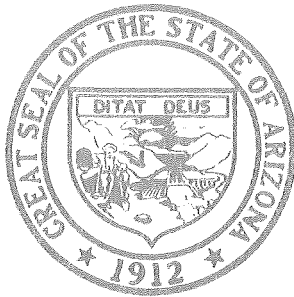


1972

RULES AND REGULATIONS

GEOHERMAL RESOURCES



THE
OIL AND GAS
CONSERVATION COMMISSION
OF THE
STATE OF ARIZONA

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OIL AND GAS CONSERVATION COMMISSION

of the

STATE OF ARIZONA

TITLE 27

CHAPTER 4

**General Rules and Regulations
Governing the Conservation of Geothermal Resources**

ARTICLE 4

Statewide Rules and Regulations

By Order of

**THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF ARIZONA**

Ralph W. Bilby, Chairman
W. Roger Hafford, Member
F. Keith Benton, Member
Robert A. Bledsoe, Member

John Bannister
Executive Secretary

802.585
(274)
A714g

CERTIFICATION OF RULES ADOPTED
BY THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF ARIZONA
Effective July 1, 1972

The undersigned, being the Executive Secretary of the Oil and Gas Conservation Commission of the State of Arizona, hereby certifies that the following is a true and correct copy of the rules and regulations of the Oil and Gas Conservation Commission of the State of Arizona relating to the conservation of geothermal resources, which were duly adopted by this Commission on the 16th day of June, 1972 pursuant to the authority granted to the Commission by Title 27, Chapter 4; Article 4. Said rules and regulations have been filed with the office of the Secretary of State on the 23rd day of June, 1972.

Dated this 30th day of June, 1972.

Oil and Gas Conservation Commission
State of Arizona

John Bannister,
Executive Secretary

NOTE: Unless the text otherwise indicates, the parenthesized statements, form numbers, all footnotes and forms list contained in this printed version of the Rules and Regulations are for information purposes only, and are not to be considered rules and regulations or any part thereof. The contents of the forms listed will be changed as necessary. The statutes as contained herein are for convenience only, and the Commission does not assume responsibility for any reliance thereon or for publishing subsequent amendments thereto.

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ARIZONA STATE-WIDE RULES

A — DEFINITIONS

Unless the context otherwise requires, the words hereinafter defined shall have the following meaning when found in these rules, to-wit:

1. **COMMISSION** means the Oil and Gas Conservation Commission.
2. **COMPLETION** or **COMPLETED WELL** means a well that has produced or is capable of producing geothermal resources or has been determined to be a dry hole, temporarily abandoned or plugged and abandoned, or has been readied for other phases of exploitation.
3. **DRILLING UNIT**, that spacing unit established pursuant to Rule G-105 for the geothermal area in question.
4. **ENVIRONMENT** means the sum total of all the external conditions which may act upon an organism or community, to influence its development or existence.
5. **GEOHERMAL AREA** means the same general surface area which is underlain or reasonably appears to be underlain by one or more formations containing geothermal resources.
6. **GEOHERMAL RESOURCES MEANS:**
 - A. All products of geothermal processes embracing indigenous steam, hot water and hot brines.
 - B. Steam and other gases, hot water and hot brines resulting from water, other fluids or gas artificially introduced into geothermal formations.
 - C. Heat or other associated energy found in geothermal formations, including any artificial stimulation or induction thereof.
 - D. Any mineral or minerals, exclusive of fossil fuels and helium gas, which may be present in solution or in association with geothermal steam, water or brines.
7. **OPERATOR** means any person drilling, maintaining, operating, pumping or in control of any well, and includes the owner, when any well is or has been or is about to be operated by or under the direction of the owner.

8. OWNER means and includes the operator when any well is operated or has been operated or is about to be operated by any person other than the owner.
9. PERSON means and includes any individual, firm, association, corporation or any other group or combination acting as a unit.
10. WASTE means any physical waste including, but not limited to, underground waste resulting from the inefficient, excessive or improper use or dissipation of reservoir energy or resulting from the location, spacing, drilling, equipping, operation or production of a geothermal resources well in such a manner that reduces or tends to reduce the ultimate economic recovery of the geothermal resources within a reservoir, and surface waste resulting from the inefficient storage or utilization of geothermal resources and the location, spacing, drilling, equipping, operation or production of a geothermal resources well in such a manner that causes or tends to cause the unnecessary or excessive surface loss or destruction of geothermal resources obtained or released from the reservoir.
11. WELL means any well drilled in search of geothermal resources or any development well on lands in areas proved to be underlain by one or more formations containing geothermal resources or reasonably presumed to contain geothermal resources or any well drilled for information purposes, or any producing well or re-entered abandoned well used for the injection of fluids into the geothermal formation or disposition of fluids into nongeothermal formations, or any well drilled for the purpose of stimulating the heat of a formation or for the creation of heat in a formation by nuclear or any other form of energy.
- A. RECOMPLETION OF WELL or RECOMPLETED WELL — Any well deepened, plugged back, reperforated or perforated in a different zone will be considered recompleted.

B — MISCELLANEOUS RULES

1. SCOPE OF RULES

These rules are general rules of statewide application and shall apply to all areas; however, special rules, applicable to particular areas or subject matter, shall prevail over these general rules to the extent that they are in conflict therewith.

2. ENFORCEMENT OF LAWS, RULES AND REGULATIONS DEALING WITH THE CONSERVATION OF GEOTHERMAL RESOURCES.

The Commission, by virtue of ARS 27-652 et seq, has jurisdiction and authority over such persons and property deemed necessary to administer and enforce the provisions of the statutes, rules, and regulations relating to the conservation of geothermal resources.

3. WASTE OF GEOTHERMAL RESOURCES PROHIBITED

Waste of geothermal resources is unlawful and is prohibited.

4. CLASSIFYING AND DEFINING AREAS

The Commission, on its own motion may, and on application of any interested person shall, after notice and hearing, determine whether a particular well or area is a geothermal resource well, or a geothermal resource area, or whether a reclassification should be made.

5. FORMS UPON REQUEST

A. Forms for written notices, requests and reports required by the Commission will be furnished upon request.

B. Requiring all forms and reports requested by the Commission to be submitted to the Commission on or before the 20th day of the next succeeding month for monthly reports or within 20 days following the completion of the action requiring the report, except as otherwise provided by the Commission.

C — DRILLING

G-101. BOND

- A. Before any person shall hereafter engage in the business of drilling for or producing a well in this State, such person shall file with the Commission a bond executed by such person as principal and some surety company satisfactory to the Commission as surety, in the principal sum of \$5,000 for each individual well or in the principal sum of \$25,000 as a blanket bond to cover all wells, payable to the Oil and Gas Conservation Commission, State of Arizona, for the use and benefit of the Oil and Gas Conservation Fund. Such bond shall be conditioned on the following requirements:
1. Compliance with all statutes and rules and regulations.
 2. Plugging and abandoning well as approved by the Commission.
- B. Transfer of property does not release the bond. If the property is transferred and the principal desires to be released from the bond, the procedure shall be as follows:
1. The principal on the bond shall notify the Commission in writing that the well or wells, describing accurately the location of each, and the date and number of each permit to drill, has or have been transferred to a named transferee for the purposes of ownership or operation.
 2. The transferee of any well or of the operation of any such well shall declare in writing his acceptance of such transfer and of the responsibility of such well, and shall submit a new bond or bonds unless his blanket bond applies to the well or wells.
- C. When the Commission approves the transfer, the transferor is released from all responsibility thereafter with respect to the well or wells, and the Commission in writing will declare that the transferor's bond or bonds applicable thereto now be released.
- D. The Commission will in writing inform the principal and the surety or sureties of any bond where there is compliance with the conditions of the bond so that liability under the bond may be formally terminated.
- E. The liability under any bond may not be terminated without written approval of the Commission.

