to grant to any applicant qualified under this Act a prospecting permit, which shall give the exclusive right, for a period not exceeding two years, to prospect for oil or gas upon not to exceed two thousand five hundred and sixty acres of land wherein such deposits belong to the United States and are not within any known geological structure of a producing oil or gas field upon condition that the permittee shall begin drilling operations within six months from the date of the permit, and shall, within one year from and after the date of permit, drill one or more wells for oil or gas to a depth of not less than five hundred feet each, unless valuable deposits of oil or gas shall be sooner discovered, and shall, within two years from date of the permit, drill for oil or gas to an aggregate depth of not less than two thousand feet unless valuable deposits of oil or gas shall be sooner discovered: Provided, That said application was filed ninety days prior to the effective date of this amendatory Act. It being the intention of Congress that there shall be no discrimination as between applicants for prospecting permits, the Secretary of the Interior is directed, in every case where one or more permits have been issued, to issue permits to all other applicants for prospecting permits on the same structure, even though one or more of the permittees has developed the said structure into a producing oil or gas field, if said application for permit was filed prior to the development of such structure into a producing oil or gas field, and said applicant has otherwise complied with the law: Provided further, That when such permit is issued upon any structure after discovery, the royalty to be paid upon the preferential lease provided for in section 14 hereof shall be 10 per centum in amount or value of the production and the annual payment of a rental as provided in said section 14. No prospecting permit shall be granted upon any application filed after ninety days prior to the effective date of this amendatory Act. The Secretary of the Interior may, if he shall find that the permittee has been unable

with the exercise of diligence to test the land in the time granted by the permit, extend any such permit for such time, not exceeding two years, and upon such conditions as he shall prescribe: Provided, That all permits outstanding on the effective date of this amendatory Act, which on said date shall not be subject to cancelation for violation of the law or operating regulations and which have theretofore been extended by the Secretary of the Interior, shall be, and the same are hereby, extended until December 31, 1937, subject to the applicable conditions of such prior extensions: Provided further, That the Secretary of the Interior is hereby authorized to extend for an additional period of not to exceed one year any permit on which diligence has been exercised or on which drilling or prospecting has been suspended at the direction of the Secretary during the extension period hereby granted, but no extension of any permit beyond December 31, 1938, shall be granted under authority of this Act, or any other Act. Whether the lands sought in any such application and permit are surveyed or unsurveyed the applicant shall, prior to filing his applicant of permit, locate such lands in a reasonably compact form and according to the legal subdivisions of the public-land surveys if the land be surveyed; and in an approximately square or rectangular tract if the land be an unsurveyed tract, the length of which shall not exceed two and one-half times its width, and if he shall cause to be erected upon the land for which a permit is sought a monument not less than four feet high, at some conspicuous place thereon, and shall post a notice in writing on or near said monument, stating that an application for permit will be made within thirty days after date of posting said notice, the name of the applicant, the date of the notice, and such a general description of the land to be covered by such permit by reference to courses and distances from such monument and such other natural objects and permanent monuments as will reasonably identify the land, stating the amount thereof in acres, he shall, during the period of thirty days following such marking and posting, be entitled to a preference right over others to a permit for the land so identified. The applicant shall, within ninety days after receiving a permit, mark each of the corners of the tract described in the permit upon the ground with substantial monuments, so that the boundaries can be readily traced on the ground, and shall post in a conspicuous place upon the lands a notice that such permit has been granted and a description of the lands covered thereby: Provided further, That in the Territory of Alaska prospecting permits not more than five in number may be granted to any qualified applicant for periods not exceeding four years, actual drilling operations shall begin within two years from date of permit, and oil and gas wells shall be drilled to a depth of not less than five hundred feet, unless shall be drilled to a depth of not less than five hundred feet, unless valuable deposits of oil or gas shall be sooner discovered, within three years from date of the permit and to an aggregate depth of not less than two thousand feet unless valuable deposits of oil or gas shall be sooner discovered, within four years from date of permit: Provided further, That in said Territory the applicant shall have a preference right over others to a permit for land identified by temporary monuments and notice posted on or near the same

for six months following such marking and posting, and upon receiving a permit he shall mark the corners of the tract described in the permit upon the ground with substantial monuments within one year after receiving such permit: Provided further, That any person holding a permit to prospect for oil or gas which shall not be subject to cancelation for violation of the law or operating regulations or which shall have been extended under the authority of this or any other Act, in force on or after the effective date of this amendatory Act, or for which timely and acceptable application for extension shall have been filed prior to said date, shall have the right prior to the termination of such permit to exchange the same for a lease to the area described in the permit without proof of discovery, at a royalty of not less than 12½ per centum or value of the production, to be determined by the Secretary of the Interior by general rule and under such other conditions as are fixed in section 17 of this Act: Provided further, That no such lease shall be subject to the acreage limitations of section 27 of this Act, as amended, until one year after the discovery of valuable deposits of oil or gas thereon: Provided further, That any application for any prospecting permit filed after ninety days prior to the effective date of this amendatory Act shall be considered as an application for lease under section 17 hereof: And provided further, That upon leases so granted in lieu of existing permits or granted to applicants for permits, no rentals shall be payable for the first two lease years, unless valuable deposits of oil or gas are sooner discovered within the boundaries

"SEC. 14. That upon establishing to the satisfaction of the Secretary of the Interior that valuable deposits of oil or gas have been discovered within the limits of the land embraced in any permit, the permittee shall be entitled to a lease for one-fourth of the land embraced in the prospecting permit: Provided, That the permittee shall be granted a lease for as much as one hundred and sixty acres of said lands, if there be that number of acres within the permit. The area to be selected by the permittee shall be in reasonably compact form and, if surveyed, to be described by the legal subdivisions of the public-land surveys; if unsurveyed, to be surveyed by the Government at the expense of the applicant for lease in accordance with rules and regulations to be prescribed by the Secretary of the Interior, and the lands leased shall be conformed to and be taken in accordance with the legal subdivisions of such surveys; deposits made to cover expense of surveys shall be deemed appropriated for that purpose, and any excess deposits may be repaid to the person or persons making such deposit or their legal representatives. Such leases shall be for a term of twenty years upon a royalty of 5 per centum in amount or value of the production and the annual payment in advance of a rental of \$1 per acre, the rental paid for any one year to be credited against the royalties as they accrue for that year, and shall continue in force otherwise as prescribed in section 17 hereof for leases issued prior to the effective date of this amendatory Act. The permittee shall also be entitled to a preference right to a lease for the remainder of the land in his prospecting permit at a royalty of not less than 12½ per centum in amount or value of the production nor more than the royalty rate prescribed by regulation in force on January 1, 1935, for secondary leases issued under this section, and under such other conditions as are fixed for oil or gas leases issued under section 17 of this Act the royalty to be determined by competitive bidding or fixed by such other method as the Secretary may by regulations prescribe: *Provided further*, That the Secretary shall have the right to reject any or all bids.

"Sec. 17. All lands subject to disposition under this Act which are known or believed to contain oil or gas deposits, except as herein otherwise provided, may be leased by the Secretary of the Interior after the effective date of this amendatory Act, to the highest responsible qualified bidder by competitive bidding under general regulations. Such lands shall be leased in units of not exceeding six hundred and forty acres, which shall be as nearly compact in form as possible. Such leases shall be conditioned upon the payment by the lessee of such bonus as may be accepted and of such royalty as may be fixed in the lease, which shall be not less than 12½ per centum in amount or value of the production and the payment in advance of a rental to be fixed in the lease of not less than 25 cents per acre per annum, which rental except as otherwise herein provided shall not be waived, suspended, or reduced unless and until a valuable deposit of oil or gas shall have been discovered within the lands leased: Provided, That the rental paid for any one year shall be credited against the royalties as they accrue for that year: Provided further, That in the event the Secretary of the Interior shall direct or shall assent to the suspension of operations or of production of oil or gas under any such lease, any payment of acreage rental as herein provided shall likewise be suspended during such period of suspension of operations or production: And provided further, That in the case of leases valuable only for the production of gas the Secretary of the Interior, upon showing by the lessee that the lease cannot be successfully operated upon such rental or upon the royalty provided in the lease, may waive, suspend, or reduce such rental or reduce such

"The Secretary of the Interior, for the purpose of more properly conserving the oil or gas resources of any area, field, or pool, may require that leases hereafter issued under any section of this Act be conditioned upon an agreement by the lessee to operate, under such reasonable cooperative or unit plan for the development and operation of any such area, field, or pool as said Secretary may determine to be practicable and necessary or advisable, which plan shall adequately protect the rights of all parties in interest, including the United States: *Provided*, That all leases operated under such plan approved or prescribed by said Secretary shall be excepted in determining holdings or control under the provisions of any section of

this Act.

"Leases hereafter issued under this section shall be for a period of five years and so long thereafter as oil or gas is produced in paying quantities when the lands to be leased are not within any known geological structure of a producing oil or gas field, and for a period of ten years and so long thereafter as oil or gas is produced in paying quantities when the lands to be leased are within any known geological structure of a producing oil or gas field: *Provided*, That no such lease shall be deemed to expire by reasons of suspension of prospect-

ing, drilling, or production pursuant to any order or consent of the said Secretary: Provided further, That the person first making application for the lease of any lands not within any known geologic structure of a producing oil or gas field who is qualified to hold a lease under this Act, including applicants for permits whose applications were filed after ninety days prior to the effective date of this amendatory Act, shall be entitled to a preference right over others to a lease of such lands without competitive bidding at a royalty, in the case of oil, of 121/2 per centum in amount or value of the production when the said production does not exceed fifty barrels per well per day for the calendar month and of not less than 121/2 per centum in amount or value of the production when the said production exceeds fifty barrels per well per day for the calendar month, and, in the case of gas, at a royalty of 121/2 per centum in amount or value of the production when the said production does not exceed five million cubic feet per well per day for the calendar month and, when the said production exceeds five million cubic feet per well per day for the calendar month, at a royalty of not less than 12½ per centum in amount or value of the production.

