

**PART II. OPERATING REGULATIONS TO GOVERN
THE PRODUCTION OF OIL AND GAS**

**Under the Acts of February 25, 1920
June 4, 1920, and March 4, 1923
and under special agreement
by the United States**

CONTENTS.

	Page.
Introduction.....	1
Definitions.....	1
With whom to deal.....	1
Purpose of supervision.....	2
Section 1. Powers and duties of supervisor and his deputies.....	2
Section 2. Requirements for lessees.....	3
Section 3. Oil royalties.....	5
Example.....	6
Section 4. Natural gas and gasoline royalties.....	7
<i>a.</i> Measurement of natural gas.....	7
<i>b.</i> Payment of royalties.....	8
<i>c.</i> Royalties on natural gas.....	8
<i>d.</i> Royalties on natural-gas gasoline.....	8
Example of method for computing natural-gas gasoline royalties.....	9
<i>e.</i> Relief measures.....	9
Example of method for computing natural-gas gasoline royalties in Wyoming and Montana.....	9
<i>f.</i> Royalty on drip gasoline.....	10
<i>g.</i> Price basis for computing royalty.....	10
<i>h.</i> Determination of gasoline content.....	10
<i>i.</i> Sales contracts.....	10
Section 5. Reports to be made by lessee.....	11
Introduction.....	11
<i>a.</i> Lessee's monthly report of wells.....	11
<i>b.</i> Log of well.....	13
<i>c.</i> Sundry notices and reports on wells.....	13
Notice of intention to drill.....	15
Notice of intention to change plans.....	15
Notice of date for test of water shut-off.....	15
Report on results of test of water shut-off.....	15
Notice of intention to redrill or repair well.....	15
Notice of intention to shoot.....	16
Subsequent record of shooting.....	16
Record of perforating casing.....	16
Notice of intention to pull or otherwise alter casing.....	17
Notice of intention to abandon well.....	17
Subsequent report of abandonment.....	17
Supplementary well history.....	17
<i>d.</i> Report of gas-producing wells.....	17
<i>e.</i> Special forms.....	19
Section 6. Appeal to the Secretary of the Interior.....	19

FORMS.

Lessee's monthly report of operations.....	12
Log of oil or gas well.....	14
Sundry notices and reports on wells.....	14
Lessee's monthly report of gas-producing wells.....	18

OPERATING REGULATIONS TO GOVERN THE PRODUCTION OF
OIL AND GAS UNDER THE ACT OF FEBRUARY 25, 1920;
THE ACT OF JUNE 4, 1920; THE ACT OF MARCH 4, 1923;
AND UNDER SPECIAL AGREEMENT BY THE UNITED STATES.

INTRODUCTION.

DEFINITIONS.

The terms following as used in these regulations shall have the meanings here given:

Supervisor.—The agent appointed by and with the power to act for the Secretary of the Interior in supervising all operations for the discovery, production, and computation of royalties for oil and gas under these regulations.

Deputy supervisor.—An agent of the Secretary of the Interior and a representative of the supervisor with the power to act for him in supervising, under the general direction of the supervisor, operations for the discovery, production, handling, and computation of royalties for all oil and gas subject to these regulations in a district to which he has been assigned.

Representative.—In the following sections of these regulations the terms “supervisor or his representatives” and “deputy supervisor or his representatives” have been used. The representative in such cases shall be interpreted as any employee of the department who is designated by the supervisor or deputy supervisor to assume specified duties and having the power to act for them in connection with such duties.

Lessee.—Any person, firm, corporation, or municipality to whom a permit or lease for the discovery or production of oil and gas is issued under the leasing act of February 25, 1920 (41 Stat., 437), the naval appropriation act of June 4, 1920 (41 Stat., 813), the act of March 4, 1923 (Public No. 500, 67th Cong., 4th sess.), and under special agreement by the United States.

Leased lands, leased premises, leased tract.—Any lands or deposits occupied under permit or lease granted in accordance with the act of February 25, 1920, the act of June 4, 1920, the act of March 4, 1923, and under special agreement by the United States.

WITH WHOM TO DEAL.

In matters pertaining to drilling and producing operations and the handling and gaging of oil or gas the lessee should deal with the deputy supervisor or his representatives in the district where the land under permit or lease is located. Should the lessee not know with whom to deal, he should inquire by letter of the Director, Bureau of Mines, Washington, D. C.

PURPOSE OF SUPERVISION.

Under the provision of these regulations, the supervisor, deputies, or their representatives will require that lessees comply with the terms and spirit of the regulations and operate their properties in a manner in keeping with the best practice for the locality.

Realizing that any specific and binding regulations drawn for one or even the majority of fields may not be applicable to certain other districts, the following regulations are purposely broad in scope, leaving the details of interpretation to the supervisor and the local deputies who are empowered to alter or modify these regulations as conditions may warrant. Where they are adaptable, the suggestions for efficient operating, discussed in another publication,¹ will form the basis of the department's policy and requirements.

SECTION 1. POWERS AND DUTIES OF SUPERVISOR AND HIS DEPUTIES.