G-102. APPLICATION TO DRILL AND PROCEDURE TO CANCEL
A PERMIT

- A. 1. A person desiring to drill a well shall notify the Commission of such intent on a form prescribed by the Commission (Form G-3) and shall pay a fee of \$25.00 for each well. Said \$25.00 fee shall be considered earned upon issuance of the permit to drill. The application for permit to drill shall be accompanied by a plat, as provided in Rule G-105. The location must be surveyed and the submitted plat certified by a registered surveyor and bear his certificate number. (Surveyors registered in states other than Arizona are acceptable.)
2. Upon receipt of the application, the plat, the fee and bond filed in accordance with the provisions of this section, the Commission will promptly issue such person a permit to drill, unless the drilling of the well is contrary to law, or to a rule, regulation, or order of the Commission or is not a permitted location under the well spacing as requested in any pending application before the Commission. The drilling of the well is prohibited until a permit to drill is obtained, except in the case of an emergency, and then as the Commission directs. The permit shall be on such form prescribed by the Commission (Form 27). If the permit is disallowed, the Commission will immediately notify the person in writing the reasons therefor.

No emergency permit shall be granted for drilling of a well unless such well shall be drilled at a location as provided in Rule G-105, or as provided by other order of the Commission, as set forth in Rules G-103 and G-105. Upon granting of an emergency permit, such permittee shall within 10 days thereafter comply with the requirements of this rule as to filing application, fee, bond, and plat, or the emergency permit shall become null and void and the well shall be plugged and abandoned unless an extension in writing is granted by the Commission.

3. Unless operations are commenced within 90 days after date of approval, the permit to drill will become null and void unless an extension in writing is granted by the Commission.

- B. If a permit has been issued, and in the event a violation of the Commission's rules and regulations or orders occurs, and if the well has been commenced, the Commission may order the permit holder to cease any further work under the permit in question; and the Commission may, after notice and hearing, cancel a permit for any violation of its rules and regulations or orders, may order the well to be plugged and abandoned, and may order the performance of all other obligations required by the rules and regulations or orders of the Commission.

G-103. CHANGE OF LOCATION

No person to whom a permit has been issued shall change the location of the well from the location authorized by the permit, until the following requirements have been complied with:

- A. If, (1) prior to the drilling of the well, the person to whom the permit was originally issued desires to change the location, or (2) if after commencement of the drilling operations it is determined that the location is erroneously described on the permit, the permittee shall obtain a new permit (Form 27).

If the new location is at an authorized point in the approved drilling unit as provided in the permit, the application may be made orally or by telegraph and the Commission may orally or by telegraph authorize the commencement or continuance of drilling operations. Within 10 days after obtaining oral or telegraphic authorization, the permittee shall file application (Form G-3) properly filled out, showing the new location and declaring that he desires a permit for that location. A new permit may be issued and the old permit cancelled without payment of additional fee. If the new location is located outside the approved drilling unit covered by the first permit, no drilling shall be commenced or continued until the new permit is issued.

G-104. IDENTIFICATION OF WELLS

- A. Every person drilling or operating, owning, controlling, or in possession of any well drilled, shall post on the derrick or in a conspicuous place not more than 20 feet

from the well, a sign of durable construction, the lettering thereon to be kept in a legible condition and such lettering large enough to be legible under normal conditions at a distance of 50 feet.

The sign shall show:

- (1) The name of the well.
- (2) Location of the well by quarter-quarter-quarter section, township and range.
- (3) The State's drilling permit number.

B. All wells shall be named in the following manner:

- (1) Name of operator.
- (2) Numerical designation of the well. This designation shall follow a logical sequence and may include letter designations or section numbers.
- (3) The type of lease, i.e., Federal, State, or Indian, and in the case of a well drilled on a fee lease, the lessor's name, and indicate that the well is for geothermal purposes.

G-105. SPACING OF WELLS

The Commission shall administratively approve proposed well-spacing programs or administratively prescribe such modifications to the programs as it determines necessary for proper development, giving consideration to such factors as, but not limited to: (a) topographic characteristics of the area; (b) hydrologic, geologic and reservoir characteristics of the field; (c) the number of wells that can be economically drilled to provide the necessary volume of geothermal resources for the intended use; (d) protection of correlative rights; (e) minimizing well interference; (f) unreasonable interference with multiple use of lands; and (g) protection of the environment.

A. Before commencing the drilling of any well, Application for Permit to Drill (Form G-3) shall be filed, and the Commission's approval obtained. In addition to the required \$25.00 fee, the application shall be accompanied by a plat prepared and certified by a registered surveyor and bearing his certificate number, (surveyors registered in states other than Arizona are acceptable) on which is shown the exact acreage or legal subdivision allotted to and dedicated to the well.

B. When two or more separately owned tracts of land are embraced within an established drilling unit, persons owning the drilling rights therein and the right to share in the production therefrom may agree to pool their interests and develop their lands as a drilling unit. In the event such persons do not agree to pool their interests, the Commission may, for the prevention of waste, for the protection of correlative rights, or to avoid the drilling of unnecessary wells, enter an order pooling and integrating their interests for the development of their lands as a drilling unit. Orders and agreements effectuating such pooling shall be accomplished and executed as prescribed by Arizona Revised Statutes 27-666.

G-106. PIT FOR CLAY, SHALE AND DRILL CUTTINGS

In order to assure a supply of mud-laden fluid to confine oil, gas, water or other fluids to its native stratum during the drilling of any well, operators shall provide, before drilling is commenced, an adequate pit, either earthen or portable, for the mud-laden fluid, or the accumulation of drill cuttings.

G-107. SEALING OFF STRATA

A. All oil, gas and water above the producing horizon shall be confined to their respective stratum and shall be sealed or separated in order to prevent their contents from passing into another stratum. Shut-offs shall be made by cementing casing and shall be reported to the Commission on a form prescribed by the Commission (Form G-12).

G-108. SURFACE CASING REQUIREMENTS

A. In areas where pressure and formations are unknown, sufficient surface casing shall be run to reach a depth below all known or reasonably estimated fresh water levels, to prevent blow-outs or uncontrolled flows. The casing shall be of sufficient size to permit the use of an intermediate string or strings of casing. Surface casing shall be set in or through an impervious formation, and shall be cemented by the pump and plug method, or displacement method with sufficient cement to fill the annulus to the top of the hole.

B. In areas where sub-surface conditions have been estab-

lished by drilling experience, surface casing, of a size approved by the Commission, shall be set and cemented to the surface by the pump and plug method, or displacement method at a depth sufficient to protect all fresh water and to insure against blow-outs or uncontrolled flows.

- C. Cement shall be allowed to set a minimum of 12 hours under pressure before drilling plug or initiating tests.
- D. The proposed surface casing program shall be specified on a form to be prescribed by the Commission (Form G-3) by each applicant for a drilling permit. The issuance of a drilling permit (Form 27) shall constitute the approval by the Commission of the surface casing program specified in the application.
- E. Surface casing shall be pressure tested with a minimum of 600 PSI for 30 minutes. If a drop of more than 10 percent of the test pressure should occur, the casing shall be considered defective and corrective measures shall be applied. In wells drilled with cable tools, casing may be tested by bailing the well dry. The hole must remain dry, to the satisfaction of the Commission, for one hour before commencing further operations. Results of the above test and any remedial action shall be reported on a form prescribed by the Commission (Form G-12) within 20 days following test.