"Leases issued prior to the effective date of this amendatory Act shall continue in force and effect in accordance with the terms of such leases and the laws under which issued: *Provided*, That any such lease that has become the subject of a cooperative or unit plan of development or operation, or other plan for the conservation of the oil and gas of a single area, field, or pool, which plan has the approval of the Secretary of the Department or Departments having jurisdiction over the Government lands included in said plan as necessary or convenient in the public interest, shall continue in force beyond said period of twenty years until the termination of such plan: *And provided further*, That said Secretary or Secretaries shall report all leases so continued to Congress at the beginning of its

next regular session after the date of such continuance.

"Any cooperative or unit plan of development and operation, which includes lands owned by the United States, shall contain a provision whereby authority, limited as therein provided, is vested in the Secretary of the department or departments having jurisdiction over such land to alter or modify from time to time in his discretion the rate of prospecting and development and the quantity and rate of production under said plan. The Secretary of the Interior is authorized whenever he shall deem such action necessary or in the public interest, with the consent of lessee, by order to suspend or modify the drilling or producing requirements of any oil and gas lease not subject to such a cooperative or unit plan, and no lease shall be deemed to expire by reason of the suspension of production pursuant to any such order.

"Whenever it appears to the Secretary of the Interior that wells

drilled upon lands not owned by the United States are draining oil or gas from lands or deposits owned in whole or in part by the United States, the Secretary of the Interior is hereby authorized and empowered to negotiate agreements whereby the United States or the United States and its permittees, lessees, or grantees shall be compensated for such drainage, such agreements to be made with the

consent of the permittees and lessees affected thereby.

"Whenever the average daily production of the oil wells on an entire leasehold or on any tract or portion thereof segregated for royalty purposes shall not exceed ten barrels per well per day, or where the cost of production of oil or gas is such as to render further production economically impracticable the Secretary of the Interior, for the purpose of encouraging the greatest ultimate recovery of oil and in the interest of conservation of natural resources, is authorized to reduce the royalty on future production when in his judgment the wells cannot be successfully operated upon the royalty fixed in the lease. The provision of this paragraph shall apply to all oil and gas leases issued under this Act, including those within an approved

cooperative or unit plan of development and operation.

"Any lease issued after the effective date of this amendatory Act under the provisions of this section, except those earned as a preference right as provided in section 14 hereof, shall be subject to cancelation by the Secretary of the Interior after thirty days' notice upon the failure of the lessee to comply with any of the provisions of the lease, unless or until the land covered by any such lease is known to contain valuable deposits of oil or gas. Such notice in advance of cancelation shall be sent the lease owner by registered letter directed to the lease owner's record post-office address, and in case such letter shall be returned as undelivered, such notice shall also be posted for a period of thirty days in the United States Land Office for the district in which the land covered by such lease is situated, or in the event that there is no district land office for such leased land, then in the post office nearest such land. Leases covering lands known to contain valuable deposits of oil or gas shall be canceled only in the manner provided in section 31 of this Act.

"Sec. 28. That rights-of-way through the public lands, including the forest reserves of the United States, may be granted by the Secretary of the Interior for pipe-line purposes for the transportation of oil or natural gas to any applicant possessing the qualifications provided in section 1 of this Act, to the extent of the ground occupied by the said pipe line and twenty-five feet on each side of the same under such regulations and conditions as to survey, location, application, and use as may be prescribed by the Secretary of the Interior and upon the express coindition that such pipe lines shall be constructed, operated, and maintained as common carriers and shall accept, convey, transport, or purchase without discrimination, oil or natural gas produced from Government lands in the vicinity of the pipe line in such proportionate amounts as the Secretary of the Interior may, after a full hearing with due notice thereof to the interested parties and a proper finding of facts, determine to be reasonable: Provided, That the Government shall in express terms reserve and shall provide in every lease of oil lands hereunder that the lessee, assignee, or beneficiary, if owner, or operator or owner of a controlling interest in any pipe line or of any company operating the same which may be operated accessible to the oil derived from lands under such lease, shall at reasonable rates and without discrimination accept and convey the oil of the Government or of any citizen or company not the owner of any pipe line, operating a lease or purchasing gas or oil under the provisions of this Act: Provided further, That no right-of-way shall hereafter

be granted over said lands for the transportation of oil or natural gas except under and subject to the provisions, limitations, and conditions of this section. Failure to comply with the provisions of this section or the regulations and conditions prescribed by the Secretary of the Interior shall be ground for forfeiture of the grant by the United States district court for the district in which the property, or some part thereof, is located in an appropriate

proceeding."

Sec. 2. (a) That the Secretary of the Interior is authorized to issue new leases to lessees holding oil or gas leases under any of the provisions of this Act at the time this amendatory Act becomes effective, such new leases to be in lieu of the leases then held by such lessees and to be at a royalty rate of not less than 12½ per centum in amount or value of the production and upon such other terms and conditions as the Secretary of the Interior shall by general rule prescribe: *Provided*, That no limitation of acreage not provided for under the law or regulations under which any such old lease was issued shall be applicable to any such new lease.

(b) Nothing contained in this amendatory Act shall be construed to affect the validity of oil and gas prospecting permits or leases previously issued under the authority of the said Act of February 25, 1920, as amended, and in existence at the time this amendatory Act becomes effective, or impair any rights or privileges which have

accrued under such permits or leases.

SEC. 3. That nothing in this amendatory Act shall be construed as affecting any lands within the borders of the naval petroleum reserves and naval oil-shale reserves or agreements concerning operations thereunder or in relation to the same, but the Secretary of the Navy is hereby authorized, with the consent of the President, to enter into agreements such as those provided for under the Act of March 4, 1931 (46 Stat. 1523), which agreements shall not, unless expressed therein, operate to extend the terms of any lease affected thereby.

Approved, August 21, 1935.

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UNITED STATES DEPARTMENT OF THE INTERIOR

General Land Office

Circular No. 1386

REGULATIONS

CONCERNING

OIL AND GAS PERMITS AND LEASES AND RIGHTS OF WAY FOR PIPE LINES

Under Sections 13, 14, 17, and 28 of the Act of February 25, 1920 (41 Stat., 437) as amended by the Act of August 21, 1935 (49 Stat., 674)

APPROVED MAY 7, 1936



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1936

CONTENTS

Pa
Oil and Gas Permits
1. Applications
2. Extensions
3. Reward for discovery
4. Exchange for leases
Oil and Gas Leases
5. Offer of lands for lease
6. Notice of offer
7. Auction of lease
8. Award of lease
Leases without Competitive Bidding
9. Preference rights
10. Applications for leases
11. Leases on permit applications
12. Conflicting applications for leases
13. Form of lease
14. Bonds
Form of bond
15. Rentals
16. Suspension of rentals
17. Royalties
18. Reduction of Royalties
19. Drainage
20. Exchange of leases 1
Appendix

Circular No. 1386

Applications for oil and gas leases filed accompanied by proper filing fees. A minimum fee of \$10.00 is charged for applications embracing not for each 160 acres or fraction thereof over 800 cres, the maximum fee being \$32.00.

Regulations Under Sections 13, 14, 17, and 28 of the Act of February 25, 1920, as Amended by the Act of August 21, 1935

United States Department of the Interior, General Land Office, Washington, May 7, 1936.

REGISTERS,

U. S. Land Offices.

Sirs: By the act approved August 21, 1935 (49 Stat. 674), sections 13, 14, 17, and 28 of the leasing act of February 25, 1920 (41 Stat. 437), were amended. A copy of the act is appended hereto.

This act changes materially the system of disposing of the oil and gas resources on the public domain in the United States and Alaska, chiefly, by providing for the issuance of leases instead of prospecting

permits for unproven oil and gas lands.

In general, the amended act authorizes and directs the Secretary of the Interior to issue oil and gas prospecting permits on applications filed 90 days or more prior to its approval. Applications for prospecting permits filed after 90 days prior to the date of the act shall be considered as applications for leases. All lands subject to disposition under the leasing act which are known or believed to contain oil and gas deposits may be leased in units of not exceeding 640 acres to the highest responsible qualified bidder by competitive bidding under general regulations, except that the first qualified applicant for lease of lands not within a known geologic structure of a producing oil or gas field and applicants for permits whose applications were filed after 90 days prior to the date of the act are entitled to preference rights over others to lease such lands without competitive bidding. Rights to leases in case of a discovery under existing permits and permits which may issue under the pending applications are not changed or affected. The holder of any permit in good standing may at any time prior to termination thereof exchange said permit for a lease without proof of discovery. Leases for terms of 5 and 10 years and so long thereafter as oil or gas is produced in paying quantities are authorized at a royalty of not less than 121/2 per centum of the amount of production and an annual rental charge of not less than 25 cents per acre. Rights-of-way granted under section 28 shall be upon the additional condition that the grantee accept, convey, transport, or purchase without discrimination oil or natural gas produced from Government lands in the vicinity of the pipe

The following rules and regulations are prescribed for the administration of the amended sections of the act, existing oil and gas regulations to continue in force except as modified by the amendatory act and by these regulations:

PROSPECTING PERMITS

1. Applications for permits.—Prospecting permits are authorized by section 13 as amended only in cases where the applications were filed 90 days or more prior to the date of the amendatory act. Accordingly, the pending applications for permits filed on or prior to May 23, 1935, will be considered, and where found allowable permits will be granted for periods of 2 years, but in no case beyond December 31, 1938, except that in Alaska permits will be granted for the full 4-year periods. Applications for permits filed after May 23, 1935, and prior to August 21, 1935, will be considered as applications for leases pursuant to the last two provisos to section 13 of the amendatory act of August 21, 1935. Any applications for permits filed on or after August 21, 1935, will be considered as regular applications for leases under section 17, as amended.