It shall be the duty of the supervisor and his deputies—

(a) To visit from time to time leased lands where operations for the discovery or production of oil and gas are conducted, to inspect and supervise such operations with a view to preventing waste of oil and gas, damage to formations or deposits containing oil, gas, or water, or to coal measures or other mineral deposits, injury to life or property, or economic waste; and to issue, in accordance with the provisions of the lease and these regulations, such necessary instructions to lessees as will effectively prevent waste or damage to deposits containing oil, gas, water, or other minerals, or injury to life or property.

(b) To make reports to the Secretary of the Interior as to the general condition of the leased property and the manner in which operations are being conducted and the Secretary's orders are being complied with, and to submit from time to time information and recommendations for safeguarding and protecting the surface property and the underlying mineral-bearing formations.

(c) To prescribe, subject to the approval of the Secretary of the Interior, the manner and form in which all records of operations, reports, and notices shall be made.

(d) To require that tests shall be made to detect wastes of oil and gas, as well as the presence of oil, gas, or water in a well and to prescribe or approve the methods of making such tests.

(e) To require the correction, in a manner to be prescribed or approved by him, of any condition existing subsequent to the completion of a well which is causing or is likely to cause damage to any formation bearing oil, gas, or water, or to coal measures or other mineral deposits, or which is dangerous to life or property or wasteful of oil or gas.

(f) To determine the percentage of the potential capacity of any gas well which may be utilized when, in his opinion, such action is necessary to properly protect the gas-producing formations. The deputy or his representative likewise will specify the time and method for determining the potential capacity of gas wells.

¹ Swigart, T. E., and Beecher, C. E., Manual for oil and gas operations: Bull. 232, Bureau of Mines.

(g) To assist and advise with Government lessees, making tests and carrying on experiments for the purpose of increasing the efficiency of operation.

(h) To sign receipts for any and all royalty oil delivered to the Government account and to designate a representative to sign provisional receipts for royalty oil.

(i) To sign division orders granting pipe-line companies authority to receive oil or gas from Government lands in accordance with Government rules and regulations.

SECTION 2. REQUIREMENTS FOR LESSEES.

(a) The lessee shall conform to the terms of the lease and regulations and to the written instructions of the supervisor or his deputies and shall take precautions to prevent waste of oil or gas, damage to formations or deposits bearing oil, gas, or water, or to coal measures or other mineral deposits, injury to life or property, or economic waste.

(b) The lessee shall designate in writing a local or resident representative for each permit or lease or for each group of permits or leases he holds and shall give the local post-office address of such resident representative on whom the supervisor or other authorized representative of the department of the Interior may serve notice or with whom he may otherwise communicate in securing compliance with these regulations. The resident representative of the lessee of lands not yet drilled shall be designated before drilling or other operations are begun.

If said designated local or resident representative shall at any time be incapacitated for duty or absent from his residence as given in the report furnished, the lessee shall designate in writing some person to serve in his stead, and in the absence of such representative or of written notice of the appointment of a substitute, any employee of the lessee who is on the leased premises, or the contractor or other person in charge of operations, shall be considered the representative of the lessee for the service of orders or notices as herein provided and service upon any such employee, contractor, or other person shall be deemed service upon the lessee. All changes of address of the designated representative shall be immediately reported, in writing, to the local deputy or his representative.

(c) The lessee shall not drill any well closer than 200 feet from any of the outer boundaries of the land covered by a permit or lease except as closer spacing may be necessary to protect against offset wells on lands the title to which is not held by the United States of America.

(d) The lessee shall not begin to drill, redrill, deepen, shoot, plug- or abandon any well or alter the casing in it without first notifying the deputy supervisor or his representative of his plan or intention and receiving approval of the contemplated work.

(e) The lessee shall permanently mark all rigs or wells in a conspicuous place with his name or the name of the actual operator and the number or designation of the well and shall take all necessary means and precautions to preserve these markings.

(f) The lessee shall keep on the leased premises or at his headquarters in the field accurate records of the drilling, redrilling, deep-

ening, plugging, or abandoning of all wells and of all alterations to casing, the records to show all the formations drilled through and their content of oil, gas, or water (and if water, its character), if any, and the kinds, weights, length, and sizes of casings used in drilling the wells; and copies of such records shall be transmitted to the local deputy supervisor or his representative by the lessee on prescribed forms (see section 5 of these regulations) furnished by the Bureau of Mines within 15 days after the first completion of any well or after the completion of any further operations on it. The lessee shall also submit to the deputy supervisor such other reports and records of operations as may be required, in the manner and form prescribed by the deputy supervisor. (See section 5.)

(g) In drilling in "wild cat" territory, or in a gas or oil field where high pressures are likely to exist, the lessee shall take all proper precautions necessary for bringing the well under control at any time and shall provide at the time the well is started the proper high-pressure fittings, etc., required for such work.