G-109. CASING REQUIREMENTS

- A. All wells drilled shall be completed with a string of water-tight casing that shall be cemented from the maximum setting depth of the casing back to a minimum of 50 feet inside the last previously run string of casing.
- B. Such strings of casing shall stand cemented for at least 12 hours before drilling out the plug or initiating such tests as the Commission may require. Cementing shall be by pump and plug method, or other method approved by the Commission.
- C. (1) Strings of production casing in wells drilled with rotary tools shall be pressure tested. Minimum casing test pressure shall be approximately one-third of the manufacturer's rated internal yield pressure except that the test pressure shall not be less than 600 pounds

per square inch. In cases where combination strings are involved, the above test pressures shall apply to the lowest pressure rated casing used. Test pressures shall be applied for a period of 30 minutes. If a drop of more than 10 percent of the test pressure should occur, the casing shall be considered defective and corrective measures shall be applied.

- (2) Casing strings in wells drilled with cable tools may be tested as outlined in sub-paragraph C. (1) above, or by bailing the well dry in which case the hole must remain dry, to the satisfaction of the Commission, for a period of at least one hour before commencing any further operations on the well. All tests must be reported on a form prescribed by the Commission (Form G-12), within 20 days following such test.

G-110. DEFECTIVE CASING OR CEMENTING

- A. The operator shall notify the Commission by the most expedient manner if any well appears to have defective casing or be faultily cemented or to have corroded casing that will permit or create underground waste, the operator shall proceed with diligence to use the method approved by the Commission to eliminate the hazard. Following any remedial action, casing shall be retested in the manner described in Rule G-109.
- B. The result of the remedial actions of the operator shall be reported to the Commission immediately and (Form G-12) shall be filed with the Commission within 20 days following completion of the action.
- C. If the hazard cannot be eliminated, the well shall be properly abandoned and plugged in accordance with Rule G-202.

G-111. BLOW-OUT PREVENTION

Any person engaged in the drilling of a well for geothermal resources in an area wherein fluids, gases or steam under high pressure are known to exist, or any person drilling a well for geothermal resources in an area where pressures are not known, shall case in a watertight manner the bore hole to a depth sufficient to protect against surface-cratering in the event of a blow-out with pipe of adequate strength, and equip the well with a blow-out preventer and other safety devices, in

accordance with pipe and equipment specifications and procedures approved by the Commission, and shall further exercise due caution in all drilling operations to prevent blow-outs, explosions or fires. All blow-out preventers and related equipment shall be pressure tested to a minimum of 1000 PSIG on installation. The blow-out preventer shall be operated at least once every 24 hours. All equipment shall be kept in good working order at all times.

G-112. PULLING OUTSIDE STRINGS OF CASING

When pulling outside strings of casing from any well, the space outside the casing left in the hole shall be left full of mud-laden fluid or cement of adequate specific gravity to seal off each fresh and salt water stratum, each oil and/or gas bearing stratum and each geothermal stratum from which no production is obtained. This action of the operator shall be reported to the Commission (Form G-12).

G-113. DEVIATION OF HOLE

- A. Unless the operator shall first have secured the permission of the Commission after notice and hearing for the directional deviation of the well, no drilling well may be directionally deviated from its normal course by any means of deviation, except as provided in subsection (E) hereof.
- B. When a well is intentionally directionally deviated from its normal course for any reason, a complete angular deviation and directional survey of the finished hole shall be made at the expense of the operator and a certified copy of such survey shall be filed with the Commission within 20 days of completion of the survey. Provided, however, that no deviation and directional survey will be necessary if the hole is deviated for short distances, as provided for in subsection (E) of this rule.
- C. The Commission may make, or require the operator to make, a directional survey of any hole at such operator's expense. The Commission may require an operator to make a directional survey of any hole at the request of an offset operator, if, in the Commission's opinion, such is necessary, but at the expense and risk of the offset operator unless it is found that such well is completed at a point outside the drilling unit, or at an unauthorized point.

- D. All producible wells that are located 300 feet or less from any drilling unit line and that reach a depth of 4000 feet or more shall have directional surveys made to the total depth of the hole before setting the final string of casing. A certified copy of such directional surveys shall be filed with the Commission by the operator within 20 days of completion of the survey.
- E. Wells may without approval of the Commission be intentionally deviated short distances where necessary to straighten the hole, sidetrack junk, or correct other mechanical difficulties. The action of the operator shall be reported to the Commission (Form G-12) within 20 days following such action.
- F. Nothing in these rules shall be interpreted to permit the drilling of any well in such manner that it crosses drilling unit lines, except by approval of the Commission, obtained after notice and hearing.

G-114. SHOOTING AND CHEMICAL TREATMENT OF WELLS

If injury results to the producing formation, casing, or casing seat as a result of shooting or treating a well, the operator shall notify the Commission in the most expedient manner and shall proceed with diligence to use the means as approved by the Commission to rectify the damage. If the shooting or chemical treatment results in irreparable injury to the well, the Commission may require the operator to plug and abandon the well. The shooting or chemical treatment of any well shall be reported to the Commission (Form G-12) within 20 days following the action.

G-115. NOISE ABATEMENT

The operator shall minimize noise when conducting air drilling operations or when the well is allowed to produce while drilling. Welfare of the operating personnel and the public must not be affected as a consequence of the noise created by the expanding gases. The method and degree of noise abatement shall be as approved by the Commission.

G-116. WELL AND LEASE EQUIPMENT

Wellhead fittings or connections that have a test pressure equivalent to at least 100 percent of the calculated or known pressure in the reservoir from which production is expected, shall be installed and maintained in first class condition.

G-117. FIRES, LEAKS AND BLOW-OUTS

Each person controlling or operating any well or pipeline, shall immediately notify the Commission giving full details concerning all fires that occur at such wells on his property, and shall immediately report to the Commission any breaks, or leaks in or from receptacles, or pipelines from which a geothermal resource is escaping or has escaped.

In each such report of fires, breaks, leaks, or escapes, or other accidents of this nature, the location of the well, receptacle, or line break shall be given by Section, Township, Range, and property so that the exact location thereof can be readily located on the ground. Such report shall also specify the steps that were taken or that are in progress to remedy the situation reported, and shall detail the quantity of the geothermal resource lost, destroyed, or that escapes.

G-118. WELL COMPLETION

A. A completion report on a form prescribed by the Commission (Form G-4) shall be filed with the Commission within 30 days after the completion of a well. Immediately thereafter the Commission, shall, if such a well is a producing well, classify the well as a geothermal well. All logs and surveys of any description, if taken, and driller's logs as defined herein and certified as to their correctness, shall be filed within 30 days after the completion of any well drilled.

1. "Driller's Log" shall mean the written record progressively describing the strata, water, oil or gas encountered in drilling a well.

B. If requested by the person filing an electrical survey or log, the Commission shall keep such log confidential for a period not exceeding 2 years from the date of completion of the well. If such electrical and radioactive logs are not run, the driller's log, as defined herein, shall be provided to the Commission.