2. Extension of permits.—Outstanding permits heretofore extended by the Secretary of the Interior and which are not subject to cancelation for violation of the law or operating regulations are extended by the act to December 31, 1937, subject to the applicable conditions of such prior extensions, and such permits may be further extended by the Secretary of the Interior for an additional period

of not exceeding 1 year.

Permits which have not been extended or which may be issued under the pending applications may be extended by the Secretary of the Interior for not exceeding 2 years, but not beyond December 31, 1938, where he shall find that the permittee has been unable, with the exercise of diligence, to test the lands in the time granted by the permit, the extensions to be upon such conditions as the Secretary may prescribe.

No extension of any permit may be made beyond December

31, 1938.

Any applications for extension of time should contain full and definite information regarding work done in compliance with the terms of the permit and money expended for developing the permit area and for reliable geological surveys of the lands involved. The showing must be by affidavit and state in detail the amounts and dates of such expenditures, purposes for which made, to whom the payments were made, and if the permittee has secured a geological survey of the land, copies of the reports and maps thereof should be filed. Any other facts which the permittee believes will show equities in support of his application should be included in the showing.

3. Reward for discovery.—Upon discovery of valuable deposits of oil or gas within the permit area during the life of the permit, the permittee will be entitled to lease the lands under the original provisions of section 14 (see circular 1094, 51 L. D. 597), no change being made in such rights by the amendatory act, except that in case a permit is issued upon any structure after discovery based upon an application filed prior to discovery the royalty to be paid under the preferential or earned lease shall be 10 per centum instead of 5 per centum in amount or value of the production. Applications for leases based on discovery should conform to the instructions of October 1, 1926, circular 823 (51 L. D. 600).

4. Exchange of permits for leases.—Any person holding a prospecting permit not subject to cancelation for violation of the law or operating regulations, and otherwise in good standing, has the right, prior to the termination of the permit, to exchange the same for a lease to the area described therein, without proof of discovery, at a royalty rate of not less than 121/2 per centum of the amount or value of the production, such lease not to be subject to the acreage limitation of the law until 1 year after the discovery of oil or gas thereon, or to payment of rental within the first 2 lease years, unless valuable deposits of oil or gas are sooner discovered within the boundaries of the lease.

If the permits are in good standing, applications for such exchanges may be made at any time by the parties in interest, as shown by the records of the Land Department. No formal application will be required, but such application should be addressed to the Secretary of the Interior, and filed with the Register or the Commissioner of the General Land Office. If the Secretary of the Interior approves the exchange, lease forms will be transmitted to the permittee who will be allowed 30 days to execute and file the lease, and furnish

such bond as may be required.

OIL AND GAS LEASES

5. Designation and offer of lands for lease.—Pursuant to the provisions of section 17 of the act, as amended, the unappropriated lands and deposits subject to disposition under the act will be divided into leasing blocks or tracts in units of not exceeding 640 acres each, which shall be as nearly compact in form as possible, and offered for lease at a stated royalty and rental by competitive bidding to the

highest responsible qualified bidder.

6. Notice of lease offer.—Notice of the offer of lands for lease will be given by publication for a period of 30 days in a newspaper of general circulation to be designated by the Commissioner of the General Land Office in the county in which the lands or deposits are situated, or in such other paper or papers as the Secretary of the Interior may direct. Such notice will set the day and hour on which the offer will be made at public auction at the United States land office of the district in which the lands are situated, or at such other place as may be fixed in the notice, to the qualified bidder offering the highest bonus (not less than the minimum bonus fixed in the notice) for the lease at the stated rental and royalty. Copy of the notice will be posted in the district land office during the period of This notice will be published at the expense of the Government. All bidders at any such auction are warned against violation of the provisions of section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders.

7. Auction of lease.—At the time fixed in the notice the register will, by public auction, offer the land for lease on the terms and conditions fixed in the notice to the qualified bidder of the highest amount offered as a bonus for the privilege of leasing the land. The successful bidder must deposit with the register on the day of sale certified check on a solvent bank, or cash, for one-fifth of the amount

bid by him, which payment the register will credit to "Trust funds—Unearned moneys." At the time of such payment the successful bidder will also file the requisite showing of his qualifications to

receive a lease, which should include the following:

(a) Proof of citizenship: By affidavit of such fact if native born or, if naturalized, affidavit stating date of naturalization, court in which naturalized and number of certificate, if known; if a corporation, by certified copy of the articles of incorporation and a showing as to the residence and citizenship of its stockholders.

(b) The affidavit of the bidder or the affidavit of one of the officers of a corporate bidder, stating in full the interests, direct or indirect, held in permits and leases, and applications therefor, in the same State, identifying the records wherein such interests may be found.

The register will thereupon transmit such showing, together with a report of the proceedings had at the auction by a special letter to

the Commissioner of the General Land Office.

8. Award of lease.—Upon receipt of the report of the auction from the register, the Secretary of the Interior will take action thereon and either award the lease to the successful bidder or reject same, notice of which will be forthwith transmitted to the bidder through the local office. If the lease shall be awarded, the notice will be accompanied by copies of the lease for execution by the lessee who shall within 30 days from receipt of such notice, execute said lease in triplicate, and pay to the register the balance of the bonus bid by him, together with the first required rental, and also cause to be filed any bond required in connection with the lease. If the bid be rejected the register will return by his official check the deposit made at the auction. In case of the award of a lease and failure on the part of the bidder to execute same and otherwise comply with the applicable regulations, the deposit will be considered forfeited and disposed of as other receipts under this act.

If two or more units are awarded to any bidder such units, not exceeding in area the maximum allowed by law, may be included in a

single lease if circumstances warrant.

LEASES WITHOUT COMPETITIVE BIDDING

9. Preference right to lease.—A preference right over others to a lease without competitive bidding is granted under section 17, as amended, to—

(a) The person first making application for the lease of any lands not within any known geologic structure of a producing oil or

gas field who is qualified to hold a lease under the act.

(b) Applicants for permits whose applications were filed after 90

days prior to the effective date of the amendatory act.

10. Applications for leases.—Applications for leases of lands not within the known geologic structure of a producing oil or gas field may be filed in the proper district land office, or in States in which there is no district land office, in the General Land Office, addressed to the Commissioner of the General Land Office. Such applications when filed will be promptly noted of record, the date and exact hour of filing noted thereon, and where filed in the district land office, promptly forwarded to the General Land Office with a report

as to the status and conflicts. No specific form of application is required and no blanks will be furnished, but such application must be under oath of the applicant, or if sworn to by his attorney in fact, the power of attorney and the applicant's own affidavit as to his citizenship and holdings must be attached thereto.

The application must cover in substance the following points:

(a) The applicant's name and address.

(b) Statement as to citizenship: In case of an individual, whether native born or naturalized and, if naturalized, date of naturalization, court in which naturalized, and number of certificate if known; if a corporation, by certified copy of the articles of incorporation and a showing as to residence and citizenship of the stockholders.

(c) A statement of the interests, direct and indirect, held by the applicant in permits and leases, and applications therefor, in the same State, identifying the records wherein such interests may be

found.

(d) Description of the lands for which a lease is desired, which may not exceed 2,560 acres as nearly compact in form as possible and should involve only one geologic structure, describing the lands by legal subdivisions if surveyed or, if not surveyed, by the approximate subdivisions and metes and bounds description connected with a corner of the public surveys by courses and distances.

(e) A statement that to the best of applicant's knowledge and belief the lands applied for are not within the known geologic structure of any producing oil or gas field and are believed to contain

oil and gas.

(f) The names and addresses of three references as to the appli-

cant's reputation and business standing.

(g) A statement that the applicant is ready to pay in advance the annual rental under the lease, and to furnish such bond or bonds as may be required under the lease or regulations.

Payment of a bonus for leases made without competitive bidding

will not be required for the present.

11. Leases based on permit applications.—Applications for permits filed after May 23, 1935, are considered as applications for leases under section 17 of the amended act. Such leases are subject to the acreage limitations of section 27 of the act and, if otherwise regular, will be issued without bonus requirement at the royalty rate provided in section 17 hereof and at a rental as provided in section 15 hereof.

12. Conflicting applications for leases.—Should more than one application for lease of the same lands be filed, the applications will be considered in the order filed and a lease granted to the qualified applicant first in point of time in filing application. If two or more applications are filed simultaneously, the right to lease will be determined pursuant to existing regulations governing simultaneous filings of applications for oil and gas prospecting permits. (See circular 1320, 54 I. D. 400.)