(h) When drilling with cable tools, the lessee shall provide at least one properly prepared slush pit, into which he must deposit mud and cuttings from clays or shales which will be suitable for the mudding of a well, except when drilling in a proven area where it is known that such precautions are unnecessary. When occasion demands, a second pit must be provided for sand pumpings and other material extracted from the well during the process of drilling but not suitable for mudding.

(i) When drilling with rotary tools, the operator will provide when required by the deputy supervisor or his representative an auxiliary mud pit of suitable capacity in which he can maintain a supply of extra heavy mud for emergency use in cases of blow-outs or lost circulation. When occasion demands, surplus mud and cuttings shall be confined in suitable pits.

(j) The lessee will be required to effectually shut off and exclude all water from any oil or gas bearing stratum, by a method approved by the deputy supervisor or his representative. Moreover, the lessee shall test each water shut-off before completing the well and drilling into the oil or gas sand, by a method approved by the local deputy.

(k) The lessee shall not deepen an oil or gas well for the purpose of producing oil or gas from a deeper stratum unless the upper producing strata are properly protected. No producing oil or gas well shall be abandoned except in a manner approved by the deputy supervisor and only where it can be demonstrated that the further operation of such well is commercially unprofitable.

(l) The lessee shall prevent any oil or gas well from blowing open and shall take immediate steps and exercise due diligence to bring under control any "wild" or burning oil or gas well.

(m) The lessee shall operate his wells in such manner as to eliminate, in so far as possible, the formation of emulsion or so-called B. S. If the formation of emulsion, or B. S., can not be avoided and the oil can not be recovered from the emulsion by usual methods of treatment, the lessee shall treat the oil to put it into a marketable condition if it can be recovered at a profit. The deputy supervisor is empowered to authorize the deduction, before the royalty is computed, of the cost of putting the oil into marketable condition by such unusual methods in order to encourage the conservation of oil.

To avoid excessive evaporation losses or "burning the oil," the lessee shall not heat emulsified oil for the purpose of breaking down emulsions to temperatures above the minimum temperature required to put the oil into marketable condition.

(n) B. S. and salt water from tanks or wells shall not be allowed to pollute streams or damage the surface of adjoining lands. In cases where the B. S. can not be treated or burned and the volume of salt water is too great for disposal by seepage and evaporation, the lessee should consult with the deputy supervisor regarding its disposal and dispose of it under some approved method.

(o) All oil run from Government leases or permits shall be gaged according to methods approved by the supervisor or his representative. The lessee shall provide tanks suitable for containing and accurately measuring the crude oil produced from the wells, and shall furnish to the deputy supervisor at least two accurate copies of all tank tables. The lessee shall not, except during an emergency, and by special permission of the deputy supervisor, permit oil to be stored or retained in earthen reservoirs or in any other receptacles in which there may be undue waste of oil by seepage or evaporation.

(p) Before plugging or abandoning a well the lessee shall submit to the deputy supervisor or his representative the detailed plans for carrying on the work, together with duplicate copies of the log in case it has not already been submitted, and proceed with the plugging or abandonment only on receiving the approval of the deputy supervisor.

(q) The lessee shall prevent the waste of natural gas or its wasteful utilization. The use of gas in its natural state in engines, pumps, or similar equipment where its pressure is the direct operating force is prohibited unless the exhaust gas is conserved for use as fuel or unless special permission is obtained from the supervisor or his representative. Other conditions or methods which, in the opinion of the supervisor or his representatives, are wasteful of natural gas but are not specifically mentioned will not be permitted.

(r) The lessee shall exercise reasonable precaution in providing against accidents and fires and shall make a full report to the deputy supervisor of all accidents or fires on the leased premises.

(s) In matters pertaining to the operations of oil and gas properties, not specifically mentioned in the foregoing regulations, the supervisor or his representative shall have power to require of lessees compliance with such orders as may be necessary to effect the greatest saving of oil or gas. Subjects of controversy shall be settled in conference between the lessee and the supervisor or his representatives but the supervisor or his representatives shall have final authority except as hereinafter provided.

SECTION 3. OIL ROYALTIES.

(a) When paid in value, royalties shall be due and payable monthly on or before the 15th of each calendar month, following the calendar month in which produced, to the receiver of public moneys for the land district in which the leased land is situated.

If the lessor elects to take its royalties in kind, the lessee shall furnish storage for such royalty oil free of charge for 30 days after the end of the calendar month in which the oil is produced. The oil is to be stored on the leased premises or at such place as the lessor and the lessee may mutually agree upon.

(b) The sliding-scale royalties are based on the average daily production per well. Ordinarily the average daily production per well for a lease is computed on the basis of a 28, 29, 30, or 31 day month (as the case may be) and the number of wells on the lease counted as producing. (Tables for computing royalty on the sliding-scale basis may be obtained upon application to the deputy supervisor or his representative.) The department recognizes that the average oil well does not produce regularly every day throughout the month because of unavoidable shutdowns, but wells so operating are considered as regular producers. The Government will determine the number of producing wells for computing royalties in accordance with the following cases:

Case I. On a previously producing lease, count as producing wells for every day of the month each well which produced 15 days or more during the month and disregard those which produced less than 15 days during the month, except new wells that have been brought in. (See Case III.)