C. Samples of all cores and cuttings, at a maximum interval of ten feet, shall be furnished to the Commission within 20 days of the completion or abandonment of the well from which said samples were taken. All samples and cores for the Commission shall be handled as follows:

1. All samples shall be properly washed and dried.

2. An amount, the equivalent of two tablespoons, of each sample shall be placed in envelopes or other suitable wrapping and clearly identified as to the depth at which it was taken.
3. Samples shall be properly packaged for transporting in a manner that will protect the individual samples; each individual pack of samples shall contain the identification of the well from which the samples originated, the complete location of the well and the Commission's permit number.
4. Samples of all wells shall be shipped or mailed, charges prepaid to:

Oil & Gas Conservation Commission
Phoenix Office

And to:

Arizona Bureau of Mines
University of Arizona
Tucson, Arizona 85721

5. Core samples may be furnished in chips and suitably packed as set forth in Paragraphs 2 and 3 above. Core samples shall be shipped or mailed, charges prepaid, as indicated in Paragraph 4 above.

G-119. REWORK AND RECOMPLETION—SHOOTING AND TREATING

- A. After a well has once been completed, it shall not be deepened, plugged back, or reworked, except for ordinary maintenance operations or to be recompleted or reperforated in the same producing reservoir, without first giving 10 days' written notice to the Commission of the character of the work proposed and the time when it will begin, except in an emergency as set out in these rules. The application shall be made on a form prescribed by the Commission (Form G-12). The Commission will notify the applicant in writing whether the contemplated work is approved or disapproved.

In the case of an emergency, the application may be made orally or by telegraph, and the Commission may orally or by telegraph authorize the work; however, written application must be filed within 10 days after emergency

authorization is given, even though the work has already been commenced or completed, and a written permit shall be issued which shall contain the emergency authorization.

- B. Within 20 days after the shooting or chemical treatment of a well, if it is recompleted in the same reservoir, the owner, producer, or operator in charge of the work shall file with the Commission a report on a form prescribed by the Commission (Form G-12); and also (Form G-4) if recompleted.
- C. If a well is recompleted, a Revised Well Completion or Recompletion and Well Log (Form G-4) shall be filed with the Commission within 30 days following completion of work.

D — ABANDONMENT AND PLUGGING OF WELLS

G-201. INTENTION TO ABANDON AND PLUG

- A. Any drilling well completed as a dry hole, from which the rig is to be moved out, shall be mudded and cemented unless authorization to the contrary has been given by the Commission.
- B. Approval of the Commission must be obtained before any work is commenced to abandon any well drilled including any well drilled below the fresh water level, the owner and operator thereof shall, prior to the beginning of operations of plugging the well, give written notice on a form prescribed by the Commission (Form G-9) of his intention to abandon such well. Upon receipt of such notice, the Commission may send a duly authorized representative to the location specified to be present at the time stated in such notice, to witness the plugging of the well.

In the case of an emergency, the application may be made orally or by telegraph, and the Commission may orally or by telegraph authorize the work; however, written application must be filed within 10 days after the emergency authorization is given even though the work has already been commenced or completed, and a written permit shall be issued which shall contain the emergency authorization.

- C. Approval of the Commission must be obtained by filing an application on a form prescribed by the Commission (Form G-12) prior to removing any surface or production casing from any well, and upon completion of the work, reporting on a form prescribed by the Commission (Form G-10) the method in which the well was plugged and the amount of pipe pulled.

G-202. PLUGGING METHODS AND PROCEDURES

- A. Upon approval of the Commission, each abandoned hole or well shall be plugged by or on behalf of the owner, operator or producer who is in charge of the well and responsible therefor. Unless a different method and procedure shall be approved by the Commission upon application by the owner, operator, or producer on a form prescribed by the Commission (Form G-9) the method and procedure for plugging the well shall be as follows:

1. The bottom of the hole shall be filled to, or a bridge shall be placed at, the top of each producing formation open to the well bore, and in either event a cement plug not less than 50 feet in length shall be placed immediately above each producing formation open to the well bore.
 2. A continuous cement plug shall be placed through all fresh water bearing strata and shall extend at least 50 feet above and 50 feet below said strata.
 3. A plug not less than 20 feet in length shall be placed at or near the surface of the ground in each hole.
 4. The interval between plugs shall be filled with mud weighing 9 pounds per gallon, with not less than 36 viscosity API full funnel method.
 5. The method of placing cement in the hole shall be by pumping through tubing, pump and plug, or other method approved by the Commission, such method being at the option of the operator.
 6. The exact location of each abandoned well shall be marked by a piece of pipe not less than 4 inches in diameter securely set in concrete and extending at least 4 feet above the general ground level. A permanent sign of durable construction shall be welded or otherwise permanently attached to the pipe, and shall contain information required in Rule G-104.A. An abandoned well located on tilled land shall be marked in a manner approved by the Commission.
- B. When drilling operations have been suspended for 60 days, the well shall be plugged and abandoned unless written permission for temporary abandonment shall be obtained from the Commission.
- C. Within 20 days after plugging of any well, the owner, operator or producer responsible therefor, who plugged or caused to be plugged the well, shall file with the Commission an affidavit on a form prescribed by the Commission (Form G-10) setting forth in detail the method used in plugging the well.

G-203. SEISMIC, CORE, AND OTHER EXPLORATORY HOLES

- A. Any hole drilled for stratigraphic purposes provided in a valid and subsisting geothermal resource lease, must com-

ply with all rules and regulations pertaining to the drilling and abandonment of a geothermal well.

- B. Each hole drilled for seismic, core, or other exploratory purposes that penetrates below a fresh water formation shall not be abandoned until the owner or driller plugs it in a manner approved by the Commission. Within 20 days after the plugging, a report on the form prescribed by the Commission (Form G-10) shall be filed with the Commission by the owner or driller, setting forth the method used in protecting the water-bearing formations, the location by quarter-quarter-quarter section, township and range, of the hole drilled and plugged.

G-204. WELLS TO BE USED FOR FRESH WATER

When the well or exploratory hole to be plugged may safely be used as a fresh water well and such utilization is desired by the landowner, his agent, or lessee and after said well has been satisfactorily plugged to a point immediately below the fresh water strata, notice shall be given to the Commission on the form prescribed (Form G-13) signed by the landowner, his agent, or lessee and notarized in which the landowner, his agent, or lessee assumes responsibility for the well and the final plugging. Such filing shall constitute compliance with the obligation of such person to plug the well, and further liability under the bond applicable to the well shall terminate. A written statement to that effect shall be given by the Commission so that the bond may be cancelled or made no longer effective with respect to that well.

E — GEOTHERMAL RESOURCES PRODUCTION OPERATING PRACTICES

G-301. MEASUREMENT OF GEOTHERMAL RESOURCES

The lessee shall measure or gauge all production in accordance with methods approved by the Commission or may arrange with the Commission for other acceptable methods of measuring and recording production. The quantity and quality of all production shall be determined in accordance with the standard practices, procedures, and specifications generally used in industry.

G-302. MONTHLY REPORT

The owner or operator of any well producing geothermal resources shall file with the Commission on or before the 25th day of the next succeeding month a Monthly Producers Report (Form G-6), setting forth the total production from each well and other information as may be required by the Commission.

G-303. WELL TEST AND RESERVOIR SURVEYS

When necessary or advisable, the Commission shall require tests, as approved by the Commission, be made to determine the quantity and quality of geothermal resources or reservoir energy. Such test shall be reported to the Commission within 20 days after completion of such test on a form prescribed by the Commission (Form G-6).