13. Form of lease.—The lease referred to in the preceding sections

will be in form and substance substantially as follows:

Serial -

LEASE OF OIL AND GAS LANDS UNDER THE ACT OF FEBRUARY 25, 1920, AS AMENDED

This indenture of lease, entered into, in triplicate, as of the ______day of ______, by and between the United States of America, party of the first part, hereinafter called the lessor, by the Secretary of the Interior, and ______, party of the second part, hereinafter called the lessee, under, pursuant, and subject to the terms and provisions of the act of Congress approved February 25, 1920 (41 Stat. 437), entitled "An act to promote the mining of coal, phosphate, oil, oil shale, gas, and sodium on the public domain", as amended, hereinafter referred to as the act, which is made a part hereof, witnesseth:

produced in paying quantities. Sec. 2. In consideration of the foregoing, the lessee hereby agrees:

(a) Bond.—To furnish prior to beginning of drilling operations and maintain at all times thereafter as required by the lessor a bond in the penal sum of \$5,000 with approved corporate surety, or with deposit of United States bonds as surety therefor, conditioned upon compliance with the ferms of this lease; and, until such bond is furnished, to submit and maintain a bond in the sum of \$1,000 with acceptable surety, similarly conditioned.

(b) Within 30 days of demand, to subscribe to and to operate under such reasonable cooperative or unit plan for the development and operation of the area, field, or pool embracing the lands included herein as the Secretary of the Interior may determine to be practicable and necessary or advisable, which plan shall adequately protect the rights of all parties in interest, including the

United States.

(c) Wells.—(1) To drill and produce all wells necessary to protect the leased land from drainage by wells on lands not the property of the lessor or lands of the United States leased at a lower royalty rate, or in lieu of any part of such drilling and production, with the consent of the Secretary of the Interior, to compensate the lessor in full each month for the estimated loss of royalty through drainage in the amount determined under instructions of said Secretary; (2) at the election of the lessee, to drill and produce other wells in conformity with any system of well spacing or production allotments affecting the field or area in which the leased lands are situated, provided such system is authorized and sanctioned by applicable law or by the Secretary of the Interior; and (3) promptly after due notice in writing, to drill and produce such other wells as the Secretary of the Interior may require to insure reasonable

diligence in the development and operation of the property.

(d) Rentals.—To pay the lessor in advance for each acre or fraction thereof, a rental of 50 cents for the first lease year beginning on the first day of the month in which the lease issues, and a rental of 25 cents for each subsequent lease year beginning prior to discovery of a valuable deposit of oil or gas within the limits of the geologic structure on which all or part of the leased lands are situated, and \$1 for each lease year beginning on or after such discovery, the rental so paid for any one lease year to be credited on the royalty for that year: Provided, That if this lease is granted in exchange for an oil and gas prospecting permit or pursuant to an application for a prospecting permit filed after May 23, 1935, no rental shall be payable for the first two lease years unless valuable deposits of oil or gas are sooner discovered within the boundaries of the lease, but a rental of \$1 shall be payable, as above provided, for each lease year beginning on or after such discovery: And provided further, That when the Secretary of the Interior shall direct or shall assent to suspension

of operations or of production of oil or gas under this lease, after a valuable deposit of oil or gas shall have been discovered within the lands leased, any payment of acreage rental prescribed herein likewise shall be suspended during such period of suspension of all operations and production; and this lease shall not be deemed to expire by reason of suspension of prospecting, drilling, or production, pursuant to any order or consent of the said Secretary.

(e) Royalties.—To pay the lessor royalties, as follows, on the amount or value of all production from the leased lands (except that portion thereof

used for production purposes on said lands or unavoidably lost):

(1) When the price of oil used in computing royalty value is \$1 or more per barrel, the per centum of royalty shall be as follows:
When the average production for the calendar month in barrels per well per day is—

Not over 50, the royalty shall be 12.5 percent.
Over 50 but not over 60, the royalty shall be 13 percent.
Over 60 but not over 70, the royalty shall be 14 percent.
Over 70 but not over 80, the royalty shall be 15 percent.
Over 80 but not over 90, the royalty shall be 16 percent.
Over 90 but not over 110, the royalty shall be 17 percent.
Over 110 but not over 130, the royalty shall be 18 percent.
Over 130 but not over 150, the royalty shall be 19 percent.
Over 150 but not over 200, the royalty shall be 20 percent.
Over 200 but not over 250, the royalty shall be 21 percent.
Over 250 but not over 350, the royalty shall be 22 percent.
Over 300 but not over 350, the royalty shall be 23 percent.
Over 350 but not over 400, the royalty shall be 24 percent.
Over 400 but not over 450, the royalty shall be 25 percent.
Over 450 but not over 500, the royalty shall be 26 percent.
Over 500 but not over 750, the royalty shall be 27 percent.
Over 750 but not over 1,000, the royalty shall be 29 percent.
Over 1,250 but not over 1,500, the royalty shall be 30 percent.
Over 1,500 but not over 2,000, the royalty shall be 30 percent.
Over 2,000 the royalty shall be 31 percent.

(2) When the price of oil used in computing royalty value is less than \$1 per barrel, the per centum of royalty shall be the foregoing multiplied by the ratio of said price to a price of \$1 per barrel: Provided, however, That the per centum of royalty shall never be less than 12.5.

(3) If the United States shall take its royalty in oil, the price received

(3) If the United States shall take its royalty in oil, the price received by the lessee, as well as that received by the lessor, shall be considered in determining the price to govern the percentum of royalty, unless both prices

are \$1 or more per barrel.

(4) On gas, including inflammable gas, helium, carbon dioxide, and all other natural gases and mixtures thereof, and on natural or casing-head gasoline

and other liquid products obtained from gas:

When the average production of gas per well per day for the calendar month does not exceed 5,000,000 cubic feet, 12½ percent; and when said production of gas exceeds 5,000,000 cubic feet, 16¾ percent of the amount or value of the gas and liquid products produced, said amount or value of such liquid products to be net after an allowance for the cost of manufacture: Provided, That the allowance for cost of manufacture may exceed two-thirds of the amount or value of any product only on approval by the Secretary of the Interior, and that said value of gas and of liquid products shall be as determined by said Secretary.

The average production per well per day for oil and for gas shall be determined under rules and regulations approved by the Secretary of the

Interior.

(5) It is expressly agreed that the Secretary of the Interior may establish reasonable minimum prices for purposes of computing royalty in value on any or all oil, gas, natural gasoline, and other liquid products obtained from gas; and that in no case shall the price so established be less than the estimated reasonable value of the product, due consideration being given to the highest price paid for a part or for a majority of production of like quality in the same field, to the price received by the lessee, to posted prices and to other relevant matters.

(6) When paid in value, such royalties on production shall be due and payable monthly on the last day of the calendar month next following the calendar month in which produced. When paid in amount of production, such royalty products shall be delivered in merchantable condition on the premises where produced without cost to lessor, unless otherwise agreed to by the parties hereto, at such times, and in such tanks provided by the lessee as reasonably may be required by the lessor: Provided, That the lessee shall not be required to hold such royalty oil or other liquid products in storage beyond the last day of the calendar month next following the calendar month in which produced: And provided further, That the lessee shall be in no manner responsible or held liable for the loss or destruction of royalty oil or other liquid products in storage from causes over which the lessee has no control.

(7) Royalties, whether in amount or value of production, shall be subject

to reduction whenever the average daily production of the oil wells on the entire leasehold or on any tract or portion thereof segregated for royalty purposes shall not exceed ten (10) barrels per well per day, or where the cost of production of oil or gas is such as to render further production economically impracticable, if in the judgment of the Secretary of the Interior the wells

cannot be successfully operated upon the royalties fixed herein.

(f) Contracts for disposal of products.—To file with the Federal oil and gas supervisor or such other officer as the Secretary of the Interior may designate, copies of all contracts immediately upon execution thereof, and full information as to all other arrangements for the disposal of oil, gas, natural gasoline, and other products, produced hereunder (except products used for production purposes on the leased lands or unavoidably lost), and not to sell or otherwise dispose of the products of the land leased except in accordance with a contract or other arrangement first approved by said officer, such approval to be subject to review by the Secretary of the Interior but to be effective unless and until revoked by said Secretary or his said subordinate.

(g) Monthly statements.—To furnish monthly statements in detail at such

time and in such form as may be prescribed by the lessor, showing the amount, and quality of all oil, gas, natural gasoline, and other substances produced during the preceding calendar month and the amounts thereof used for production purposes on the leased lands or unavoidably lost, and to furnish current records and monthly statements of the amounts thereof sold or otherwise disposed of

and the proceeds therefrom.

(h) Payments.—Unless otherwise directed by the Secretary of the Interior, to make rental, royalty, or other payments to the lessor to the order of the Commissioner, General Land Office, such payments to be tendered to the Federal oil and gas supervisor of the district in which the leased land is situated.

(i) Inspection.—To keep open at all reasonable times for the inspection of any duly authorized officer of the Department, the leased premises and all wells, improvements, machinery, and fixtures thereon or connected therewith and all books, accounts, maps, and records relative to operations and surveys or investigations on the leased lands or under the lease.

(i) Plats and reports.—To furnish at such times and in the manner and form prescribed by or on behalf of the lessor, a plat showing all development work and improvements on the leased lands, and other related information, with a report as to all buildings, structures, or other works placed in or upon said leased lands; and to report in detail when required as to the stock holders. investment, depreciation, and cost of operation, and the amount, nature, and quality of products sold, and the amount received therefor.

(k) Well records.—To keep a daily drilling record, a log and complete information on all well surveys in form acceptable to or prescribed by or on behalf of the lessor of all the wells drilled on the leased lands, and an acceptable record of all subsurface investigations affecting said lands, which log, information, and records, or copies thereof, shall be furnished to the lessor as requested

or required.