Case II. When the initial production of a lease is made during the calendar month, compute royalty on the basis of producing well days.

Case III. When a new well or wells are brought in on a previously producing lease and produce 10 days or more during the calendar month in which the new well or wells are brought in, count such new well or wells as producing every day of the month, in arriving at the number of producing well days. Do not count new well or wells that produce less than 10 days for the calendar month.

Case IV. Consider "head wells" that make their best production by intermittent pumping or flowing as producing every day of the month, provided they are regularly operated in this manner.

Case V. On a previously producing lease, if no old well or wells produced 15 days or more, compute royalty on a basis of actual well days producing.

Case VI. Where, on a previously producing lease, there were no wells producing during the calendar month, but oil was shipped during the same month, compute the royalty at the same royalty percentage as of the last preceding calendar month in which production and shipments were normal.

Case VII. Special cases not subject to definition, such as those arising from averaging the production from two distinct sands or horizons when the production of one sand or horizon is relatively insignificant as compared to that of the other, shall be submitted to the deputy supervisor.

EXAMPLE.

Consider the following summary of operation for a Government lease for the month of June (a 30-day month):

Well No.	Summary.	Count (marked X).
1	Produced full time for 30 days.....	X
2	Produced a total of 26 days; down 4 days for repairs.....	X
3	Produced 30 days; down June 5, 12 hours, rods; June 14, 6 hours, engine down; June 25, 24 hours, June 26, 24 hours, pulling rods and tubing.....	X
4	Produced 12 days; down from June 13 to 30.....	
5	Produced for 8 hours every other day (head well).....	X
6	Idle producer (not operated).....	
7	New well, completed June 17; produced 14 days.....	X

In this case there are a total of seven wells on the lease, but wells No. 4 and No. 6 can not be counted for computing royalties. Wells Nos. 1, 2, 3, 5, and 7 are counted as producing for 30 days. The royalty is taken on the total lease production for the month (including the oil produced by well No. 4).

Government leases stipulate that the royalty shall be paid on the basis of the actual lease production. In most cases the pipe-line runs from a lease closely approximate the lease production over a period of time. Because of the accurate gaging of clean (net) oil when running to the pipe line, the department prefers to compute the royalty on the basis of the monthly pipe-line runs from a lease rather than on the basis of the actual monthly production, when practicable, but reserves the right to compute royalty on a production basis, taking storage into account, whenever the supervisor or his representative may so elect.

(c) The lessee shall file with the Secretary of the Interior through the local deputy supervisor or his representative copies of all sales contracts for the disposition of oil produced except that portion used for production purposes on the land leased, and in the event that the United States shall elect to take its royalties in money instead of in oil or gas, not to sell or otherwise dispose of the products of the land leased except in accordance with the sales contract or other method first approved by the Secretary of the Interior.

(d) The lessee shall file with the local deputy supervisor the run tickets for any and all oil run from Government leases or permits, except in certain special cases approved by the deputy supervisor.

SECTION 4. NATURAL GAS AND GASOLINE ROYALTIES.

a. MEASUREMENT OF NATURAL GAS.

The term "natural gas" as used in these regulations shall be interpreted to mean either gas from gas wells or so-called "casing-head gas" produced by oil wells. The term "dry natural gas" applies to natural gas of such low gasoline content that the extraction of natural-gas gasoline is not commercially feasible or to natural gas from which gasoline has already been extracted.

All gas subject to royalty shall be measured by meters (preferably of the orifice-meter type), approved by the supervisor or his representatives and installed at the expense of the lessee at such places as may be determined by the supervisor or his representatives. The standard of pressure in all measurements of gas sold or subject to royalty shall be 10 ounces above an atmospheric pressure of 14.4 pounds to the square inch, regardless of the atmospheric pressure at the point of measurement, and the standard of temperature shall be 60° Fahrenheit. All measurements of gas shall be reduced by computation to these standards, no matter what may have been the pressure and temperature at which the gas was actually measured. By reason of higher altitudes in the States of Wyoming and Montana, the absolute pressure of the flowing gas shall be taken as the gage pressure plus the actual average atmospheric pressure existing at the points of measurements in these States in order to equitably reduce the quantity of gas to the Government standard of 10 ounces above

an atmospheric pressure of 14.4 pounds to the square inch. The Bureau of Mines has computed tables for this correction for some of the fields situated at high altitudes. Information relative to these may be obtained through the deputy supervisors.

b. PAYMENT OF ROYALTIES.

When paid in value, natural gas and natural-gas gasoline royalties shall be due and payable monthly, on or before the 15th of each calendar month, following the calendar month in which produced, to the receiver of public moneys for the land district in which the leased land is situated.

The royalties on gas and natural-gas gasoline from Government permits and leases under the act of February 25, 1920, the act of June 4, 1920, the act of March 3, 1923, and under special agreement by the United States, where royalties are not specified in the permit, lease, or special contract with the Government, shall be as stated in the following paragraphs *c* and *d*.

c. ROYALTIES ON NATURAL GAS.