G-304. POLLUTION AND SURFACE DAMAGE

The owner or operator shall take all reasonable precautions to avoid polluting streams, polluting underground water, and damaging soil. If any deleterious substances cannot be treated or destroyed, or if the volume of such products is too great for disposal by the usual methods without damage, other means of disposal, after approval by the Commission, shall be used.

G-305. DISPOSAL OF BRINES AND SALT WATER

Brines and salt water liquids shall be disposed of in the following manner:

A. Disposal in Earthen Pits

Brines or salt water may be disposed of by evaporation

when impounded in excavated earthen pits, that may only be used for such purpose when the pit is underlaid by a tight, impervious soil, such as heavy clay or hardpan, unless the pits be so constructed and maintained as to prevent escape of the contents thereof. Adequate means shall be taken to prevent surface waters from entering any pit. The Commission may require that the use of any pit that does not conform to the requirements of this section be discontinued.

B. Disposal by Injection

1. The underground disposal of brines and salt water or other water unfit for domestic, livestock, irrigation or other beneficial use is prohibited unless authorized by the Commission after notice and hearing. Application for such authorization shall be made on a form prescribed by the Commission (Form G-11) accompanied by all other documents which may be required by the Commission, including but not limited to, a plat showing the location of the disposal well, the location of all wells within one-half mile of the location, including dry holes, abandoned and drilling wells. The plat shall also show the names of the operators and the names of the surface owners within one-half mile radius of the disposal well.
2. The initial authorization for underground disposal in one locality may define a greater geographic area than, and specify formation in addition to, that covered in the application when data supporting the application merits such defined extension. Subsequent applications for underground disposal in those areas and formations so defined may be authorized administratively, provided, waivers from all operators and surface owners within one-half mile of the disposal well accompany the application; provided, further, no protest or request for hearing is received by the Commission. In lieu of such waivers the applicant may furnish proof of the fact that said offset operators and surface owners were notified of the proposed disposal well provided such proof of the fact is in a manner satisfactory to and prescribed by the Commission.
3. Whenever the Commission finds after notice and hearing that it would be in the interest of maintenance of

the underground geothermal resource, prevention of subsidence of the land surface or maintenance of the quality of surface and other ground waters, the Commission may require reinjection of the geothermal effluent or injection of other water supplies into the producing zones.

G-306. ENVIRONMENTAL PROTECTION.

In the absence of coverage by any other Section of these regulations, the Commission shall require operations under this Chapter to be conducted so as not to pollute land, water or air, pollute streams, damage the surface or pollute the underground water of the land upon which the operations are being conducted, or pollute underground waters of neighboring lands. Federal and State air and water quality standards will be followed unless more stringent requirements are stipulated by the Commission. Plans for disposal of well effluents must take into account the effect on groundwaters, streams, plants, fish and wildlife and their populations, atmosphere, or any other effects which may cause or contribute to pollution, and such plans must be approved by the Commission before action is taken under them.

F — GEOTHERMAL RESOURCES PRORATION AND ALLOCATION

G-401. REGULATION OF GEOTHERMAL RESOURCES PRODUCTION

Upon determination by the Commission that geothermal resources production in the State of Arizona, or in a particular geothermal area, is causing waste, the Commission shall limit the total amount of the geothermal resource which may be produced in the State, or in a particular geothermal area.

G-402. MONTHLY PRODUCERS REPORT

Monthly Producers Report (Form G-6) shall be filed on each producing lease within the State for each calendar month, setting forth the complete data required by the Commission, including but not limited to the total lease production. If all requirements of the Commission are met, such forms may be filed in its machine version at the option of the producer operator. Said report shall be filed on or before the 25th day of the next succeeding month.

G — INJECTION TO INCREASE RECOVERY

G-501. PERMIT FOR INJECTION

- A. The injection of any substance into any geothermal reservoir to increase recovery of geothermal resources or any other substance is prohibited unless authorized by the Commission after notice and hearing.
- B. The application for a permit to inject any substance into any geothermal reservoir shall contain all information required by the Commission, including but not limited to the following:
 1. Plat showing location of the intake well or wells, and the location of all wells, including drilling wells and dry holes, and the names of the lessees within one-half mile of the intake well or wells, and each offset operator.
 2. The formation from which wells are producing or have produced.
 3. The name, description, and depth of the formation to be affected by injection.
 4. The log of the intake well or wells, or such information as may be available.
 5. Description of the intake well's casing, or the proposed casing program, and the proposed method of testing casing before use of the input wells.
 6. Description of the substance proposed to be used for injection, the source, and the amounts proposed to be injected daily.
 7. The names and addresses of the operator or operators of the injection project.

G-502. CASING AND CEMENTING OF INJECTION WELLS

- A. Wells used for injection into producing formation shall be cased with safe and adequate casing or tubing in order to prevent leakage. The casing shall be set and cemented in such a manner that it will be encased in cement from top to bottom (See Rule G-109A.).
- B. Surface casing shall be pressure tested with a minimum of 600 PSI for 30 minutes. If a drop of more than 10 percent of the test pressure should occur, the casing shall be considered defective and corrective measures shall be

applied. In wells drilled with cable tools, casing may be tested by bailing the well dry. The hole must remain satisfactorily dry for one hour before commencing further operations. Results of the above test shall be reported on a form prescribed by the Commission (Form G-12) within 20 days following test.

- C. If any remedial action is shown to be necessary as a result of the test, Rule G-110 shall be complied with.

G-503. NOTICE OF COMMENCEMENT AND DISCONTINUANCE OF INJECTION OPERATIONS

The following provisions apply to all injection projects.

- A. Immediately upon the commencement of injection operations, the operator shall notify the Commission of the commencement date.
- B. Within 10 days after interruption or discontinuance of injection operations, the operator shall notify the Commission of the date of such discontinuance and the reasons therefor.
- C. Before any intake well is plugged and abandoned, notice of intent (Form G-9) shall be given to the Commission, and the same procedure shall be followed in the plugging and abandonment of the well as provided with respect to the plugging and abandonment of geothermal resource wells. (See Rule G-201 et seq.)

G-504. RECORDS AND REPORTS

The operator of an injection project shall keep accurate records of the amount of geothermal resources produced, and volumes of substances injected, and other data that the Commission may require to be reported on a form prescribed by the Commission (Form G-8). Such report shall be submitted on or before the 20th day of the next succeeding month.

H — PURCHASING AND TRANSPORTING

G-601. CERTIFICATE OF COMPLIANCE

- A. Each producer or operator of any well shall execute under oath and file with the Commission Operator's Certificate of Compliance and Authorization to Transport Geothermal Resources from Lease (Form G-5) for each well.
- B. Whenever a change occurs in operating ownership of any developed unit, or whenever a change occurs in the transporter from any developed unit, Operator's Certificate of Compliance and Authorization to Transport Geothermal Resources from Lease (Form G-5) shall be executed and filed in accordance with the instructions appearing thereon.
- C. The certificate, when properly executed and approved by the Commission, shall constitute authorization to the pipeline or other transporter to transport geothermal resources from the developed unit named therein. This rule shall not prevent the production or transportation of geothermal resources in order to prevent waste, pending execution and approval of the certificate. Permission for the transportation of such production will be granted in writing if the facts justify.
- D. The certificate shall remain in full force and effect until:
 1. The operating ownership of the developed unit changes, or
 2. The transporter changes, or
 3. The certificate is cancelled by the Commission.