(1) Diligence-Prevention of waste-Health and safety of workmen.-To exercise reasonable diligence in drilling and producing the wells herein provided for unless consent to suspend operations temporarily is granted by the Secretary of the Interior; to carry on all operations hereunder in a good and workmanlike manner, in accordance with approved methods and practice as provided in the operating regulations, having due regard for the prevention of waste of oil or gas developed or damage to deposits or formations containing oil, gas, or water, or to coal measures or other mineral deposits, for conservation of gas energy, for the preservation and conservation of the property for

future productive operations, and for the health and safety of workmen and employees; to plug properly and effectively all wells before abandoning the same; not to drill any well within 200 feet of any of the outer boundaries of the lands covered hereby, unless the adjoining lands have been patented or the title thereto otherwise vested in private owners; to carry out at expense of the lessee all reasonable orders of the lessor relative to the matters in this paragraph, and that on failure of the lessee so to do the lessor shall have the right to enter on the property and to accomplish the purpose of such orders at the lessee's cost; *Provided*, That the lessee shall not be held responsible for delays or casualties occasioned by causes beyond lessee's control.

(m) Regulations.—To abide by and conform to any and all reasonable regulations of the Secretary of the Interior now or hereafter in force, all of which regulations are made a part and condition of this lease: Provided, That such regulations are not inconsistent with any express and specific provisions hereof; and particularly that no regulations hereafter approved shall affect a change in the rate of royalty or annual rental herein specified without the

written consent of the parties to this lease.

(n) Taxes and wages—Freedom of purchase.—To pay when due, all taxes lawfully assessed and levied under the laws of the State or the United States upon improvements, oil, and gas produced from the lands hereunder, or other rights, property, or assets of the lessee; to accord all workmen and employees complete freedom of purchase, and to pay all wages due workmen and employees at least twice each month in the lawful money of the United States.

(o) Reserved deposits.—To comply with all statutory requirements and regulations thereunder, if the lands embraced herein have been or shall hereafter be disposed of under the laws reserving to the United States the deposits of oil and gas therein, subject to such conditions as are or may hereafter be pro-

vided by the laws reserving such oil or gas.

(p) Assignment of lease.—Not to assign this lease or any interest therein by an operating agreement or otherwise, nor to sublet any portion of the leased premises, except with the consent in writing of the Secretary of the Interior first had and obtained.

(q) Deliver premises in cases of forfeiture.—To deliver up the premises leased, with all permanent improvements thereon, in good order and condition in case of forfeiture of this lease; but this shall not be construed to prevent the removal, alteration, or renewal of equipment and improvements in the ordinary

course of operations.

(r) Pipe lines to purchase or convey at reasonable rates and without discrimination.—If owner, or operator or owner of a controlling interest in any pipe line or of any company operating the same which may be operated accessible to the oil or gas derived from lands under this lease, to accept and convey and, if a purchaser of such products, to purchase at reasonable rates and without discrimination the oil or gas of the Government or of any citizen or company not the owner of any pipe line, operating a lease or purchasing or selling oil, gas, natural gasoline or other products under the provisions of the act.

SEC. 3. The lessor expressly reserves:

(a) Rights reserved—Easements and rights-of-way.—The right to permit for joint or several use easements or rights-of-way, including easements in tunnels upon, through or in the lands leased, occupied, or used as may be necessary or appropriate to the working of the same or of other lands containing the deposits described in the act, and the treatment and shipment of products thereof by or under authority of the Government, its lessees or permittees, and for other public purposes.

(b) Disposition of surface.—The right to lease, sell, or otherwise dispose of the surface of the lands embraced within this lease under existing law or laws hereafter enacted, insofar as said surface is not necessary for the use of the lessee in the extraction and removal of the oil and gas therein: Provided, That this reservation shall not apply to any lands herein described, title to which has

passed from the United States.

(c) Monopoly and fair prices.—Full power and authority to promulgate and enforce all orders necessary to insure the sale of the production of the leased lands to the United States and to the public at reasonable prices, to protect the interests of the United States, to prevent monopoly, and to safeguard the public welfare.

(d) Helium.—Pursuant to section 1 of the act, and section 1 of the act of Congress approved March 3, 1927 (44 Stat. 1387), the lessor reserves the ownership and the right to extract, under such rules and regulations as shall be prescribed by the Secretary of the Interior, helium from all gas produced under this lease, but the lessee shall not be required to extract and save the helium for the lessor; in case the lessor elects to take the helium the lessee shall deliver all gas containing same, or portion thereof desired, to the lessor at any point on the leased premises in the manner required by the lessor, for the extraction of the helium in such plant or reduction works for that purpose as the lessor may provide, whereupon the residue shall be returned to the lessee with no substantial delay in the delivery of gas produced from the well to the purchaser thereof: Provided, That the lessee shall not, as a result of the operation in this paragraph provided for, suffer a diminution of value of the gas from which the helium has been extracted, or loss otherwise, for which the lessee is not reasonably compensated, save for the value of the helium extracted; the lessor further reserves the right to erect, maintain, and operate any and all reduction works and other equipment necessary for the extraction of helium on the premises leased.

(e) Taking of royalties.—All rights pursuant to section 36 of the act to take

royalties in amount or in value of production.

(f) Casing.—All rights pursuant to section 40 of the act, to purchase casing

and lease or operate valuable water wells.

Sec. 4. Drilling and producing restrictions.—It is covenanted and agreed that the rate of prospecting and developing and the quantity and rate of production from the lands covered by this lease shall be subject to control in the public interest by the Secretary of the Interior, and in the exercise of his judgment the Secretary may take into consideration, among other things, Federal laws,

State laws, and regulations issued thereunder, or lawful agreements among operators regulating either drilling or production, or both.

Sec. 5. Surrender and termination of lease.—The lessee may, on consent of the Secretary of the Interior, first had and obtained in writing, surrender and terminate this lease upon payment of all rents, royalties, and other obligations due and payable to the lessor, and upon payment of all wages and moneys due and payable to the workmen employed by the lessee, and upon a satisfactory showing to the Secretary that the public interest will not be impaired; but in no case shall such termination be effective until the lessee shall have made full provision for conservation and protection of the property; upon like consent had and obtained the lessee may surrender any legal subdivisions of

the area included herein.

Seo. 6. Purchase of materials, etc., on termination of lease. —Upon the expiration of this lease, or the earlier termination thereof pursuant to the last preceding section, the lessor or another lessee may, if the lessor shall so elect within 3 months from the termination of the lease purchase all materials, tools, machinery, appliances, structures, and equipment placed in or upon the land by the lessee, and in use thereon as a necessary or useful part of an operating or producing plant, on the payment to the lessee of such sum as may be fixed as a reasonable price therefor by a board of three appraisers, one of whom shall be chosen by the lessor, one by the lessee, and the other by the two so chosen; pending such election all equipment shall remain in normal position. If the lessor, or another lessee, shall not within 3 months, elect to purchase all or any part of such material, tools, machinery, appliances, structures, and equipment, the lessee shall have the right at any time, within a period of 90 days. to remove from the premises all the materials, tools, machinery, appliances, structures, and equipment which the lessor shall not have elected to purchase, save and except casing in wells and other equipment or apparatus necessary for the preservation of the well or wells. Any materials, tools, machinery, appliances, structures, and equipment including casing in or out of wells on the leased lands shall become the property of the lessor on expiration of the period of 90 days above referred to or such extension thereof as may be granted on account of adverse climatic conditions throughout said period.

Sec. 7. Proceedings in case of default.—If the lessee shall fail to comply

with the provisions of the act, or make default in the performance or observance of any of the terms, covenants, and stipulations hereof and such default shall continue for a period of 30 days after service of written notice thereof by the lessor, the lease may be canceled by the Secretary of the Interior in accordance with section 17 of the act, as amended, and all materials, tools,

machinery, appliances, structures, equipment, and wells shall thereupon become the property of the lessor, except that if said lease was earned as a preference right pursuant to section 14 of the act or covers lands known to contain valuable deposits of oil or gas, the lease may be canceled only by judicial proceedings in the manner provided in section 31 of the act; but this provision shall not be construed to prevent the exercise by the lessor of any legal or equitable remedy which the lessor might otherwise have. A waiver of any particular cause of forfeiture shall not prevent the cancelation and forfeiture of this lease for any extensions of forfeiture and forfeiture of this lease for any extensions of forfeiture and forfeiture of this lease for any extensions of the forfeiture of this lease for any extensions of the forfeiture of this lease for any extensions. tion and forfeiture of this lease for any other cause of forfeiture, or for the same cause occurring at any other time.

SEC. 8. Heirs and successors in interest.—It is further covenanted and agreed that each obligation hereunder shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors,

or assigns of the respective parties hereto.

SEC. 9. Unlawful interest.—It is also further agreed that no Member of, or Delegate to Congress, or Resident Commissioner, after his election or appointment, or either before or after he has qualified, and during his continuance in office, and that no officer, agent, or employee of the Department of the Interior, shall be admitted to any share or part in this lease or derive any benefit that may arise therefrom; and the provisions of section 3741 of the Revised Statutes of the United States, and sections 114, 115, and 116 of the Codification of the Penal Laws of the United States approved March 4, 1919 (35 Stat. 1109), relating to contracts, enter into and form a part of this lease so far as the same may be applicable.

In witness whereof-

The state of the s	THE By	THE UNITED STATES OF AMERICA,				
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14. Bonds.—All leases under the amended act provide that a general lease bond in the penal sum of not less than \$5,000 conditioned upon compliance with all lease terms, shall be furnished prior to the beginning of drilling operations on leased land. Such bonds in every instance shall be either corporate-surety bonds or individual bonds accompanied, in the latter instance, by a deposit of negotiable Federal securities in a sum equal at their par value to the amount of the bond and by a proper conveyance to the Secretary of full authority to sell such securities in case of default in the performance of the conditions of the lease bond.