The royalty on gas, whether gas from which the natural-gas gasoline has been extracted or otherwise, shall be $12\frac{1}{2}$ per cent of the value thereof in the field where produced, where the average production per diem for the calendar month for the land leased is less than 3,000,000 cubic feet, and $16\frac{2}{3}$ per cent where the average daily production is 3,000,000 cubic feet or over.

In the sale of dry natural gas there is but one commodity involved and on it the Government collects $12\frac{1}{2}$ per cent or $16\frac{2}{3}$ per cent, according to the average daily production from the lands in question, or a royalty as specified in the lease. These royalties are due regardless of whether the gas is produced as dry gas or whether it is the dry residual gas from a plant after natural-gas gasoline has been extracted.

In general, where natural gas is delivered or sold for purposes of extracting gasoline, two separate commodities are involved, first, the natural-gas gasoline, and, second, the dry gas.

d. ROYALTIES ON NATURAL-GAS GASOLINE.

A royalty of $16\frac{2}{3}$ per cent shall be paid on the value of one-third of all natural-gas gasoline extracted and sold from the natural gas produced on the leased land.

Natural-gas gasoline (also known as casing-head gasoline) is a manufactured product. The value of this product is contingent upon its raw-material value and the cost of its manufacture. The Government does not wish to collect royalty on that part of the value which is derived from the cost of manufacturing, inasmuch as the Government's equity is confined to the value of the raw materials involved. In computing royalty on natural gas, the value of the raw natural-gas gasoline as produced is assumed to be one-third of the value of the marketable natural-gas gasoline extracted from such gas, the remaining two-thirds being allowed the lessee for the cost of manufacture. Thus the Government collects $16\frac{2}{3}$ per cent of one-third of the market value as its royalty share of the natural-gas gasoline produced (or in effect one-eighteenth of the market value).

If the lessee derives revenue on natural gas from two sources, namely from natural-gas gasoline marketed and dry (residual) gas sold, the Government likewise will collect two royalties. Therefore if there is a market for the dry residual gas from the natural-gas gasoline plant, a royalty on this dry gas as stipulated under headings *b* and *c* of this section must be paid the Government.

The present policy of the department is to allow use of a reasonable amount of dry gas for plant operation, subject to the advice and direction of the supervisor or his representatives. The department will attempt to arrive at an equitable basis of settlement in determining what constitutes "reasonable amount." Moreover, the department will investigate cases where gas is being wasted.

EXAMPLE OF METHOD FOR COMPUTING NATURAL-GAS GASOLINE ROYALTIES.

Assume:

That the price the lessee receives for natural-gas gasoline is 18 cents per gallon.

That 3 gallons of gasoline are recovered from each 1,000 cubic feet of natural gas treated.

Then:

The value of the gasoline on which the Government takes its royalty is equal to one-third of 3 gallons (per 1,000 cubic feet of gas), or 1 gallon, having a value of 18 cents. The Government's royalty on gasoline in this case is:

$\frac{1}{3}$ (= 16 $\frac{2}{3}$ per cent) \times 1 (gal.) \times 18 cents = 3 cents (on each 1,000 cubic feet of natural gas treated).

e. RELIEF MEASURES.

In view of the extra cost of transportation and operation of natural-gas gasoline plants in Wyoming and Montana, due to climatic conditions and other natural factors, in computing the royalties on natural gas provided for in the lease, the value of all raw natural-gas gasoline produced from leases in said States shall be assumed to be one-fifth of the value of the marketable natural-gas gasoline recovered from such gas.

The basis of computation shall continue until January 1, 1925, after which date the one-third rate, as specified under heading *d* of this section, shall automatically become effective, unless the Secretary of the Interior shall see fit to extend or modify this regulation.

EXAMPLE OF METHOD FOR COMPUTING NATURAL-GAS GASOLINE ROYALTIES IN WYOMING AND MONTANA.

Assume:

That the price the lessee receives for natural-gas gasoline is 18 cents per gallon.

That 3 gallons of gasoline are recovered from each 1,000 cubic feet of natural gas treated.

Then:

The value of the gasoline upon which the Government takes its royalty is equal to $\frac{1}{5}$ of 3 gallons (per 1,000 cubic feet of gas), or $\frac{3}{5}$ gallon, having a value of ($\frac{3}{5} \times 18$ cents) = 10 $\frac{4}{5}$ cents.

The Government's royalty on gasoline in this case is:

$\frac{1}{6}$ ($= 16\frac{2}{3}$ per cent) $\times \frac{3}{5}$ (gal.) $\times 18$ cents = 1.8 cents (on each 1,000 cubic feet of natural gas treated).

As provided under headings *b*, *c*, and *d* of this section, a royalty shall also be paid on any dry (residual) gas that may be sold.

f. ROYALTY ON DRIP GASOLINE.

A royalty on all drip gasoline recovered and sold from gas produced on the leased premises shall be the same as that required for natural-gas gasoline manufactured within the same district.

g. PRICE BASIS FOR COMPUTING ROYALTY.

If the lessee receives a higher price for natural gas than the combined price the Government would receive for its royalty on the natural-gas gasoline and the dry residual gas, then and in that event the Government royalty shall be computed on the higher price received by the lessee.

h. DETERMINATION OF GASOLINE CONTENT.

For computing royalties the gasoline content of all natural gas treated at any plant during any month shall be determined by dividing the total quantity of marketable² natural-gas gasoline produced during that month (after deduction of all naphtha or other materials used for blending products) by the quantity of natural gas treated in the plant during the month, as shown by meters. If the gasoline plant on the leased premises obtains natural gas both from those premises and from other sources, or if natural gas is sold or transported from the leased premises to plants not on the leased premises, the gasoline content of the gas shall be determined by field tests made under the supervision of the supervisor or his representative. If necessary or desirable, tests shall be made of all gas treated in any such plant in order to determine whether the field tests of the gas produced from the leased premises show as great a gasoline content as is shown by the natural-gas gasoline marketed in the actual operations of the plants; and upon such tests the supervisor or his representative shall determine the gasoline content of the gas to be used in royalty computations.

i. SALES CONTRACTS.

The lessee shall file with the Secretary of the Interior, through the local deputy supervisor or his representative, copies of all sales contracts for the disposition of natural gas and natural-gas gasoline produced, except that portion used for production purposes on the land leased, and in the event that the United States shall elect to take its royalties in money instead of oil or gas, not to sell or otherwise to dispose of the products of the land leased except in accordance with the sales contract or other method first approved by the Secretary of the Interior.

² Marketable will be interpreted to mean that product which a plant is actually able to manufacture and sell.

SECTION 5. REPORTS TO BE MADE BY LESSEE.**INTRODUCTION.**

In operating, to know the property is to know the individual wells on it. For this reason much of the information requested by the Bureau of Mines concerns individual wells. Experience has shown that these data are essential to careful operation and are necessary for engineering studies that often enable the Bureau of Mines to offer valuable advice on the handling of properties. Forms for making reports to the department (as described later in this section) can be obtained from the deputy supervisor or his representative, and such forms, unless others are specified by the local deputy supervisor, must be used by the lessee. Lessees must fill out and file with the local deputy or his representative all forms completely and punctually.

a. **LESSEE'S MONTHLY REPORT OF WELLS—(FORM 6-329a).**

This form is to be filled out each calendar month, and filed in duplicate with the deputy supervisor in whose district the lease or permit is located, on or before the 6th day of the succeeding month, unless an extension of time is granted by the deputy supervisor or his representative. This form is a general statement informing the deputy supervisor of the operations on the property. A separate report should be sent in for each lease or permit. The form should be submitted for each month, beginning with the month of initial production on the permit or lease and may be required monthly, beginning with the date of the lease by the deputy supervisor.

DEPARTMENT OF THE INTERIOR,
 BUREAU OF MINES,
 PETROLEUM DIVISION.

U. S. Land Office
 Serial number
 Lease or permit

LESSEE'S MONTHLY REPORT OF OPERATIONS.

State (or Territory) County (or subdivision)
 Field Company

The following is a correct report of operations (including drilling and oil-producing wells) for month of, 192
 Signed Title

NOTE.—Gas production should be reported on Form 6-335a.

4 sec.	Twp.	Range.	Well No.	Days operated.	If drilling, depth.	Pump depth.	Barrels oil.	Barrels water.	Barrels emulsion.	Gravity.	If shut down, cause.

NOTE.—There were runs or sales of oil during the month.
 (Write "No" if applicable.)

This form is required as a regular monthly report, regardless of the status of operations, and must be filed in duplicate with the deputy supervisor by the 6th of the succeeding month.

The only information called for in this report which may occasion any inconvenience to the operator is the number of barrels of oil and water produced by each well. Usually the operator can devise a method of gaging individual wells that will check, with a reasonable degree of accuracy, the production of the lease for the same month. The deputy supervisor will advise with the operator as to methods of gaging on the lease or permit.

The lessee must report with accuracy the status of all wells on the lease, as this information is essential in computing royalties. (See section 3 b.)

b. LOG OF WELL (FORM 6-330).

The lessee must furnish the department with a full and accurate log of every well. The lessee shall require the drillers, whether company labor or contract labor, to record accurately the depth, description, and fluid content, where possible, of each formation as it is penetrated, together with other pertinent information called for by this form. The practice of compiling well logs from memory, sometimes after the work has been completed, will not be permitted on Government land.

The lessee shall furnish the deputy supervisor or his representative, upon his demand, with a partial or complete log of any well and shall file with the deputy supervisor or his representative not later than 15 days after the completion of a well a complete and accurate log on Form 6-330.

c. SUNDRY NOTICES AND REPORTS ON WELLS.

FORM 6-331a.

Form 6-331a covers all notices necessary and all reports required, except those for which special blanks are provided. This form may be used for any purposes listed; the operator may insert also a special heading on the blank and use it for other purposes. Any written notice of intention to do work or of change in plans must reach the local deputy and receive his approval before commencement of the work. The lessee is responsible for the deputy's receiving the notice in due time. The examples following illustrate some of the uses to which Form No. 6-331a may be put.

U. S. Land Office.....
Serial Number.....
Lease or permit.....

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

PETROLEUM DIVISION

SUNDRY NOTICES AND REPORTS ON WELLS

(INDICATE NATURE OF DATA BY CHECKING.)

Notice of intention to drill..... Notice of intention to change plans..... Notice of date for test of water shut-off..... Report on result of test of water shut-off..... Notice of intention to redrill or repair well..... Notice of intention to shoot.....	Subsequent record of shooting..... Record of perforating casing..... Notice of intention to pull or otherwise alter casing..... Notice of intention to abandon well..... Subsequent report of abandonment..... Supplementary well history.....
---	---

Following is a {notice of intention to do work } on land under {permit } described as follows: , 192..
{report of work done } {lease }

Well No. (State or Territory) (m sec.) (County or subdivision.) (Field.)
..... (Township.) (Range.) (Meridian.)

The well is located ft. {N } of line and ft. {E } of line of.
{S } of ft. {W } of line of.

The elevation of the derrick floor above sea level is ft.

Details of plan of work:

Approved..... (Date.) Company.....

By..... Title.....
Bureau of Mines.

NOTICE OF INTENTION TO DRILL (FORM 6-331a).

An operator who is about to drill on public lands under the terms of a Government permit or lease must file notice of intention to drill. In the notice of intention to drill any well the operator must give the location, in feet, from property lines, and if possible the elevation of the derrick floor; also the operator's estimate as to where the oil or gas will be encountered and approximately where he plans to set the various strings of casing; also the weight of the various sizes he proposes to set at these depths, and a statement as to whether any cementing, mudding, or other special work is contemplated should be included. Ordinarily the accuracy and fullness of this information will be dependent upon the amount and character of the development work previously done in the vicinity, but the department will require as much information as can logically be expected.

NOTICE OF INTENTION TO CHANGE PLANS (FORM 6-331a).

Owing to unexpected conditions, it may become necessary to change the plans of proposed work either in connection with the drilling or repair of wells. Complete details of these changes should be submitted to the deputy supervisor or his representative in writing on Form 6-331a, and his approval obtained before the work is undertaken.

NOTICE OF DATE FOR TEST OF WATER SHUT-OFF (FORM 6-331a).

As the exclusion of water from oil-bearing formations is one of the most important items of conservation, the bureau's representatives will witness as many tests for water shut-off as possible. Form 6-331a should be filled out and filed with the local deputy supervisor or his representative in advance of the approximate date on which the lessee expects to test the water shut-off. Later by agreement between the deputy and the lessee, the exact day may be fixed which will meet their mutual convenience.

REPORT ON RESULT OF TEST OF WATER SHUT-OFF (FORM 6-331a).

When the deputy supervisor has authorized the lessee to test a water shut-off which was not witnessed by the deputy supervisor or his representative, the lessee shall submit a statement signed by the superintendent, foreman, or driller in charge of the work and giving complete details of the test and the results thereof. The information given must be complete and include such items as depth of shut-off; head of water found; depths and thicknesses of water strata penetrated before landing pipe; weight, nominal diameter, and depth of all casing in the hole; fluid levels before and after test; length of time the well stood for each test; depth drilled out below shoe, if any; note of oil or gas showing; length and character of bridge, if used; method of shut-off; amount and make of cement, if any; time given for set, etc.

NOTICE OF INTENTION TO REDRILL OR REPAIR WELL (FORM 6-331a).

If it seems desirable to make repairs in or to deepen a well, a detailed written statement of the plan of work shall be made to the deputy supervisor or his representative and his approval obtained

before the work is started. In work that affects only rods, pumps, or tubing or other routine work such as cleaning out, no notice or report will be necessary.

NOTICE OF INTENTION TO SHOOT (FORM 6-331a).

Before shooting any well (whether for increasing production or in drilling, repair, or abandonment) notice of intention to shoot shall be given to the deputy supervisor or his representative and his approval obtained before shooting is done. If in case of emergency this notice is given verbally or by wire and approval is obtained, the transaction shall be confirmed in writing as a matter of record. In specific cases the deputy supervisor may waive these requirements as to shooting. When the notice of intention to shoot becomes a part of a notice of intention to redrill, repair, or abandon a well, the deputy may accept such notice in lieu of a separate notice of intention to shoot.

The notice of intention to shoot (Form 6-331a) must be accompanied by the complete log of the well to date, provided the complete log has not previously been filed, and must include the object of shooting, the size and kind of the proposed shot, exact location and distribution of the explosive in the well (by depths), and the name of the company doing the shooting. The notice shall also contain an accurate statement of the daily oil and water production, if any, at the time the notice is filed or at the date of last production.

SUBSEQUENT RECORD OF SHOOTING (FORM 6-331a).

After shooting any well a subsequent shooting record must be filed with the deputy supervisor or his representative. This record shall be filed separately (on Form 6-331a) within 30 days after shooting is done, except where such shooting record constitutes a part of the log (Form 6-330) or a record of other subsequent work done (Form 6-331a) is filed within that period or is part of an abandonment record.

The subsequent shooting record shall include a statement of the size of the shot and the nature, exact location, and distribution of the explosive used in the well (by depths). The record also shall contain an accurate statement of the average daily production of oil and water for at least a 10-day period prior to the filing of the report. In addition this report should include other pertinent information, such as depth of cleaning out, time spent in bailing and cleaning out, and possible injuries to the casing or the well.

RECORD OF PERFORATING CASING (FORM 6-331a).

Usually a statement covering the details of perforated casing in a well is made on the log form. When perforations are made after the log has been sent in, a report of the work shall be made on Form 6-331a. Prior notice need not be given for such work, providing it is not intended to perforate casing that has excluded water from the well. In the latter case a notice of intention to perforate and approval of the deputy supervisor or his representative before the work is begun will be necessary.

NOTICE OF INTENTION TO PULL OR OTHERWISE ALTER CASING (FORM 6-331a).

If it is desired to pull a portion or all of a string of casing, or to rip, perforate, or otherwise alter casing that has excluded water from a well, a notice (Form 6-331a) of such work must be given and the approval of the deputy supervisor obtained before the work is started. When it is desired only to add casing without deepening the well and without changing the position of any casing previously in the well, it will be sufficient to report the work done on a subsequent notice of work done.

NOTICE OF INTENTION TO ABANDON WELL (FORM 6-331a).

Before beginning abandonment work on any well (whether drilling well, oil or gas well, water well, or so-called dry hole) notice of intention to abandon shall be filed in writing with the deputy supervisor or his representative, and his written approval shall be obtained before the abandonment work is started.

The notice of intention to abandon must be accompanied by a complete log of the well to date, provided the complete log has not been filed previously, and must give a detailed statement of the proposed work, including such information as kind, location, and length of plugs (by depths), plans for mudding, cementing, shooting, testing, and removing casing, as well as any other pertinent information.

SUBSEQUENT REPORT OF ABANDONMENT (FORM 6-331a).

After abandoning or plugging a well a subsequent record of work done must be filed with the deputy supervisor or his representative. This record shall be filed separately (on Form 6-331a) within 30 days after the work is done except where such record constitutes a part of the log (Form 6-330) or record of other subsequent work done (Form 6-331a) filed within that period.

The subsequent report of abandonment shall give a detailed account of the manner in which the abandonment or plugging work was carried out, including the nature and quantities of materials used in plugging and the location and extent (by depths) of the plugs of various materials. Records of any tests or measurements made and the amount, size, and location (by depths) of all casing left in the well as well as a detailed statement of the volume of mud fluid used and pressures attained in mudding, and the names and positions of employees who carried on the work should be included. If the well was shot this report must include a complete statement of the shooting, giving the details as called for on page 16 of these regulations.

SUPPLEMENTARY WELL HISTORY (FORM 6-331a).

A report of all work done on any well since the filing of the log form (Form 6-330) or last report covering work on the well shall be filed with the deputy supervisor or his representative on Form 6-331a within 30 days after completion of the particular work, or before if called for by the deputy supervisor.

d. REPORT OF GAS-PRODUCING WELLS (FORM 6-335a).

Form 6-335a is to show gas production and the gasoline content and shall be filed with the deputy supervisor before the 6th of the following month. Since the method of computing the price of natural gas for royalty purposes is based on the value of the gasoline content, the reason for requiring this information is obvious.

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

PETROLEUM DIVISION

U. S. Land Office.....

Serial number.....

Lease or permit.....

LESSEE'S MONTHLY REPORT OF GAS-PRODUCING WELLS.

State (or Territory)..... County (or subdivision).....

Field..... Company.....

The following is a correct report of gas-producing wells for month of, 19

Signed

Sec.	Twp.	R.	Well No.	Number days produced.	Cubic feet gas in thousands.	Rock pressure.	Gasoline per 1,000 cubic feet.			Gallons of gasoline recovered.
							Date tested.	Method.	Gallons.	

NOTE.—There were runs or sales of from the lease during the month.
 (State "No," if applicable.) (State gasoline, gas, or both, if applicable.)

This report to be filed in duplicate with deputy supervisor by 6th of succeeding month.

e. SPECIAL FORMS.

Because of the varying conditions in certain localities, special forms other than those shown in these regulations, such as run or sales statements, may be necessary. Instructions for the filing of such forms will be given by the deputy supervisor.

SECTION 6. APPEAL TO THE SECRETARY.

The lessee must immediately obey all orders of the supervisor or his deputy except as hereinbefore provided, but any order shall be subject to review by the Secretary of the Interior upon appeal filed by the lessee within 30 days after it has been served.

The administration of these regulations shall be under the direction of the Bureau of Mines.

Approved:

ALBERT B. FALL,
Secretary.

MARCH 3, 1923.

Reapproved:

E. C. FINNEY,
First Assistant and Acting Secretary.

AUGUST 1, 1923.