G-602. GEOTHERMAL PURCHASERS MONTHLY REPORT

Each purchaser or taker of a geothermal resource from any well, lease, reservoir or proration unit within the State shall file for each calendar month Geothermal Resource Purchasers Monthly Report (Form G-7) detailing acquisition and disposition of all geothermal resources taken by such person during that month. Such report shall be filed on or before the 20th day of the next succeeding month.

I — PROCESSING

G-701. PROCESSOR'S REPORTS

- A. A person who is the owner, or who has the control or management of any generating or processing plant in the State shall keep at his office or other place of business in the State a daily record of:
1. All geothermal resources received into the generating or processing plant.
 2. The names and addresses of the persons from whom geothermal resources were received.
 3. The quantity and quality of the geothermal resources received from each person.
 4. The price payable in respect of the geothermal resources received from each person.
- B. Unless otherwise directed by the Commission, each plant operator processing a geothermal resource shall file with the Commission, on forms furnished or approved by the Commission (Form G-7), not later than the 20th day of each month, a full report of the geothermal resources processed during the preceding month showing:
1. Particulars of the geothermal resources received at the plant.
 2. Particulars of the products derived from such geothermal resources and the disposition thereof.
 3. Such further particulars as the Commission may require.

J — REPORTS

G-801. BOOKS AND RECORDS TO SUBSTANTIATE REPORTS

Each operator, producer, transporter or generating plant operator, and initial purchaser of a geothermal resource within the State of Arizona shall make and keep appropriate books and records for a period of not less than 5 years that cover his operations in Arizona, from which he may be able to make and substantiate the reports required by the Commission.

G-802. WRITTEN NOTICES, REQUESTS, PERMITS AND REPORTS

The Commission shall adopt such forms of notices, requests, permits and reports as it may deem advisable or necessary in carrying out the provisions of law and its Rules and Regulations.

G-803. ORGANIZATION REPORTS

Every person acting as principal or as agent for another or who is independently engaged in the drilling operation, production, storage, transportation (except by railroads), refining, reclaiming, treating, marketing, processing of, or scientific exploration for geothermal resources shall immediately file with the Commission on the form Organization Report (Form G-1) a statement under oath giving the following information: The name under which such business is being operated or conducted, the name and post office address of such person and the business or businesses in which he is engaged; the plan or organization, and, if a reorganization, the name and address of the previous organization; the state where incorporated, if a foreign corporation; and the name and post office address of the Arizona agent, together with the date of permit to do business in Arizona; the names and addresses of the principal officers or partners and the names and addresses of the directors thereof. Immediately after any change occurs as to facts stated in the report filed, a supplementary report (Form G-1) shall be immediately filed with the Commission with respect to such change.

G-804. ADDITIONAL INFORMATION MAY BE REQUIRED

These rules shall not be taken or construed to limit or restrict

the authority of the State Oil and Gas Conservation Commission to require the furnishing of such additional reports, data or other information relative to production, transportation, processing, or handling of geothermal resources in the State of Arizona as may appear to be necessary or desirable, either generally or specifically, for the prevention of waste and the conservation of geothermal resources.

FORMS

Number

- 1 ORGANIZATION REPORT
Rule G-803
- G-2 BOND
Rule G-101, G-203
- G-3 APPLICATION FOR PERMIT TO DRILL, RE-OPEN,
PLUGBACK OR RE-ENTER
Rule G-102, G-103, G-105, G-108, G-203
- G-4 WELL COMPLETION OR RECOMPLETION REPORT
AND WELL LOG
Rule G-118, G-119, G-203
- G-5 OPERATOR'S CERTIFICATE OF COMPLIANCE AND
AUTHORIZATION TO TRANSPORT GEOTHERMAL
RESOURCES FROM LEASE
Rule G-601
- G-6 MONTHLY PRODUCERS REPORT
Rule G-302, G-303, G-402
- G-7 GEOTHERMAL RESOURCES PURCHASERS
MONTHLY REPORT
Rule G-602, G-701
- G-8 REPORT OF INJECTION PROJECT
Rule G-504
- G-9 APPLICATION TO ABANDON AND PLUG
Rule G-201, G-202, G-503
- G-10 PLUGGING RECORD
Rule G-201, G-202, G-203, G-503
- G-11 APPLICATION TO DISPOSE OF GEOTHERMAL
RESOURCES WASTE BY INJECTION INTO A
POROUS FORMATION
Rule G-304, G-305
- G-12 SUNDRY NOTICES AND REPORTS ON WELLS
Rule G-107, G-109, G-110, G-112, G-113, G-114, G-117,
G-119, G-201, G-502, G-503, G-804
- 26 WATER WELL ACCEPTANCE
Rule G-204
- 27 PERMIT TO DRILL
Rule G-102, G-103, G-203

ARIZONA REVISED STATUTES

TITLE 27

CHAPTER 4

OIL AND GAS

ARTICLE 4. PRODUCTION AND CONSERVATION

AN ACT

Relating to minerals, oil and gas; providing for regulation of geothermal resources exploration and production; prescribing standards and procedures, and amending Title 27, Chapter 4, Arizona Revised Statutes, by adding Article 4.

Be it enacted by the Legislature of the State of Arizona:

Section 1. Legislative intent

It is hereby found and determined that the people of this state have a direct and primary interest in the development of geothermal resources and that this state should exercise its power and jurisdiction through the Oil and Gas Conservation Commission to require that wells drilled in search of, development of, or incident to the production of geothermal resources be drilled, operated, maintained and abandoned in such manner as to safeguard the life, health, property, natural resources and the public welfare and to encourage maximum economic recovery.

Sec. 2. Title 27, Chapter 4, Arizona Revised Statutes, is amended by adding Article 4, Sections 27-651 through 27-666, to read:

ARTICLE 4. GEOTHERMAL RESOURCES

27-651. Definitions

In this Article, unless the context otherwise requires:

1. "Commission" means the Oil and Gas Conservation Commission.
2. "Completion" or "completed well" means a well that has produced or is capable of producing geothermal resources or has been determined to be a dry hole, temporary abandoned well, or abandoned well.
3. "Department" means the state land department.
7. "Environment" means the sum total of all the external conditions which may act upon an organism or community, to influence its development or existence.

5. "Geothermal area" means the same general surface area which is underlain or reasonably appears to be underlain by one or more formations containing geothermal resources.

6. "Geothermal resources" means:

- (a) All products of geothermal processes embracing indigenous steam, hot water and hot brines.
- (b) Steam and other gases, hot water and hot brines resulting from water, other fluids or gas artificially introduced into geothermal formations.
- (c) Heat or other associated energy found in geothermal formations, including any artificial stimulation or induction

7. "Lease" means a geothermal resources development lease issued for state lands pursuant to the provisions of this article.

8. "Lessee" means the holder of a lease or any assignee of an original lease or part thereof.

9. "Operator" means any person drilling, maintaining, operating, pumping or in control of any well, and includes the owner, when any well is or has been or is about to be operated or under the direction of the owner.

10. "Owner" means and includes the operator when any well is operated or has been operated or is about to be operated by any person other than the owner.

11. "Person" means and includes any individual, firm, association, corporation or any other group or combination acting as a unit.