Until a general lease bond is filed a lessee will be required to furnish and maintain a bond in the penal sum of not less than \$1,000 for compliance with the lease obligations, and for the protection of the owner of surface or subsurface rights or estates from damage resulting from the operations of such lessee, such bond to terminate upon acceptance of the \$5,000 lease bond. This and other specialpurpose bonds involving penal sums less than \$5,000 may be furnished (a) with approved corporate-surety, (b) with two qualified individual sureties when duly supported by affidavits of justification by such sureties and by a certificate as to their identity, signatures, and financial competency, or (c) without surety, upon deposit of

acceptable collateral as indicated above.

Bonds required under this section should be in substantially the following form:

> DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE.

> > U. S. Land Office -Serial No. —

BOND OF OIL AND GAS LESSEE

(A at af Tab 05 1000 (41 Stat 497))

(Act of Feb. 25, 1520 (41 Stat. 451))
Know all men by these presents, that we,, of the county of, in the State of, as principal, and, of the county of, in the State of, in the State of, as surety, are held and firmly bound unto the United States of America in the sum of dollars, lawful money of the United States, for the use and benefit of the United States and of any entryman or patentee of any portion of the land covered by the hereinafter described lease heretofore entered or patented with a reservation of the oil and gas deposits to the United States, and any lessee under lease heretofore issued by the United States of other mineral deposits in any portion of such land, to be paid to the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents. Signed with our hands and sealed with our seals this day of
, in the year of our Lord one thousand nine hundred and
The condition of the foregoing obligation is such that Whereas the said principal, by instrument dated, has been granted an exclusive right to drill for, mine, extract, remove, and dispose of all the oil and gas deposits in or under the following-described lands , under and pursuant to the provisions of the act approved February 25, 1920 (41 Stat. 437), as amended; and Whereas the said principal has by such instrument entered into certain covenants and agreements set forth therein, under which operations are to be conducted: Now, therefore, if said principal shall faithfully comply with all the provi- sions of the above described lease, then the above obligation is to be void and of no effect, otherwise to remain in full force and virtue. Signed, sealed, and delivered in presence of— Name and address of witness:
,
,[L. s.]
Where United States bonds are submitted in lieu of surety the same form may be used (with the omission of the recitals as to sureties) with the additional provision substantially as follows:
The above-bounden obligor, in order more fully to secure the United States

in the payment of the aforesaid sum, hereby pledges as security therefor bonds of the United States of a par value equal to said sum, which said bonds are numbered serially and are in the denominations and amounts and are otherwise more particularly described as follows: _______, bonds of ________ bearing ______ percent interest with ______ coupons attached to each, numbered ______, which said bonds have this day been denominated with the Scoretowy of the Literal and bonds have this day been deposited with the Secretary of the Interior and his receipt taken therefor.

That the said obligor does hereby constitute and appoint the Secretary of the Interior as his atorney, for him and in his name to collect or to sell, assign and transfer the said United States bonds above described and deposited by the obligor as aforesaid, pursuant to authority conferred by section 1128 of the act of February 26, 1926 (44 Stat. 122), as security for the faithful performance of any and all of the conditions or stipulations as hereinbefore set out, and it is agreed that, in case of any default in the performance of the conditions and stipulations of such undertaking the said actorney shall have full power to collect said bonds or any part thereof, or to sell, assign, and transfer said bonds or any part thereof without notice, at public or private sale, free from any equity of redemption or without appraisement or valuation, notice and right to redeem being waived, and to apply proceeds of such sale or collection to the full amount of the bond to the satisfaction of any damages, or deficiencies arising by reason of such default, as said attorney may deem best. The interest accruing upon said United States bonds deposited as above stated, in the absence of any default in the performance of any of the conditions or stipulations of the bond, shall be paid to said obligor. The said obligor hereby for himself, his heirs, executors, administrators, successors, and assigns ratifies and confirms whatever his said attorney shall do by virtue of these presents.

In witness whereof I have hereunto set my hand and seal this _____ day of _____, 19____

(Signature) [L. s.]

Before me, the undersigned, a notary public within and for the county of _____, in the State of _____, personally appeared _____ and duly acknowledged the execution of the foregoing bond and power of attorney.

Witness my hand and notarial seal this _____ day of _____

[NOTARIAL SEAL]

15. Rentals.—A lessee shall pay an annual rental of 50 cents per acre or fraction thereof for the first year of the lease, and shall pay an annual rental of 25 cents per acre or fraction thereof for the second and each succeeding lease year until oil or gas in commercial quantities is discovered on the leased lands. Thereafter, beginning with the first lease year succeeding discovery, the annual rental shall be \$1 per acre or fraction thereof, any rental paid for any one year to be credited against the royalties as they accrue for that year. For the purposes of making rental payments the lease year shall in all instances be deemed to start on the first day of the month in which the lease was issued. In all instances rental shall be paid in advance, the first payment being due prior to the execution and delivery of the lease: Except, That where a lease is granted in exchange for an existing permit or pursuant to an application for permit filed after May 23, 1935, and before August 21, 1935, no rental is required for the first two lease years, unless valuable deposits of oil or gas are sooner discovered within the boundaries of the lease.

16. Suspension of rentals.—Rentals under any leases issued pursuant to the provisions of the amendatory act, except as otherwise expressly provided in these regulations, may not be waived, suspended, or reduced until a valuable deposit of oil or gas is discovered within the lease area. In any lease on which discovery has been made, the Secretary of the Interior may direct or assent to the suspension of operations or of production of oil or gas, and no payment of rentals under the lease so suspended will be required during the period of suspension of all operations and production. Such suspension of payment of rentals, if so directed or assented to, shall be applied pro rata, by months, for lease years or portions thereof and shall begin with the first day of the lease month after the filing in the office of the oil and gas supervisor of written application

for suspension, or after actual cessation of operations if that be later, and end with the first day of the lease month in which the relief is terminated.

17. Royalties.—Royalties, as follows, shall be paid on the amount or value of all production from the leased lands (except that portion thereof used for production purposes on said lands or unavoidably lost):

(1) When the price of oil used in computing royalty value is \$1 or more per barrel, the per centum of royalty shall be as follows:

When the average production for the calendar month in barrels per well per day is—

Not over 50, the royalty shall be 12.5 percent.

Over 50 but not over 60, the royalty shall be 13 percent.

Over 60 but not over 70, the royalty shall be 14 percent.

Over 70 but not over 80, the royalty shall be 15 percent.

Over 80 but not over 90, the royalty shall be 16 percent.

Over 90 but not over 110, the royalty shall be 17 percent.

Over 110 but not over 130, the royalty shall be 19 percent.

Over 130 but not over 150, the royalty shall be 19 percent.

Over 150 but not over 200, the royalty shall be 20 percent.

Over 200 but not over 250, the royalty shall be 21 percent.

Over 250 but not over 300, the royalty shall be 22 percent.

Over 300 but not over 300, the royalty shall be 23 percent.

Over 350 but not over 400, the royalty shall be 24 percent.

Over 400 but not over 450, the royalty shall be 25 percent.

Over 450 but not over 500, the royalty shall be 26 percent.

Over 500 but not over 750, the royalty shall be 27 percent.

Over 750 but not over 1,000, the royalty shall be 28 percent.

Over 1,000 but not over 1,250, the royalty shall be 29 percent.

Over 1,250 but not over 2,000, the royalty shall be 30 percent.

Over 1,500 but not over 2,000, the royalty shall be 31 percent.

Over 2,000 the royalty shall be 32 percent.

(2) When the price of oil used in computing royalty value is less than \$1 per barrel, the per centum of royalty shall be the foregoing multiplied by the ratio of said price to a price of \$1 per barrel: *Provided*, *however*, That the per centum of royalty shall never be less than 12.5.

(3) If the United States shall take its royalty in oil, the price received by the lessee, as well as that received by the lessor, shall be considered in determining the price to govern the per centum of royalty, unless both prices are \$1 or more per barrel.

(4) On gas, including inflammable gas, helium, carbon dioxide, and all other natural gases and mixtures thereof, and on natural or casing-head gasoline and other liquid products obtained from

When the average production of gas per well per day for the calendar month does not exceed 5,000,000 cubic feet, 12½ percent; and when said production of gas exceeds 5,000,000 cubic feet, 16⅔ percent of the amount or value of the gas and liquid products produced, said amount or value of the gas and liquid products to be net after an allowance for the cost of manufacture; Provided, That the allowance for cost of manufacture may exceed two-thirds of the amount or value of any product only on approval by the Secretary of the Interior, and that said value of gas and of liquid products shall be as determined by said Secretary.

The average production per well per day for oil and for gas shall be determined under rules and regulations approved by the

Secretary of the Interior.

18. Reduction of royalties.—Where the average daily production of the oil wells on an entire leasehold or on any tract or portion thereof segregated for royalty purposes does not exceed 10 barrels per well per day or where the cost of operation renders production economically impracticable, the Secretary of the Interior may reduce the royalty on future production when in his judgment the wells cannot be successfully operated upon the royalty fixed in the lease.

Applications for the reduction of royalties should be made in accordance with the instructions of June 28, 1927 (circular 1127,

52 L. D. 175).

Applications for the waiver, suspension, or reduction of rentals, and reduction of royalties under leases valuable only for the production of gas, should be filed in the same manner and with substantially the same showing as that provided by said instructions.

19. Drainage.—Upon determination that wells drilled upon lands not owned by the United States are draining oil or gas from lands or deposits owned in whole or in part by the United States, the Secretary of the Interior may negotiate agreements whereby the United States or the United States and its permittees, lessees or grantees shall be compensated for such drainage, such agreements to be made with the consent of any permittees and lessees affected thereby.