12. "Waste" means any physical waste including, but not limited to, underground waste resulting from the inefficient, excessive or improper use or dissipation of reservoir energy or resulting from the location, spacing, drilling, equipping, operation or production of a geothermal resources well in such a manner that reduces or tends to reduce the ultimate economic recovery of the geothermal resources within a reservoir, and surface waste resulting from the inefficient storage or utilization of geothermal resources and the location, spacing, drilling, equipping, operation or production of a geothermal resources well in such a manner that causes or tends to cause the unnecessary or excessive surface loss or destruction of geothermal resources obtained or released from the reservoir.

13. "Well" means any well drilled in search of geothermal resources or any development well on lands in areas proved to be underlain by one or more formations containing geothermal resources or reasonably presumed to contain geothermal resources or any well drilled for

information purposes, or any producing well or reentered abandoned well used for the injection of fluids into the geothermal formation or disposition of fluids into nongeothermal formations, or any well drilled for the purpose of stimulating the heat of a formation or for the creation of heat in a formation by nuclear or any other form of energy.

27-652. Supervision by Commission

A. The Commission shall so supervise the drilling, operation, maintenance and abandonment of geothermal resource wells as to encourage the greatest ultimate economic recovery of geothermal resources, to prevent damage to and waste from underground geothermal reservoirs, to prevent damage to or contamination of any waters of the state or any formation productive or potentially productive of fossil fuels or helium gas, and to prevent the discharge of any fluids or gases or disposition of substances harmful to the environment by reason of drilling, operation, maintenance or abandonment of geothermal resource wells.

B. Any person engaged in the drilling of a well for geothermal resources underlying a usable groundwater aquifer shall case the bore hole in a watertight manner from the land surface to the geothermal producing zone or to a depth sufficient to prevent damage or contamination of the aquifer from the escape of geothermal resources from the bore hole. Materials and installation procedures for casing and sealing of the bore hole shall be in accordance with specifications and procedures approved by the Commission.

C. Disposal of water or brines obtained from a geothermal well whether by ponding and evaporation, release to a watercourse or other means shall not damage or contaminate the underlying groundwater aquifer or pollute any stream, river, or body of surface water. Construction and maintenance of all geothermal water and brine disposal systems and of the devices required to monitor quantity and quality of the waters and brines disposed of in each system shall be in accordance with specifications, procedures and regulations approved by the Commission.

D. Whenever the Commission finds that it would be in the interest of maintenance of the underground geothermal resource, prevention of subsidence of the land surface or maintenance of the quality of surface and other ground waters, the Commission may require reinjection of the geothermal effluent or injection of other water supplies into the producing zones.

27-653. Information; filing; confidentiality

The Commission shall collect all information regarding all wells drilled in the state for geothermal resources necessary for the purpose of supervision of such wells. All such data shall be filed in the Commission office and, upon request of the operator, shall be kept confidential for a period not to exceed two years following the date of completion of such well.

27-654. Drilling bond; amount

The Commission shall require that every person who engages in the drilling of a well, or the entering or deepening of an abandoned well, shall file with the Commission, on a form to be determined by the Commission, a reasonable bond with good and sufficient security conditioned upon the performance of the duties required by this Section and the abandonment, as approved by the Commission, of such well in an amount to be determined by the Commission, but in no case may the bond be less than five thousand dollars for each individual well or less than twenty-five thousand dollars for any number of wells. Such bond shall remain in full force and effect until all requirements of the Commission have been satisfied or until otherwise released by the Commission.

27-655. Commission approval prior to operation; information; hearing

The Commission shall have jurisdiction over any stimulation, induction or creation of a geothermal resource. Prior to any operation involving the stimulation, induction or creation of a geothermal resource, or any combination thereof, approval of the Commission must be obtained. All information deemed necessary by the Commission concerning such operations shall be submitted to the Commission in such form as determined by the Commission no later than thirty working days prior to a Commission hearing to consider approval of said application. No application to stimulate, induct or create a geothermal resource will be approved by the Commission except after notice and hearing as set forth in Section 27-656.

27-656. Rules and regulations; hearing

A. The Commission shall promulgate rules and regulations necessary for the proper administration and enforcement of this article.

B. No rule, regulation or order, or change, renewal or extension thereof, except as otherwise provided by this Article, shall, in the absence of an emergency, be made by the Commission under the provisions of this Article except after a public hearing of which not

less than ten days' notice has been given. The public hearing shall be held at such time and place as may be prescribed by the Commission and any interested person shall be entitled to be heard. Notice shall be given by personal service, by publication, or by United States mail, addressed, postage prepaid, to the last known mailing address of the person or persons affected. The date of service shall be the date on which service was made in the case of personal service, the date of first publication in the case of notice by publication, and the date of mailing in the case of notice by mailing. The notice shall issue in the name of the state, and shall be signed by a member of the Commission or its deputy, shall specify the style and number of the proceeding, the time and place of the hearing, and shall state briefly the purpose of the proceeding. If the Commission elects to give notice by personal service, such service may be made by an officer or process server authorized to serve process, or by the Commission, in the same manner as is provided by law for the service of process in civil actions in the courts of this state. Proof of service by the Commission shall be by the affidavit of the Commission or its authorized representative making personal service. Where service is made by an officer or process server authorized to serve process, the proof of service shall be as required by law for service of process in civil actions. If the matter to be heard concerns the adoption, amendment or repeal of a regulation of general applicability, notice shall be by publication.

C. If an emergency is found by the Commission to exist which, in its judgment, requires making, changing, renewing or extending a rule, regulation or order without first having a hearing, the emergency rule, regulation or order shall have the same validity as if a hearing had been held after due notice. The emergency rule, regulation, or order shall remain in force not to exceed thirty days from its effective date, but in any event shall expire when a rule, regulation or order with respect to the subject matter of the emergency rule, regulation or order becomes effective after due notice and hearing.

27-657. Agent for process

Every owner or operator of any well shall designate an agent who resides in this state upon whom may be served all orders, notices and processes of the Commission or of any court of law. Every person so appointing an agent shall, within ten days after the termination of any such agency, notify the Commission, in writing, of such termination, unless operations are discontinued, shall appoint a new agent within such ten day period.

27-658. Notice of sale or conveyance of well or land

A. The owner or operator of any well shall notify the Commission in writing on such form as the Commission may direct of the sale, assignment, transfer or conveyance or exchange by the owner or operator of such well and the land owned or leased upon which the well is located within ten days following such sale, assignment, transfer, conveyance or exchange. The notice shall contain:

1. The name and address of the person to whom such well was sold, assigned, transferred, conveyed or exchanged.
2. The name and location of the well.
3. The date of the sale, assignment, transfer, conveyance or exchange.

B. Every person who acquires ownership or operation of any well, whether by purchase, assignment, transfer, conveyance, exchange or otherwise, shall, within ten days after acquiring the well on land owned or leased upon which it is located, notify the Commission in writing of his ownership or operation. The notice shall contain:

1. The name and address of the person from whom the well was acquired.
2. The name and location of the well.
3. The date of acquisition.
4. The date when operations are assumed or resumed by new owner.

27-659. Application to drill

The owner or operator of any property, before commencing the drilling of a well or entering or deepening an abandoned well, shall file with the commission an application to drill, on a form prescribed by the Commission, containing such information as may be required by the Commission. Such application shall be accompanied by a fee of twenty-five dollars per well. All monies so received by the Commission shall be deposited to the Oil and Gas Conservation Fund.

27-660. Safety requirements

Any person engaged in the drilling of a well for geothermal resources in an area wherein fluids, gases or steam under high pressure are known to exist, or any person drilling a well for geothermal resources in any area where pressures are not known, shall case in a watertight manner the borehole to a depth sufficient to protect against surface-cratering in the event of a blow out with pipe of adequate strength, and equip the well with a blow out preventor and

other safety devices, in accordance with pipe and equipment specifications and procedures approved by the Commission, and shall further exercise due caution in all drilling operations to prevent blow outs, explosions or fires.

27-661. Drilling record; samples

The owner or operator of any well shall keep, or cause to be kept, a log, core record and drilling history, copies of which shall be filed with the Commission no later than thirty days following the completion of such well. A complete set of samples of the drill bit cuttings and cores, at intervals and in the manner specified by the Commission, shall be furnished to the Commission.

27-662. Monthly report

The owner or operator of any well producing geothermal resources shall file with the Commission on or before the twenty-fifth day of the next succeeding month a monthly Producers Report, setting forth the total production from each well and such other information as may be determined by the Commission.

27-663. Unlawful interference; penalty

Any owner or operator or employee thereof who refuses to permit the Commission to inspect a well or who willfully hinders or delays enforcement of the provisions of this Chapter, and every person, whether as principal agent, servant or employee, or otherwise, who violates, fails, neglects or refuses to comply with the provisions of this Chapter, or who fails or neglects or refuses to furnish any reply or record or information which may be requested pursuant to the provisions of this Chapter or who willfully renders a false or fraudulent report, shall be guilty of a misdemeanor as set forth in Section 27-527 and shall be subject to the penalties therein prescribed.

27-664. Cooperative development agreements; unitization

Whenever the Commission finds that it is in the interest of the protection of the geothermal resources of this state from unreasonable waste, the lessors, lessees, operators, owners or other persons holding or controlling royalty or other interest in separate properties within the same productive or prospectively productive geothermal area may, with the approval of the Commission, enter into agreement for the purpose of bringing about the cooperation, development and operation of all or a portion of the geothermal resources area as a unit, or for the purpose of fixing the time, location and manner of drilling and

operating of wells for the production of geothermal resources within such area or portion thereof. Any such agreement shall bind the successors and assigns of the parties thereto and shall be enforceable by the parties thereto by an action for a specific performance. No such agreement, when approved by the Commission, shall be held to violate any of the statutes of this state prohibiting monopolies or acts, arrangements, agreements, contracts, combinations or conspiracies in restraint of trade or commerce. Property rights, leases, contracts and all other rights and obligations shall be regarded as amended and modified to the extent necessary to conform to the provisions and requirements of this Section.

27-665. Unitization; requirements

A. No order of the Commission creating a unit and prescribing the plan of unitization applicable thereto shall become effective unless and until the plan of unitization has been signed, or in writing ratified or approved by the owner or lessees of record of not less than sixty-three per cent of the unit area affected thereby and by owners of record of not less than sixty-three per cent, exclusive of royalty interest owned by lessees or by subsidiaries of any lessee, of the royalty interest in and to the unit area, and the Commission has made a finding either in the order creating the unit or in a supplemental order that the plan of unitization has been so signed, ratified or approved by the owner, lessees or royalty owners owning the required percentage interest in and to the unit area. Where the plan of unitization has not been so signed, ratified or approved by the owner, lessees or royalty owners owning the required percentage interest in and to the unit area at the time the order creating the unit is made, the Commission shall, upon petition and notice, hold such additional and supplemental hearings as may be requested or required to determine if and when the plan of unitization has been so signed, ratified or approved by owner, lessees or royalty owners owning the required percentage interest in and to the unit area and shall, in respect to such hearings, make and enter a finding of its determination in such regard. If the owner, lessees or royalty owners owning the required percentage interest in and to the unit area have not so signed, ratified or approved the plan of unitization within a period of six months from and after the date on which the order creating the unit is made, the order creating the unit shall cease to be of further force and effect and shall be revoked by the Commission.

B. An order providing for unit operations may be amended by an order made by the Commission, in the same manner and subject to

the same conditions as an original order providing for unit operations, provided:

1. If such an amendment affects only the rights and interests of the owners, the approval of the amendment by the royalty owners shall not be required.

2. No such order of amendment shall change the percentage for allocation of geothermal resources as established for any separately owned tract by the original order, except with the consent of all persons owning interest in such tract.

C. The Commission, by an order, may provide for the unit operation of a pool or a part thereof that embraces a unit area established by a previous order of the Commission. Such order, in providing for the allocation of unit production, shall first treat the unit area previously established as a single tract, and the portion of the unit production so allocated thereto shall then be allocated among the separately owned tracts included in such previously established unit area in the same proportions as those specified in the previous order.

27-666. Pooling

A. When two or more separately owned tracts of land are embraced within an established drilling unit, persons owning the drilling rights therein and the right to share in the production therefrom may agree to pool their interests and develop their lands as a drilling unit. If the persons do not agree to pool their interests, the Commission may, upon application of one or more owners within the drilling unit in question and for prevention of waste, for protection of correlative rights, or to avoid drilling of unnecessary wells, enter an order pooling and integrating their interests for the development of their lands as a drilling unit. Orders effectuating such pooling shall be made after notice and hearing, and shall be upon terms and conditions which will afford the owner of each tract the opportunity to recover or receive his just and equitable share of the geothermal resources in the pool without unnecessary expense. Operations incident to drilling a well upon any portion of a unit covered by a pooling order shall be deemed for all purposes to be the conduct of such operations upon each separately owned tract in the unit by the several owners thereof. The portion of the production allocated to the owner of each tract included in a drilling unit formed by a pooling order shall, when produced, be considered as if it had been produced from the tract by a well drilled thereon. If such pooling is effectuated, the cost of development and operation of the pooled unit chargeable by the operator to other interested owners shall be limited to the actual and reasonable

expenditures required for that purpose, including a reasonable charge for supervision. As to owners who refuse to agree upon pooling, the order shall provide for reimbursement for costs chargeable to each such owner out of, and only out of, production from the unit belonging to such owner. In event of dispute relative to such costs, the Commission shall, upon notice to all interested parties and hearing thereon, determine the proper costs. Appeals may be taken from the determination as from any other order of the Commission. If one or more of the owners drills and operates, or pays the expense of drilling and operating the well for the benefit of others, then, in addition to any other rights conferred by the pooling order, the owner or owners so drilling or operating shall have a lien on the share of production from the unit accruing to the interest of each of the other owners for the payment of his proportionate share of the expenses. All the geothermal production subject to the lien, or so much thereof as necessary, shall be marketed and sold by the creditor and the proceeds applied in payment of the expenses secured by the lien, with the balance if any payable to the debtor.

B. The Commission shall, in all instances where a unit has been formed from lands or areas of more than one ownership, require the operator, upon request of an owner, but subject to the right of the operator to market production and collect the proceeds with respect to an owner in default, as provided in subsection A.

C. If the persons owning and drilling or exercising other rights in separate tracts embraced within a drilling unit fail to agree upon the pooling of the tracts and drilling of a well on the unit, and if the Commission is without authority to require pooling as provided by this Section, then, subject to all other applicable provisions of this Article, the owner of each tract embraced within the drilling unit may drill on his tract, but the allowable production from the tract shall be the proportion of the allowable production for the full drilling unit as the area of such separately owned tract bears to the full drilling unit.

Sec. 3. Emergency

To preserve the public peace, health and safety it is necessary that this act become immediately operative. It is therefore declared to be an emergency measure, to take effect as provided by law.