Steps looking to the negotiation of such special agreements may be initiated in the Department or by application of interested parties. The precise nature of any agreement negotiated will depend on all the conditions and circumstances involved in the

particular case.

20. Exchanges of leases.—Application for exchange of leases under section 2 (a) of the amendatory act may be filed with the register of the district land office or directly with the Commissioner of the General Land Office. Such application should be made by the record titleholder of the outstanding lease and joined in or consented to by any operator of record. Any lease issued in lieu of the outstanding lease will be issued to the record title holder or holders of the outstanding lease, bear current date, and at the royalties and rentals provided by these regulations and will be issued for a period of 10 years and so long thereafter as oil and gas are produced in paying quantities. The lessee will be required to furnish a new and satisfactory lease bond and to discharge any indebtedness against the lease before the new lease will be issued. Two or more outstanding leases may be combined into a single lease where held in common ownership and the lands are sufficiently compact to justify their inclusion in one lease.

21. Acreage limitation.—All leases operated under a cooperative or unit plan for the development and operation of any area, field, or pool approved by the Secretary of the Interior are excepted in determining holdings or control under the provisions of any section

of the act of February 25, 1920, as amended.

22. Rights-of-way for pipe lines.—Applications for rights-of-way under section 28 of the act as amended will be governed by the regulations of February 21, 1931 (circular 1237, 53 I. D. 277), insofar as applicable, appropriate changes being made in the forms prescribed to make them applicable to rights-of-way cases arising under this provision of the act for pipe lines to be constructed, maintained, and operated as comon carriers. In approving such right-of-way grant it shall be specifically stated that such pipe line shall be constructed, operated, and maintained as a common carrier and that the grantee shall accept, convey, transport, or purchase without discrimination oil or natural gas produced from Government lands in the vicinity of the pipe line in such proportionate amounts as the Secretary of the Interior may, after a full hearing with due notice thereof to interested parties and a proper finding of facts determine to be reasonable, and in addition that the use of such pipe line for the transportation of oil or gas shall be limited to oil and gas produced in conformity with State and Federal laws including laws prohibiting waste.

Failure on the part of the grantee to fulfill the conditions imposed by the act shall be grounds for forfeiture of the grant by the United States District Court for the district in which the property or some

part thereof is located in an appropriate proceeding.

Very respectfully,

(Sgd.) Fred W. Johnson, Commissioner.

I concur:

(Sgd.) W. C. Mendenhall,

Director, Geological Survey.

Approved May 7, 1936.
(Sgd.) Harold L. Ickes,

Secretary.

[Public—No. 2971/2—74TH Congress]

[S. 3311]

An Act to amend an act entitled "An Act to promote the mining of coal, phosphate, oil, oil shale, gas, and sodium on the public domain", approved February 25, 1920 (41 Stat. 437; U. S. C., title 30, secs. 185, 221, 223, 226), as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That sections 13, 14, 17, and 28 of the act entitled "An Act to promote the mining of coal, phosphate, oil, oil shale, gas, and sodium on the public domain", approved February 25, 1920 (41 Stat. 437; U. S. C., title 30, secs. 185, 221, 223, 226), as amended, are amended to read as follows:

221, 223, 226), as amended, are amended to read as follows:
"Sec. 13. That the Secretary of the Interior is hereby authorized and directed, under such necessary and proper rules and regulations as he may prescribe, to grant to any applicant qualified under this Act a prospecting permit, which shall give the exclusive right, for a period not exceeding two years, to prospect for oil or gas upon not to exceed two thousand five hundred and sixty acres of land wherein such deposits belong to the United States and are not within any known geological structure of a producing oil or gas field upon condition that the permittee shall begin drilling operations within six months from the date of the permit, and shall, within one year from and after the date of permit, drill one or more wells for oil or gas to a depth of not less than five hundred feet each, unless valuable deposits of oil or gas shall be sooner discovered, and shall, within two years from date of the permit, drill for oil or gas to an aggregate depth of not less than two thousand feet unless valuable deposits of oil or gas shall be sooner discovered: Provided, That said application was filed ninety days prior to the effective date of this amendatory Act. It being the intention of Congress that there shall be no discrimination as between applicants for prospecting permits, the Secretary of the Interior is directed, in every case where one or more permits have been issued, to issue permits to all other applicants for prospecting permits on the same structure, even though one or more of the permittees has developed the said structure into a producing oil or gas field, if said application for permit was filed prior to the development of such structure into a producing oil or gas field, and said applicant has otherwise complied with the law: Provided further, That when such permit is issued upon any structure after discovery, the royalty to be paid upon the preferential lease provided for in section 14 hereof shall be 10 per centum in amount or value of the production and the annual payment of a rental as provided in said section 14. No prospecting permit shall be granted upon any application filed after ninety days prior to the effective date of this amendatory Act. The Secretary of the Interior may, if he shall find that the permittee has been unable

with the exercise of diligence to test the land in the time granted by the permit, extend any such permit for such time, not exceeding two years, and upon such conditions as he shall prescribe: Provided, That all permits outstanding on the effective date of this amendatory Act, which on said date shall not be subject to cancelation for violation of the law or operating regulations and which have theretofore been extended by the Secretary of the Interior, shall be, and the same are hereby, extended until December 31, 1937, subject to the applicable conditions of such prior extensions: Provided further, That the Secretary of the Interior is hereby authorized to extend for an additional period of not to exceed one year any permit on which diligence has been exercised or on which drilling or prospecting has been suspended at the direction of the Secretary during the extension period hereby granted, but no extension of any permit beyond December 31, 1938, shall be granted under authority of this Act, or any other Act. Whether the lands sought in any such application and permit are surveyed or unsurveyed the applicant shall, prior to filing his application for permit, locate such lands in a reasonably compact form and according to the legal subdivisions of the public-land surveys if the land be surveyed; and in an approximately square or rectangular tract if the land be an unsurveyed tract, the length of which shall not exceed two and one-half times its width, and if he shall cause to be erected upon the land for which a permit is sought a monument not less than four feet high, at some conspicuous place thereon, and shall post a notice in writing on or near said monument, stating that an application for permit will be made within thirty days after date of posting said notice, the name of the applicant, the date of the notice, and such a general description of the land to be covered by such permit by reference to courses and distances from such monument and such other natural objects and permanent monuments as will reasonably identify the land, stating the amount thereof in acres, he shall, during the period of thirty days following such marking and posting, be entitled to a preference right over others to a permit for the land so identified. The applicant shall, within ninety days after receiving a permit, mark each of the corners of the tract described in the permit upon the ground with substantial monuments, so that the boundaries can be readily traced on the ground, and shall post in a conspicuous place upon the lands a notice that such permit has been granted and a description of the lands covered thereby: Provided further, That in the Territory of Alaska prospecting permits not more than five in number may be granted to any qualified applicant for periods not exceeding four years, actual drilling operations shall begin within two years from date of permit, and oil and gas wells shall be drilled to a depth of not less than five hundred feet, unless valuable deposits of oil or gas shall be sooner discovered, within three years from date of the permit and to an aggregate depth of not less than two thousand feet unless valuable deposits of oil or gas shall be sooner discovered, within four years from date of permit: Provided further, That in said Territory the applicant shall have a preference right over others to a permit for land identified by temporary monuments and notice posted on or near the same

for six months following such marking and posting, and upon receiving a permit he shall mark the corners of the tract described in the permit upon the ground with substantial monuments within one year after receiving such permit: Provided further, That any person holding a permit to prospect for oil or gas which shall not be subject to cancelation for violation of the law or operating regulations or which shall have been extended under the authority of this or any other Act, in force on or after the effective date of this amendatory Act, or for which timely and acceptable application for extension shall have been filed prior to said date, shall have the right prior to the termination of such permit to exchange the same for a lease to the area described in the permit without proof of discovery, at a royalty of not less than 12½ per centum or value of the production, to be determined by the Secretary of the Interior by general rule and under such other conditions as are fixed in section 17 of this Act: Provided further, That no such lease shall be subject to the acreage limitations of section 27 of this Act, as amended, until one year after the discovery of valuable deposits of oil or gas thereon: Provided further, That any application for any prospecting permit filed after ninety days prior to the effective date of this amendatory Act shall be considered as an application for lease under section 17 hereof: And provided further, That upon leases so granted in lieu of existing permits or granted to applicants for permits, no rentals shall be payable for the first two lease years, unless valuable deposits of oil or gas are sooner discovered within the boundaries of such lease.

"Sec. 14. That upon establishing to the satisfaction of the Secretary of the Interior that valuable deposits of oil or gas have been discovered within the limits of the land embraced in any permit, the permittee shall be entitled to a lease for one-fourth of the land embraced in the prospecting permit: Provided, That the permittee shall be granted a lease for as much as one hundred and sixty acres of said lands, if there be that number of acres within the permit. The area to be selected by the permittee shall be in reasonably compact form and, if surveyed, to be described by the legal subdivisions of the public-land surveys; if unsurveyed, to be surveyed by the Government at the expense of the applicant for lease in accordance with rules and regulations to be prescribed by the Secretary of the Interior, and the lands leased shall be conformed to and be taken in accordance with the legal subdivisions of such surveys; deposits made to cover expense of surveys shall be deemed appropriated for that purpose, and any excess deposits may be repaid to the person or persons making such deposit or their legal representatives. Such leases shall be for a term of twenty years upon a royalty of 5 per centum in amount or value of the production and the annual payment in advance of a rental of \$1 per acre, the rental paid for any one year to be credited against the royalties as they accrue for that year, and shall continue in force otherwise as prescribed in section 17 hereof for leases issued prior to the effective date of this amendatory Act. The permittee shall also be entitled to a preference right to a lease for the remainder of the land in his prospecting permit at a royalty of not less than 121/2 per centum in amount or value of the production nor more than the royalty rate prescribed by regulation in force on January 1, 1935, for secondary leases issued under this section, and under such other conditions as are fixed for oil or gas leases issued under section 17 of this Act the royalty to be determined by competitive bidding or fixed by such other method as the Secretary may by regulations prescribe: *Provided further*, That the Secretary shall have the right to reject any or all bids.

"Sec. 17. All lands subject to disposition under this Act which are known or believed to contain oil or gas deposits, except as herein otherwise provided, may be leased by the Secretary of the Interior after the effective date of this amendatory Act, to the highest responsible qualified bidder by competitive bidding under general regulations. Such lands shall be leased in units of not exceeding six hundred and forty acres, which shall be as nearly compact in form as possible. Such leases shall be conditioned upon the payment by the lessee of such bonus as may be accepted and of such royalty as may be fixed in the lease, which shall be not less than 12½ per centum in amount or value of the production and the payment in advance of a rental to be fixed in the lease of not less than 25 cents per acre per annum, which rental except as otherwise herein provided shall not be waived, suspended, or reduced unless and until a valuable deposit of oil or gas shall have been discovered within the lands leased: Provided, That the rental paid for any one year shall be credited against the royalties as they accrue for that year: Provided further, That in the event the Secretary of the Interior shall direct or shall assent to the suspension of operations or of production of oil or gas under any such lease, any payment of acreage rental as herein provided shall likewise be suspended during such period of suspension of operations or production: And provided further, That in the case of leases valuable only for the production of gas the Secretary of the Interior, upon showing by the lessee that the lease cannot be successfully operated upon such rental or upon the royalty provided in the lease, may waive, suspend, or reduce such rental or reduce such

"The Secretary of the Interior, for the purpose of more properly conserving the oil or gas resources of any area, field, or pool, may require that leases hereafter issued under any section of this Act be conditioned upon an agreement by the lessee to operate, under such reasonable cooperative or unit plan for the development and operation of any such area, field, or pool as said Secretary may determine to be practicable and necessary or advisable, which plan shall adequately protect the rights of all parties in interest, including the United States: *Provided*, That all leases operated under such plan approved or prescribed by said Secretary shall be excepted in determining holdings or control under the provisions of any section of

this Act.

"Leases hereafter issued under this section shall be for a period of five years and so long thereafter as oil or gas is produced in paying quantities when the lands to be leased are not within any known geological structure of a producing oil or gas field, and for a period of ten years and so long thereafter as oil or gas is produced in paying quantities when the lands to be leased are within any known geological structure of a producing oil or gas field: *Provided*, That no such lease shall be deemed to expire by reasons of suspension of prospect-

ing, drilling, or production pursuant to any order or consent of the said Secretary: Provided further, That the person first making application for the lease of any lands not within any known geologic structure of a producing oil or gas field who is qualified to hold a lease under this Act, including applicants for permits whose applications were filed after ninety days prior to the effective date of this amendatory Act, shall be entitled to a preference right over others to a lease of such lands without competitive bidding at a royalty, in the case of oil, of 121/2 per centum in amount or value of the production when the said production does not exceed fifty barrels per well per day for the calendar month and of not less than 121/2 per centum in amount or value of the production when the said production exceeds fifty barrels per well per day for the calendar month, and, in the case of gas, at a royalty of 121/2 per centum in amount or value of the production when the said production does not exceed five million cubic feet per well per day for the calendar month and, when the said production exceeds five million cubic feet per well per day for the calendar month, at a royalty of not less than 12½ per centum in amount or value of the production.

"Leases issued prior to the effective date of this amendatory Act shall continue in force and effect in accordance with the terms of such leases and the laws under which issued: Provided, That any such lease that has become the subject of a cooperative or unit plan of development or operation, or other plan for the conservation of the oil and gas of a single area, field, or pool, which plan has the approval of the Secretary of the Department or Departments having jurisdiction over the Government lands included in said plan as necessary or convenient in the public interest, shall continue in force beyond said period of twenty years until the termination of such plan: And provided further, That said Secretary or Secretaries shall report all leases so continued to Congress at the beginning of its

next regular session after the date of such continuance.

"Any cooperative or unit plan of development and operation, which includes lands owned by the United States, shall contain a provision whereby authority, limited as therein provided, is vested in the Secretary of the department or departments having jurisdiction over such land to alter or modify from time to time in his discretion the rate of prospecting and development and the quantity and rate of production under said plan. The Secretary of the Interior is authorized whenever he shall deem such action necessary or in the public interest, with the consent of lessee, by order to suspend or modify the drilling or producing requirements of any oil and gas lease not subject to such a cooperative or unit plan, and no lease shall be deemed to expire by reason of the suspension of production pursuant to any such order.

"Whenever it appears to the Secretary of the Interior that wells drilled upon lands not owned by the United States are draining oil or gas from lands or deposits owned in whole or in part by the United States, the Secretary of the Interior is hereby authorized and empowered to negotiate agreements whereby the United States or the United States and its permittees, lessees, or grantees shall be compensated for such drainage, such agreements to be made with the

consent of the permittees and lessees affected thereby.

"Whenever the average daily production of the oil wells on an entire leasehold or on any tract or portion thereof segregated for royalty purposes shall not exceed ten barrels per well per day, or where the cost of production of oil or gas is such as to render further production economically impracticable the Secretary of the Interior, for the purpose of encouraging the greatest ultimate recovery of oil and in the interest of conservation of natural resources, is authorized to reduce the royalty on future production when in his judgment the wells cannot be successfully operated upon the royalty fixed in the lease. The provision of this paragraph shall apply to all oil and gas leases issued under this Act, including those within an approved

cooperative or unit plan of development and operation.

"Any lease issued after the effective date of this amendatory Act under the provisions of this section, except those earned as a preference right as provided in section 14 hereof, shall be subject to cancelation by the Secretary of the Interior after thirty days' notice upon the failure of the lessee to comply with any of the provisions of the lease, unless or until the land covered by any such lease is known to contain valuable deposits of oil or gas. Such notice in advance of cancelation shall be sent the lease owner by registered letter directed to the lease owner's record post-office address, and in case such letter shall be returned as undelivered, such notice shall also be posted for a period of thirty days in the United States Land Office for the district in which the land covered by such lease is situated, or in the event that there is no district land office for such leased land, then in the post office nearest such land. Leases covering lands known to contain valuable deposits of oil or gas shall be canceled only in the manner provided in section 31 of this Act.

"Sec. 28. That rights-of-way through the public lands, including the forest reserves of the United States, may be granted by the Secretary of the Interior for pipe-line purposes for the transportation of oil or natural gas to any applicant possessing the qualifications provided in section 1 of this Act, to the extent of the ground occupied by the said pipe line and twenty-five feet on each side of the same under such regulations and conditions as to survey, location, application, and use as may be prescribed by the Secretary of the Interior and upon the express coindition that such pipe lines shall be constructed, operated, and maintained as common carriers and shall accept, convey, transport, or purchase without discrimination, oil or natural gas produced from Government lands in the vicinity of the pipe line in such proportionate amounts as the Secretary of the Interior may, after a full hearing with due notice thereof to the interested parties and a proper finding of facts, determine to be reasonable: Provided, That the Government shall in express terms reserve and shall provide in every lease of oil lands hereunder that the lessee, assignee, or beneficiary, if owner, or operator or owner of a controlling interest in any pipe line or of any company operating the same which may be operated accessible to the oil derived from lands under such lease, shall at reasonable rates and without discrimination accept and convey the oil of the Government or of any citizen or company not the owner of any pipe line, operating a lease or purchasing gas or oil under the provisions of this Act: Provided further, That no right-of-way shall hereafter

be granted over said lands for the transportation of oil or natural gas except under and subject to the provisions, limitations, and conditions of this section. Failure to comply with the provisions of this section or the regulations and conditions prescribed by the Secretary of the Interior shall be ground for forfeiture of the grant by the United States district court for the district in which the property, or some part thereof, is located in an appropriate

proceeding."

SEC. 2. (a) That the Secretary of the Interior is authorized to issue new leases to lessees holding oil or gas leases under any of the provisions of this Act at the time this amendatory Act becomes effective, such new leases to be in lieu of the leases then held by such lessees and to be at a royalty rate of not less than 12½ per centum in amount or value of the production and upon such other terms and conditions as the Secretary of the Interior shall by general rule prescribe: *Provided*, That no limitation of acreage not provided for under the law or regulations under which any such old lease was issued shall be applicable to any such new lease.

(b) Nothing contained in this amendatory Act shall be construed to affect the validity of oil and gas prospecting permits or leases previously issued under the authority of the said Act of February 25, 1920, as amended, and in existence at the time this amendatory Act becomes effective, or impair any rights or privileges which have

accrued under such permits or leases.

SEC. 3. That nothing in this amendatory Act shall be construed as affecting any lands within the borders of the naval petroleum reserves and naval oil-shale reserves or agreements concerning operations thereunder or in relation to the same, but the Secretary of the Navy is hereby authorized, with the consent of the President, to enter into agreements such as those provided for under the Act of March 4, 1931 (46 Stat. 1523), which agreements shall not, unless expressed therein, operate to extend the terms of any lease affected thereby.

Approved, August 21, 1935: