

STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 State Office Building  
Portland, Oregon 97201



LAWS AND ADMINISTRATIVE RULES  
RELATING TO OIL AND GAS EXPLORATION  
AND DEVELOPMENT IN OREGON

MISCELLANEOUS PAPER No. 4

PART 1

Revised 1981

## Chapter 520

### 1979 REPLACEMENT PART

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## DEFINITIONS

**520.005 Definitions.** As used in this chapter, unless the context requires otherwise:

(1) "And" includes "or" and "or" includes "and."

(2) "Board" means the governing board of the State Department of Geology and Mineral Industries.

(3) "Condensate" means liquid hydrocarbons that were originally in the gaseous phase in the reservoir.

(4) "Field" means the general area underlain by one or more pools.

(5) "Gas" means all natural gas and all other fluid hydrocarbons not defined as oil in subsection (6) of this section, including condensate originally in the gaseous phase in the reservoir.

(6) "Oil" means crude petroleum oil and all other hydrocarbons, regardless of gravity, which are produced in liquid form by ordinary production methods, but does not include liquid hydrocarbons that were originally in a gaseous phase in the reservoir.

(7) "Person" means any natural person, partnership, corporation, association, receiver, trustee, guardian, fiduciary, executor, administrator, representative of any kind, or the State of Oregon and any of its political subdivisions, boards, agencies or commissions.

(8) "Pool" means an underground reservoir containing a common accumulation of oil and natural gas. A zone of a structure which is completely separated from any other zone in the same structure is a pool.

(9) "Owner" means a person who has the right to drill into and to produce from any pool and to appropriate the oil or gas he produces therefrom either for others, for himself or for himself and others.

(10) "Producer" means the owner of one or more wells capable of producing oil or gas or both.

(11) "Protect correlative rights" means that the action or regulation by the board affords a reasonable opportunity to each person entitled thereto to recover or receive the oil or gas in his tract or tracts or the equivalent thereof, without being required to drill unnecessary wells or to incur other unnecessary expense to recover or receive such oil or gas or its equivalent.

(12) "Unit area" means one or more pools or parts thereof under unit operation pursuant

to ORS 520.260 to 520.330 and subsection (2) of 520.230.

(13) "Well" means a well drilled in search of oil or gas, but shall not include core test wells, stratigraphic test wells, seismic test wells or wells drilled for information purposes only as distinguished from wells drilled for the purpose of producing oil or gas if found.

(14) "Underground reservoir" means any subsurface sand, strata, formation, aquifer, cavern or void whether natural or artificially created, suitable for the injection and storage of natural gas therein and the withdrawal of natural gas therefrom, but excluding a "pool."

(15) "Underground storage" means the process of injecting and storing natural gas within and withdrawing natural gas from an underground reservoir.

[1953 c.667 §1; 1961 c.671 §15; 1973 c.276 §1; 1977 c.296 §1]

**520.010** [Repealed by 1953 c.667 §21]

**520.015 "Waste" defined.** "Waste" in addition to its ordinary meaning, means "physical waste" as that term is generally understood in the petroleum industry. It includes:

(1) Underground waste and the inefficient, excessive or improper use or dissipation of reservoir energy, including gas energy and water drive, of any pool; and the locating, spacing, drilling, equipping, operating or producing of any oil well or gas well in a manner which results or tends to result in reducing the quantity of oil or gas ultimately recoverable from any pool;

(2) Surface waste and the inefficient storing of oil and the locating, spacing, drilling, equipping, operating or producing of oil wells or gas wells in a manner causing or tending to cause unnecessary or excessive surface loss or destruction of oil or gas.

[1953 c.667 §2]

**520.020** [Repealed by 1953 c.667 §21]

## GENERALLY

**520.025 Permit for drilling oil or gas well or using well for gas storage; application form; grounds for granting or denying permit; disposition of fees.** (1) No person proposing to drill any well for oil or gas or proposing to drill or use any well for underground storage of gas in an underground reservoir shall commence the drilling or use until he has applied to the State Geologist upon a form prescribed by the State Geologist

for a permit to operate the well, paid to the board a fee of \$100 for each such well, posted any bond that may be required pursuant to subsection (1) of ORS 520.095 and obtained the permit to drill the well pursuant to subsection (3) of this section.

(2) The State Geologist shall require that the form indicate:

(a) The exact location of the well.

(b) The name and address of the owner, operator, contractor, driller and any other person responsible for the conduct of the drilling operations.

(c) The elevation of the well above sea level.

(d) Such information as is necessary to determine whether the method of drilling and equipment to be used in drilling the well comply with applicable laws and rules.

(e) Such other relevant information as the State Geologist deems reasonably necessary to effectuate the purpose of this chapter.

(3) (a) If upon receipt of the application the State Geologist determines that the method and equipment to be used by the applicant in drilling or using the well comply with applicable laws and rules, the State Geologist shall issue the permit.

(b) The State Geologist may refuse to issue a permit or revoke a permit issued pursuant to this subsection if he determines that methods or equipment to be used or being used in drilling or using the well do not comply with applicable laws or rules.

(4) All moneys paid to the board under this section shall be deposited by the board with the State Treasurer for credit to and the benefit of the Department of Geology and Mineral Industries.

[1953 c.667 §5; 1973 c.276 §2; 1977 c.296 §3]

520.090 [Repealed by 1953 c.667 §21]

**520.035 Waste of oil and gas prohibited.** The waste of oil and gas, as defined in ORS 520.015, hereby is prohibited.

[1953 c.667 §3]

520.040 [Repealed by 1953 c.667 §21]

**520.045 Determination of waste of oil or gas.** The board shall make such inquiries as it may think proper to determine whether or not waste over which it has jurisdiction exists or is imminent. In the exercise of such power the board may:

(1) Collect data.

(2) Make investigations and inspections.

(3) Examine properties, leases, papers, books and records, including drilling records and logs.

(4) Examine, check, test and gauge oil and gas wells and tanks.

(5) Hold hearings.

(6) Provide for the keeping of records and the making of reports.

(7) Take such action as may be reasonably necessary to enforce this chapter.

[1953 c.667 §6]

520.060 [Repealed by 1953 c.667 §21]

**520.055 General jurisdiction and authority of board; tidal lands.** (1) The board has jurisdiction and authority over all persons and property necessary to enforce effectively this chapter and all other laws relating to the conservation of oil and gas.

(2) In addition to and not in lieu of any other powers granted under this chapter, the Department of Geology and Mineral Industries and its governing board may in compliance with ORS 520.105 promulgate reasonable rules, regulations and orders necessary to regulate geological, geophysical and seismic surveys on, and operations to remove oil, gas and sulphur from the tidal submerged and submersible lands of this state under ORS 274.705 to 274.860.

[1953 c.667 §4; subsection (2) enacted as 1961 c.619 §40; 1969 c.594 §57]

520.060 [Repealed by 1953 c.667 §21]

520.065 [1953 c.667 §8; renumbered 520.210]

520.070 [Repealed by 1953 c.667 §21]

520.075 [1953 c.667 §9; 1961 c.671 §16; renumbered 520.220]

520.080 [Repealed by 1953 c.667 §21]

520.085 [1953 c.667 §10; 1961 c.671 §17; renumbered 520.230]

520.090 [Repealed by 1953 c.667 §21]

**520.095 Rules and orders; notice and hearing.** The board may make, in compliance with ORS chapter 183, such reasonable rules and orders as may be necessary in the proper administration and enforcement of this chapter, including rules and orders for the following purposes:

(1) To require the drilling, casing and plugging of wells to be done in such a manner as to prevent the escape of oil or gas out of one stratum to another; to prevent the intrusion of water into oil or gas strata; to prevent the pollution of fresh water supplies by oil, gas or salt water; and to require reasonable bond

conditioned upon compliance with applicable laws and rules and upon the performance of the duty to plug each dry or abandoned well.

(2) To compel the filing of logs, including electrical logs, if any are taken, drilling records, typical drill cuttings or cores, if cores are taken, in the office of the State Geologist within 20 days from the date of completion or abandonment of any well. For a period of two years from the date of abandonment or completion, such logs or other records or drill cuttings or cores shall be kept confidential and shall not be accessible to public inspection. \*

(3) To prevent wells from being drilled, operated and produced in such a manner as to cause injury to neighboring leases or property.

(4) To prevent the drowning by water of any stratum or part thereof capable of producing oil or gas in paying quantities, and to prevent the premature and irregular encroachment of water which reduces, or tends to reduce, the total ultimate recovery of oil or gas from any pool.

(5) To require the operation of wells with efficient gas-oil ratios, and to fix ratios.

(6) To prevent blowouts, caving and seepage in the same sense that conditions indicated by such terms are generally understood in the oil and gas business.

(7) To prevent fires.

(8) To identify the ownership of all oil and gas wells, producing leases, tanks, plants, structures and all storage equipment and facilities.

(9) To regulate the "shooting" and chemical treatment of wells.

(10) To regulate secondary recovery methods, including the introduction of gas, air, water or other substance into producing formations.

(11) To regulate the spacing of wells.

(12) To require the filing currently of information as to the volume of oil and gas, or either of them, produced and saved from the respective properties.

(13) To require the filing with the State Geologist of a notice of intention to drill stratigraphic test wells, core test wells, seismic test wells or wells drilled only for information purposes, giving the location thereof, and to require the filing with the State Geologist of a plugging report within 60 days after completion of such well. No fee shall be re-

quired in connection with the filing of such notices and reports.

(14) To require the disposal of salt water and oil field waste so as not to damage land or property unnecessarily.

(15) To require that wells drilled for oil or gas be logged adequately enough to identify the geologic formations penetrated by the wells.

(16) To regulate the underground storage of natural gas and the drilling and operation of any wells required therefor.

[1953 c.667 §7; 1961 c.671 §18; 1973 c.276 §3; 1977 c.298 §2]

520.100 [Repealed by 1953 c.667 §21]

#### 520.105 Administrative procedure.

(1) The board shall, in accordance with ORS chapter 183, from time to time prescribe reasonable rules governing practice and procedure before it.

(2) No rule, regulation or order, except in emergency, shall be made by the board without a prior public hearing upon at least 10 days' notice. Such public hearings shall be held at such times and places as may be designated by the board. However, in respect to matters of local interest such hearings shall be held at the county seat of the county wherein the greater part of real or personal property affected is situated. Any interested person shall be entitled to be heard at such hearings.

(3) When an emergency requiring immediate action is found to exist, the board may in compliance with ORS chapter 183 issue an emergency order without notice or hearing, effective upon promulgation. However, no emergency order shall remain effective for more than 15 days.

(4) Notice as required by this chapter shall be given in compliance with ORS chapter 183, except as follows:

(a) In respect to matters of statewide interest, by publication in a newspaper of general circulation in Multnomah, Harney, Jackson and Marion Counties.

(b) In respect to matters of local interest, by publication in a newspaper of general circulation in the county or counties wherein the affected lands are located.

(c) In respect to proceedings before the board where persons are named therein, by personal service upon such persons thereto. Personal service may be made by any agent of the board or by any officer authorized by law

to serve process and shall be made in the manner provided by law for the service of summons in civil actions in the courts of this state. Proof of service by an agent of the board shall be made by such person's affidavit and by an officer authorized by law to serve process by his lawful certificate.

(5) Notice shall issue in the name of the state and shall be signed by the chairman or secretary of the board. It shall specify the style and number of the proceeding, the time and place of hearing and the purpose of the proceeding.

[1953 c.667 §11; 1961 c.671 §19]

520.110 [Repealed by 1953 c.667 §21]

**520.115 Board may act on own motion; filing petition with board; notice; hearing; orders.** The board may act upon its own motion or upon the verified written petition of any interested person. Upon the filing with the board of such a petition, which shall state in substance the matter involved, the reasons for and the nature of the relief requested, concerning any matter within its jurisdiction, the board shall promptly fix a date for a hearing thereon, and shall cause due notice thereof to be given as prescribed by ORS 520.105. Such hearing shall be held without undue delay and the board shall enter its order within 30 days thereafter.

[1953 c.667 §12]

520.120 [Repealed by 1953 c.667 §21]

**520.125 Authority of board to compel the giving of testimony and the production of evidence.** (1) The board may summon witnesses, administer oaths and require the production of records, books and documents for examination at any hearing or investigation conducted before it. No person shall be excused from attending and testifying or from producing books, papers and records before the board or a court or from obedience to the subpoena of the board or a court on the grounds that such testimony or evidence required of him may tend to incriminate him or subject him to any penalty or forfeiture; provided, however, that nothing contained in this section shall be construed as requiring any person to produce any books, papers or records or to testify in response to any inquiry not pertinent to some question lawfully before such board or court for determination. No natural person shall be subjected to criminal prosecution or to any penalty or forfeiture for or on account of any transaction, matter or thing concerning which, in spite of his objection, he may be required to testify or produce

evidence before the board or a court; provided, however, no person so testifying shall be exempted from prosecution and punishment for perjury in so testifying.

(2) In case of failure or refusal on the part of any person to comply with the subpoena issued by the board or in the case of the refusal of any witness to testify as to any matter regarding which he may lawfully be interrogated it shall be the duty of the circuit court of any county or any judge thereof, upon application of the board, to issue an order to show cause why such person should not be held for contempt as in the case of disobedience of the requirements of a subpoena issued from such court or a refusal to testify therein.

(3) The board or any party may, in any matter before the board, cause the depositions of witnesses residing within or without the state to be taken in the manner prescribed by law for like depositions in civil suits in the circuit courts of this state.

[1953 c.667 §13]

520.130 [Repealed by 1953 c.667 §21]

**520.135 Application for rehearing by person adversely affected by order of board.** Any person adversely affected by any rule, regulation or order of the board may within 30 days after its entry apply to the board for a rehearing. Such application shall be acted upon by the board within 30 days from its filing date and if granted such rehearing shall be held without undue delay.

[1953 c.667 §14]

**520.145 Judicial review of board actions.** (1) Any person adversely affected by any rule, regulation or an order entered by the board may obtain judicial review thereof pursuant to ORS chapter 183.

(2) The circuit court having jurisdiction shall, in so far as is practicable, give precedence to proceedings for judicial review under this chapter.

(3) Either party may appeal to the Supreme Court of the State of Oregon in the same manner as provided by the laws for appeals from the circuit court in suits in equity.

[1953 c.667 §15; 1961 c.671 §20]

**520.155 Records, accounts, reports and writings not to be falsified, altered, destroyed or removed from state.** No person shall, for the purpose of evading the provisions of this chapter or any rule, regulation or order of the board, make or cause to be made any false entry or statement in a report

required by this chapter or by any rule, regulation or order of the board or make or cause to be made any false entry in any record, account or other writing required by this chapter or by any rule, regulation or order of the board or omit or cause to be omitted from any such record, account or writing, full, true and correct entries as required by this chapter or any rule, regulation or order of the board or remove from this state, or destroy, mutilate, alter or falsify any such record, account or writing.

[1953 c.667 §16]

**520.165 Aiding or abetting in a violation of chapter prohibited.** No person shall knowingly aid or abet any other person in the violation of any provision of this chapter or of any rule, regulation or order of the board.

[1953 c.667 §17]

**520.175 Injunctions to restrain violation or threatened violation of chapter.** (1) Whenever it appears that any person is violating or threatening to violate any provision of this chapter or any rule, regulation or order of the board, the board shall bring suit against such person in the circuit court of any county where the violation occurs or is threatened, to restrain such person from continuing such violation. Upon the filing of any such suit, summons issued to such person may be directed to the sheriff of any county of this state for service by such sheriff upon such person. In any such suit, the court shall have jurisdiction to grant to the board, without bond or other undertaking, such temporary restraining orders or final prohibitory and mandatory injunctions as the facts may warrant, including any such orders restraining the movement or disposition of oil or gas.

(2) If the board fails to bring suit to enjoin a violation or threatened violation of any provision of this chapter or of any rule, regulation or order of the board, within 15 days after receipt of a written request to do so by any person who is or will be adversely affected by such violation, then the person making such request may bring suit in his own behalf to ~~restrain~~ such violation or threatened violation in any court in which the board might have brought such suit. The board shall be made a party defendant in such suit in addition to the person or persons aforesaid and the action shall proceed and injunctive relief may be granted without bond in the same manner as if suit had been brought by the board.

[1953 c.667 §18]

## SPACING UNITS

**520.210 Establishment of spacing units for a pool; purpose; scope; effect.** (1) When necessary to prevent waste, avoid the drilling of unnecessary wells or protect correlative rights the board shall establish spacing units for a pool. Spacing units when established shall be of uniform size and shape for the entire pool except that when found to be necessary for any of the above purposes the board is authorized to divide any pool into zones and establish spacing units for each zone, which units may differ in size and shape from those established in any other zone.

(2) The size and shape of spacing units shall be such as will result in efficient and economical development of the pool as a whole and the size thereof shall not be smaller than the maximum area that can be efficiently drained by one well.

(3) An order establishing spacing units for a pool shall specify the size and shape of each unit and the location of the permitted well thereon in accordance with a reasonably uniform spacing plan. Upon application and after hearing if the board finds that a well drilled at the prescribed location would not produce in paying quantities or that surface conditions would substantially add to the burden or hazard of drilling such well, then the board is authorized to enter an order permitting the well to be drilled at a location other than that prescribed by such spacing order; provided, however, the board shall include in the order suitable provisions to prevent the production from the spacing unit of more than its just and equitable share of the oil and gas in the pool. \*\*

(4) An order establishing units for a pool shall cover all lands determined or believed to be underlaid by such pool and may be modified by the board from time to time to include additional areas determined to be underlaid by such pool. When found necessary for the prevention of waste or to protect correlative rights an order establishing spacing units in a pool may be modified by the board to increase the size of spacing units in a pool or any zone thereof or to permit the drilling of additional wells on a reasonably uniform plan in such pool or zone.

[Formerly 520.065]

**520.220 Integrating interests or tracts within spacing unit; compulsory unitization.** (1) When two or more separately owned tracts are embraced within a spacing unit or

when there are separately owned interests in all or a part of such spacing unit, then the interested persons may integrate their tracts or interests for the development and operation of the spacing unit.

(2) In the absence of voluntary integration, the board, upon the application of any interested person, shall make an order integrating all tracts or interests in the spacing unit for the development and operation thereof and for the sharing of production therefrom. The board, as a part of the order establishing one or more spacing units, may prescribe the terms and conditions upon which the royalty interests in the units shall, in the absence of voluntary agreement, be deemed to be integrated without the necessity of a subsequent order integrating royalty interests. Each such integration order shall be upon terms and conditions that are just and reasonable.

[Formerly 520.075]

**520.230 Approved agreement for cooperative or unit development of pool not to be construed as violating certain regulatory laws.** (1) An agreement for the unit or cooperative development and operation of a field or pool in connection with the conduct of repressuring or pressure maintenance operations, cycling or recycling operations, including the extraction and separation of liquid hydrocarbons from natural gas in connection therewith, or any other method of operation, including water floods, is authorized and may be performed and shall not be held or construed to violate ORS chapter 59 or any of the statutes of this state relative to trusts, monopolies or contracts and combinations in restraint of trade, if such agreement is approved by the board as being in the public interest, for the protection of correlative rights and reasonably necessary to increase ultimate recovery or prevent waste of oil or gas. The failure to submit such an agreement to the board for approval does not, for that reason, imply or constitute evidence that the agreement or operations conducted pursuant thereto violate ORS chapter 59 or any statute of this state now or hereafter in effect relating to trusts and monopolies.

(2) An agreement for the unit or cooperative development or operation of a field, pool or part thereof may be submitted to the board for approval as being in the public interest or reasonably necessary to prevent waste or protect correlative rights. Approval by the board constitutes a complete defense to any proceeding charging violation of ORS chapter

59 or of any statute of this state now or hereafter in effect relating to trusts and monopolies on account thereof or on account of operations conducted pursuant thereto. The failure to submit such an agreement to the board for approval does not, for that reason, imply or constitute evidence that the agreement or operations conducted pursuant thereto violate ORS chapter 59 or any statute of this state now or hereafter in effect relating to trusts and monopolies.

[Formerly 520.085; subsection (2) enacted as 1961 c.671 §13; 1963 c.69 §1]

**520.240 Voluntary unitization of operations by lessees of tidal or submersible lands; Division of State Lands' function.**

(1) For the purpose of properly conserving the natural resources of any single oil or gas pool or field, lessees under ORS 274.705 to 274.860 and their representatives may unite with each other jointly or separately, or jointly or separately with others owning or operating lands not belonging to the state, in collectively adopting and operating under a cooperative or unit plan of development or operation of the pool or field, whenever it is determined by the Division of State Lands to be necessary or advisable in the public interest.

(2) The Division of State Lands may, with the consent of the holders of the leases involved, establish, alter, change and revoke any drilling and production requirements of such leases, and make such regulations with reference to such leases, with like consent on the part of the lessees, in connection with the institution and operation of any such cooperative or unit plan, as the Division of State Lands deems necessary or proper to secure the proper protection of the interests of the state.

[1961 c.619 §33]

**520.260 Hearing to determine need for unitization of operations; required findings; order.** (1) The board as defined in ORS 520.005, upon its own motion may, and upon the application of any interested person shall, hold a hearing to consider the need for the operation as a unit of one or more pools or parts thereof in a field.

(2) The board shall make an order providing for the unit operation of a pool or part thereof if it finds that:

(a) Unit operation is reasonably necessary to effectively carry on pressure control, pressure maintenance or repressuring operations, cycling operations, water flooding operations, injection operations, or any combination thereof, or any other method of recovery

designed to substantially increase the ultimate recovery of oil from the pool or pools; and

(b) The value of the estimated additional recovery of oil or gas exceeds the estimated additional cost incident to conducting unit operations.

[1981 c.671 §2]

### UNIT OPERATIONS

**520.270 Plan for unit operations.** An order issued pursuant to ORS 520.260 shall be upon terms and conditions that are just and reasonable, and shall prescribe a plan for unit operations that includes the following:

(1) A description of the pool or pools or parts thereof to be so operated.

(2) A statement of the nature of the operations contemplated.

(3) An allocation to the separately owned tracts in the unit area of all the oil and gas that is produced from the unit area and is saved, being the production that is not used in the conduct of operations on the unit area or not unavoidably lost.

(4) A provision for the credits and charges to be made in the adjustment among the owners in the unit area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operations.

(5) A provision stating how the costs of unit operations, including capital investments, shall be determined and charged to the separately owned tracts and how these costs shall be paid, including a provision stating when, how and by whom the unit production allocated to an owner who does not pay the share of the cost of unit operations charged to such owner, or the interest of such owner, may be sold and the proceeds applied to the payment of such costs.

(6) A provision, if necessary, for carrying or otherwise financing any person who elects to be carried or otherwise financed, allowing a reasonable interest charge for such service payable out of that person's share of the production.

(7) A provision for the supervision and conduct of the unit operations, in respect to which each person shall have a vote with a value corresponding to the percentage of the costs of unit operations chargeable against the interest of that person.

(8) The time when the unit operations shall commence, and the manner in which, and the circumstances under which, the unit operations shall terminate.

(9) Additional provisions that are found appropriate for carrying on the unit operations, and for the protection of correlative rights.

[1981 c.671 §3]

**520.280 Allocation of production under plan; ownership.** (1) The allocation described in subsection (3) of ORS 520.270 shall be in accord with the agreement, if any, of the interested parties. If there is no such agreement, the board shall determine the relative value, from evidence introduced at the hearing, of the separately owned tracts in the unit area, exclusive of physical equipment, for development of oil and gas by unit operations. The production allocated to each tract shall be the proportion that the relative value of each tract so determined bears to the relative value of all tracts in the unit area.

(2) That portion of the unit production allocated to any tract, and the proceeds from the sale thereof, are the property and income of the several persons to whom, or to whose credit, they are allocated or payable under the order providing for unit operations.

[1981 c.671 §§4, 10]

**520.290 When unitization order to become effective; supplemental hearings.**

(1) No order of the board providing for unit operations is effective until:

(a) The plan for unit operations prescribed by the board under ORS 520.270 has been approved in writing by (A) those owners who, under the board's order, will be required to pay at least 75 percent of the costs of the unit operation, and (B) those persons who, at the time of the order of the board, owned of record legal title to 75 percent of royalty and overriding royalty payable with respect to oil and gas produced from the pool or part thereof over the entire unit area; and

(b) The board has made a finding, either in the order providing for unit operations or in a supplemental order, that the plan for unit operations has been so approved.

(2) If the plan for unit operations has not been approved pursuant to subsection (1) of this section at the time the order providing for unit operations is made, the board shall upon application and notice hold such supplemental hearings as are required to determine if and when the plan for unit operations has been approved. If the persons owning the percent-

age of interest in the unit area required by subsection (1) of this section do not approve the plan for unit operations within a period of six months after the date on which the order providing for unit operations is made, the order is ineffective and shall be revoked by the board unless the board, for good cause shown, extends the time for approval.

[1961 c.671 §5]

#### **520.300 Amending unitization order.**

An order providing for unit operations may be amended by an order made by the board, as defined in ORS 520.005, in the same manner and subject to the same conditions as an original order providing for unit operations. However:

(1) If the amendment affects only the rights and interests of the owners, the approval of the amendment by the royalty owners is not required.

(2) The order of amendment may not change the percentage for the allocation of:

(a) Oil and gas as established for any separately owned tract by the original order, except with the consent of all persons owning oil and gas rights in the tract; or

(b) Cost as established for any separately owned tract by the original order, except with the consent of all owners in the tract.

[1961 c.671 §6]

**520.310 Unitization of area including area previously unitized; partial unitization of pool.** (1) The board, as defined in ORS 520.005, by order may provide for the unit operation of a pool or pools or parts thereof that embrace a unit area established by a previous order of the board. The order, in providing for the allocation of unit production, shall first treat as a single tract the unit area previously established, and the portion of the unit production so allocated thereto shall then be allocated among the separately owned tracts included in the previously established unit area in the same proportions as those specified in the previous order.

(2) An order may provide for unit operations on less than the whole of a pool where the unit area is of such size and shape as may reasonably be required for that purpose, and the conduct thereof will have no adverse effect upon other portions of the pool.

[1961 c.671 §§7, 8]

**520.320 Unitization order does not terminate prior agreements or affect oil and gas rights; acquisition of property during unit operations.** (1) No division

order or other contract relating to the sale or purchase of production from a separately owned tract may be terminated by the order providing for unit operations, but remains in force and applies to oil and gas allocated to that tract until terminated in accordance with the provisions thereof.

(2) Except to the extent that the parties affected so agree, no order providing for unit operations results in a transfer of all or any part of the title of any person to the oil and gas rights in any tract in the unit area.

(3) All property, whether real or personal, that may be acquired in the conduct of unit operations under ORS 520.260 to 520.330 and subsection (2) of 520.230 shall be acquired for the account of the owners within the unit area, and is the property of such owners in the proportion that the expenses of unit operations are charged.

[1961 c.671 §§11, 12]

**520.330 Effect of operations in unit area.** All operations, including but not limited to the commencement, drilling or operation of a well, upon any portion of the unit area, are considered for all purposes the conduct of such operations upon each separately owned tract in the unit area by the several owners thereof. The portion of the unit production allocated to a separately owned tract in a unit area, when produced, is considered for all purposes to have been actually produced from that tract by a well drilled thereon. Operations conducted pursuant to an order of the board, as defined in ORS 520.005, providing for unit operations constitute a fulfillment of all the express or implied obligations of each lease or contract covering lands in the unit area to the extent that compliance with such obligations cannot be had because of the order of the board.

[1961 c.671 §9]

## **UNDERGROUND RESERVOIRS**

**520.340 Legislative findings.** The underground storage of natural gas in Oregon is found by the Legislative Assembly to be in the public interest in that the establishment of underground reservoirs of natural gas will help insure the continued, uninterrupted availability of natural gas supplies to residential, commercial and industrial consumers in Oregon during periods of peak demand and

during interruptions in the normal flow of natural gas supplies.  
[1977 c.296 §5]

**520.350 Property rights in underground reservoirs for natural gas storage.**

(1) All natural gas in an underground reservoir utilized for underground storage, whether acquired by eminent domain or otherwise, shall at all times be the property of the natural gas company utilizing said underground storage, its heirs, successors, or assigns. In no event shall such gas be subject to the rights of the owner of the surface of the land under which said underground reservoir lies or of the owner of any mineral interest therein or of any person other than said natural gas company, its heirs, successors and assigns to release, produce, take, reduce to possessions, or otherwise interfere with or exercise any control thereof.

(2) Any right of condemnation granted for the purposes of ORS 520.340, 772.610 to 772.625 and this section shall be without prejudice to the rights of the owner of the condemned lands or of the rights and interest therein to drill or bore through the under-

ground reservoir in such a manner as shall protect the underground reservoir against pollution and against the escape of natural gas in a manner which complies with the orders and rules of the State Department of Geology and Mineral Industries. Such condemnation shall be without prejudice to the owners of such lands or other rights or interests therein as to all other uses thereof. The additional costs of complying with rules or orders to protect the underground shall be paid by the condemnor.

[1977 c.296 §6]

## PENALTIES

**520.990** [Repealed by 1963 c.667 §21]

**520.991 Penalties.** Violation of any provision of this chapter or any rule, regulation or order of the board is punishable, upon conviction, by a fine not exceeding \$2,500 or imprisonment in the county jail for a term not exceeding six months, or both.

[1953 c.667 §19]

## CERTIFICATE OF LEGISLATIVE COUNSEL

Pursuant to ORS 173.170, I, Thomas G. Clifford, Legislative Counsel, do hereby certify that I have compared each section printed in this chapter with the original section in the enrolled bill, and that the sections in this chapter are correct copies of the enrolled sections, with the exception of the changes in form permitted by ORS 173.160 and other changes specifically authorized by law.  
Done at Salem, Oregon,  
October 1, 1977.

Thomas G. Clifford  
Legislative Counsel

## CHAPTER 521

[Reserved for expansion]

\* 520.095(2) However, the two-year confidentiality period may be extended for such time as the State Geologist determines is necessary for the reasonable protection of the economic interests of the person who has engaged in the drilling activity.

\*\*520.210(3) The State Geologist shall notify adjacent mineral owners of such application and any such owner may request a hearing by the Board to consider the application. If no request for a hearing is made in writing within 20 days the State Geologist may issue an order approving the drilling site.

**OREGON ADMINISTRATIVE RULES  
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**CHAPTER 632**

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(June 1981)

**OREGON ADMINISTRATIVE RULES**  
**CHAPTER 632, DIVISION 10— DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES**

**DIVISION 10**

**GENERAL**

**General Rules**

632-10-002 General rules shall be state-wide in application unless otherwise specifically stated and applicable to all lands within the jurisdiction of the State of Oregon.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Supremacy of Special Rules**

632-10-004 Special rules will be issued when required and shall prevail as against general rules if in conflict therewith.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Secretary to the Board**

632-10-006 The director of the State Department of Geology and Mineral Industries shall act as secretary to the Board.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Definitions**

632-10-008 As used in rules 632-10-010 to 632-10-200, unless otherwise required by context:

(1) "Allowable" shall mean the quantity of natural gas or oil allowed by order of the Board to be produced within a stated period.

(2) "Atmospheric Pressure" shall mean the pressure of air at sea level, equivalent to about 14.73 pounds per square inch absolute.

(3) "Barometric Pressure" shall mean the pressure or weight of air determined by the use of a barometer at a given point.

(4) "Barrel" shall mean 42 U.S. gallons of oil at a temperature of 15.55 degrees Centigrade (60 degrees Fahrenheit), with deductions for the full percent of basic sediment, water and other impurities present, ascertained by centrifugal or other recognized and customary test.

(5) "Blow-Out" shall mean an uncontrolled escape of oil, natural gas, or saltwater as a flow of oil, or natural gas or saltwater from a well.

(6) "Blow-Out Preventer" shall mean a heavy casing-head control of special gates or rams which will seal the annular space between drill pipe or tubing and casing or which completely closes off the top of the inner casing string.

(7) "Bottom Hole Pressure" shall mean the pressure in pounds per square inch at or near the bottom of an oil or gas well determined at the face of the producing horizon by means of a pressure recording instrument, adopted and recognized by the oil and gas industry, and corrected to the sea level elevation.

(8) "Casing Pressure" shall mean the pressure built up between the casing and tubing when the casing and tubing are packed off at the top of the well and measured at the surface.

(9) "Casing-Head Gas" shall mean any gas or vapor, or both gas and vapor, indigenous to an oil stratum and produced from such stratum with oil.

(10) "Combination Well" shall mean well productive of both oil and gas in commercial quantities from the same common source of supply and which has sufficient natural pressure to cause gas to enter a pipe line carrying more than atmospheric pressure.

(11) "Common Source of Supply" is synonymous with pool.

(12) "Condensate" shall mean hydrocarbons existing in the gaseous state in the reservoir, by condensing to a liquid at pressures or temperatures below those of the reservoir. For the purpose of brevity, the use herein of the word "oil" shall include condensate as defined herein, unless otherwise provided. For instance, oil well shall mean not only an oil well but also a condensate well.

(13) "Connate Water" shall mean the water which was present with the deposition of solid sediments in an oil or gas reservoir and which has not, during the oil accumulation, been displaced.

(14) "Correlative Rights" as used in these rules shall mean that each owner or producer in a pool is privileged to produce therefrom only in such manner or amount as not to injure the reservoir to the detriment of others or to take an undue proportion of the oil or gas obtainable therefrom, or to cause net drainage between developed units.

(15) "Cubic Foot of Gas" shall mean the volume of gas expressed in cubic feet computed at standard pressure base of 14.73 pounds per square inch absolute and a standard temperature base of 60 degrees F.

(16) "Day" shall mean a period of twenty-four consecutive hours from 7 a.m. one day to 7 a.m. the following day.

(17) "Development" shall mean any work which actively looks toward bringing in production, such as erecting rigs, building tanks, drilling wells, etc.

(18) "Developed Area or Developed Unit" shall mean a proration unit having a well completed thereon which is capable of producing oil or gas in paying quantities; however, in the event it be shown, and the Board finds, that a part of any unit is nonproductive, then the developed area of the unit shall include only that part so found to be productive.

(19) "Differential Pressure" shall mean in the case of wellhead measurement, the difference between the tubing pressure and the casing pressure; in the case of an orifice meter, the pressure difference between the up-stream and the down-stream sides of the orifice, a pressure difference measured with a differential gauge or with a manometer (U tube).

(20) "State Geologist" shall mean the chief administrator for the State Department of Geology and Mineral Industries.

(21) "Edge Water" shall mean water that holds the oil or gas, or both oil and gas, in a higher structural position usually encroaching on a pool as the oil or gas is recovered.

(22) "Field" shall mean the general area underlain by one or more pools.

(23) "Gas" shall mean all natural gas, including casing-head gas and other hydrocarbons not defined as oil in section (5) of this rule.

(24) "Gas Allowable" shall mean the amount of natural gas authorized to be produced by order of the Board.

(25) "Gas-Oil Ratio" shall mean the relation of the gas in cubic feet to the production of oil in barrels as accepted by pipe lines.

(26) "Gas Repressuring" shall mean the introduction of gaseous substances into a pool by artificial means in order to replenish, replace, or increase the reservoir energy.

(27) "Gas, Sour" shall mean gas which contains hydrogen-sulphide, sulphur, or other deleterious substances, in sufficient quantities to render it unfit for domestic light and fuel.

(28) "Gas Well" shall mean:

(a) A well which produces natural gas only;

(b) That part of a well where the gas producing stratum has been successfully cased off from the oil, the gas and oil being produced through separate casing or tubing;

(c) Any well capable of producing gas in commercial quantities; or

(d) A well producing from a reservoir containing no liquid hydrocarbons.

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(29) "Illegal Gas" shall mean gas which has been produced within the state from any well or wells in excess of the amount allowed by any rule, regulation, or order of the Board, as distinguished from gas produced within the state not in excess of the amount of allowed production by any such rule, regulation, or order which is legal gas.

(30) "Illegal Oil" shall mean oil which has been produced within the state from any well or wells in excess of the amount allowed by any rule, regulation, or order of the Board, as distinguished from oil produced within the state not in excess of the amount so allowed by any such rule, regulation, or order which is legal oil.

(31) "Illegal Product" shall mean any product of oil or gas, any part of which was processed or derived, in whole or in part, from illegal oil or illegal gas or from any product thereof, as distinguished from legal product, which is a product processed or derived to no extent from illegal gas or illegal oil.

(32) "Indices of Productive Value" shall mean the factors to be considered in ascertaining the productivity of all property in a pool for the purpose of fixing the allowable production. These indices can mean, at the discretion of the Board, potential acreage, gas-oil ratios, static reservoir pressures, flowing pressures, fluid level draw-downs, the well or wells, or any other pertinent factors.

(33) "Mud-Laden Fluid" shall mean any approved mixture of fluid and clay or other material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

(34) "Net Drainage" shall mean the drainage or migration of oil or gas within the reservoir which is not equalized by counter-drainage.

(35) "Nomination" shall mean the statement made by a purchaser as to the amount of oil or gas he is willing to purchase for a given period.

(36) "Oil" shall mean crude petroleum oil and any other hydrocarbons, regardless of gravity, which are produced at the well head in liquid form and from gas by ordinary production methods.

(37) "Oil Allowable" shall mean the amount of oil authorized to be produced by order of the Board.

(38) "Oil Well" for the purpose of the rules, shall mean any well not a gas well capable of producing oil or condensate in paying quantities.

(39) "Operator" shall mean any person who, duly authorized, is in charge of the development of a lease or the operation of a producing well.

(40) "Overage, Overproduction" shall mean the oil or gas produced in excess of the allowable fixed by the Board.

(41) "Owner" shall mean the person who has the right to drill into and produce from a field or pool, or to appropriate the production therefrom, or both, either for himself or for himself and others.

(42) "Period Allowable" shall mean the period as designated in which an allowable may be produced.

(43) "Person" shall mean any natural person, partnership, corporation, association, receiver, trustee, guardian, fiduciary, executor, administrator, representative of any kind, or the State of Oregon and its political subdivisions.

(44) "Pipe Line Oil" shall mean oil free from water and basic sediment to the degree that it is acceptable for pipe line transportation and refinery use.

(45) "Pool" shall mean an underground reservoir containing or appearing to contain a common accumulation of oil and natural gas. A zone of a structure which is completely separated from any other zone in the same structure is a pool.

(46) "Potential" shall mean the computed daily ability of a well to produce oil as determined by a test made in conformity with rules prescribed by the Board.

(47) "Pressure Maintenance" shall mean:

(a) The re-introduction (in the early stages of field development) of gas or fluid produced from an oil or gas well to maintain the pressure of the reservoir;

(b) The introduction of gas or fluid for the same purpose but obtained from an outside source.

(48) "Producer" or "owner" shall mean a person who has the right to drill into and to produce from any pool and to appropriate the oil or gas he produces therefrom either for others, for himself, or for himself and others.

(49) "Product" shall mean any commodity made from oil or gas, and shall include refined crude oil, crude tops, topped crude, processed crude petroleum, residue from crude petroleum, cracking stock, uncracked fuel oil, fuel oil, treated crude oil, residuum, gas oil, casing-head gasoline, natural gas, gasoline, kerosene, benzene, wash oil, waste oil, blended gasoline, lubricating oil, blends or mixtures of oil with one or more liquid products or by-products derived from oil or gas, and blends or mixtures of two or more liquid products or by-products from oil or gas.

(50) "Proved Oil or Gas Land" shall mean the area which has been shown by development or geological information to be such that additional wells drilled thereon are reasonably certain to be commercially productive of oil or gas, or both.

(51) "Purchaser" shall mean any person who directly or indirectly purchases, transports, takes, or otherwise removes production to his account from a well, wells, or pool.

(52) "Recycle" — See Pressure Maintenance (section (47)).

(53) "Repressure" — See Pressure Maintenance (section (47)).

(54) "Run" shall mean oil or gas piped from one place to another.

(55) "Separator" shall mean an apparatus for separating oil, gas, water, etc., with efficiency as it is produced.

(56) "Share, Fair" shall mean that part of the authorized production for the pool which is substantially in the proportion that the quantity of recoverable oil and gas in the developed area of a tract in the pool bears to the recoverable oil and gas in the total developed area of the pool, insofar as these amounts can be practically ascertained.

(57) "Shortage of Underage" shall mean the amount of production less than the allowable.

(58) "Spacing Unit" shall mean the maximum area in a pool which may be efficiently and economically drained by one well.

(59) "Storage" shall mean produced oil, gas, or both confined in tanks, reservoirs, or containers.

(60) "Storage, Underground" shall mean underground cavities either natural or artificial or both which are suitable for storage of natural gas, produced petroleum, and petroleum products. The term may also mean the produced petroleum and petroleum products confined in underground cavities.

(61) "Survey" shall mean all tests made for the purpose of obtaining information concerning the productive possibility of any geological formation and shall include electrical and directional surveys.

(62) "Waste" in addition to its ordinary meaning, shall mean "physical waste" as that term is generally understood in the petroleum industry. It includes:

(a) Underground waste and the inefficient, excessive, or improper use or dissipation of reservoir energy, including gas energy and water drive, of any pool; and the locating, spacing, drilling, equipping, operating, or producing of any oil well or gas well in a manner which results or tends to result in reducing the quantity of oil or gas ultimately recoverable from any pool;

(b) Surface waste and the inefficient storing of oil and the locating, spacing, drilling, equipping, operating, or producing of oil wells or gas wells in a manner causing or tending to cause

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unnecessary or excessive surface loss or destruction of oil or gas.

(63) "Well" shall mean a well drilled in search of oil or gas, but shall not include core test wells, stratigraphic test wells or wells drilled for information purposes only as distinguished from wells drilled for the purpose of producing oil or gas if found.

(64) "Well Log" shall mean the written record progressively describing the strata, water, oil or gas encountered in drilling a well with such additional information as to give volumes, pressure, rate of fill-up, water depths, casing strata, casing record, etc., as is usually recorded in normal procedure of drilling, also to include electrical survey or logging.

(65) "Wildcat Well" shall mean a drilling or producing well in an unproved area.

(66) Additional definitions may be found in ORS 520.005 and 520.015.

(67) "Abandonment" shall mean that a well is to be considered abandoned when it has been properly plugged and sealed off and requirements under the regulations have been fulfilled to the satisfaction of the Board.

(68) "Completion" shall mean, for the purposes only of filing well records that a well is considered completed:

(a) When it is capable of producing oil and/or gas;

(b) When it has been properly plugged and abandoned.

When operations to accomplish subsections (a) or (b) of this section have been suspended for a period of thirty (30) consecutive days or more. In such instances any required supplemental data shall be furnished the State Geologist upon the occurrence of either subsections (a) or (b) of this section.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54; GMI 2, f. 6-20-55; GMI 1-1979, f. & ef. 1-25-79

**Application and Permit to Drill, Deepen, or Rework**

632-10-010 (1) No person proposing to drill, deepen, or rework any well for oil or gas shall commence the drilling, deepening, or reworking until he has applied to the State Geologist upon a form prescribed by the State Geologist for a permit to operate the well, paid to the Board a fee of \$100 for each such well, posted a \$10,000 bond required pursuant to rule 632-10-205 and obtained the permit to drill, deepen, or rework the well pursuant to section (3) of this rule.

(2) The State Geologist shall require that the application indicate:

(a) The location of the well;

(b) The name and address of the owner, operator, and any other person responsible for the conduct of the drilling operations;

(c) The elevation of the well above the sea level;

(d) Casing and cementing programs giving details of casing sizes, casing grade, hole diameters, and volume of cement to be used;

(e) Geologic objectives for holes drilled in known producing areas, proposed depth in all cases.

(3) The State Geologist shall circulate the application for technical review to appropriate state natural resource agencies and the governing body of the county or city in which the well will be located. The agencies have 20 days from the date of application in which to comment.

(4) If upon receipt of the application the State Geologist or his agent determines that the method of drilling and equipment to be used by the applicant in drilling the well comply with applicable laws and rules, the State Geologist shall issue the permit within 30 days. The State Geologist may refuse to issue a permit if he determines that the methods of drilling or equipment to be used or being used in drilling the well do not comply with the applicable laws or rules. If the State Geologist refuses to issue a permit, he shall notify the applicant in writing

within 30 days from the date of application the reasons for denying the permit. Any person adversely affected by a ruling of the State Geologist may within 30 days of such ruling apply to the Board for a rehearing.

(5) When issuing the permit, the State Geologist shall inform the applicant that:

(a) Issuance of the permit is not a finding of compliance with the Statewide Planning Goals (ORS 197.225) or the acknowledged comprehensive plan; and

(b) The applicant must receive a land use approval from the affected local government. The approval may include a determination that the proposed action is in compliance with the Statewide Planning Goals.

(6) The State Geologist may revoke a permit for noncompliance with rules of this chapter after first giving the permittee written notice and after such notice the permittee fails to correct the violation within 30 days from receipt of the notice.

(7) A person receiving a permit to drill, deepen, or rework any well shall commence such drilling, deepening, or reworking within one year from issuance of the permit, otherwise the permit will become invalid. The permit may be extended by the State Geologist for a maximum of one additional year upon receipt of written notice from the permittee giving reasons for not beginning drilling, deepening, or reworking within the one-year period.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 2, f. 6-20-55; GMI 1-1978(Temp), f. 5-26-78, ef. 7-1-78; GMI 1-1979, f. & ef. 1-25-79; GMI 3-1980, f. 2-29-80, ef. 3-1-80; GMI 1-1981, f. & ef. 2-26-81

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

**Changes of Location or Ownership**

632-10-012 (1) If, prior to the drilling of a well, the person to whom the permit was issued desires to change the location, he shall submit a letter so stating and another application properly filled out showing the new location. No additional fee is necessary, but drilling shall not be started until the transfer has been approved and the new permit posted at the new location.

(2) If, while a well is drilling or after it has been completed, the person to whom the permit was issued disposes of his interest in the well, he shall submit a written statement to the director setting forth the facts.

(3) Before the transfer of any well, the person who is to acquire it must obtain a permit and post a bond as required by rule 632-10-010.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 2, f. 6-20-55

**Drilling Practices**

632-10-014 (1) Pits for Drill Cuttings: There shall be provided at every well before the actual drilling has been started, one or more pits of adequate and approved size for holding the drill cuttings removed from such well.

(2) Casing and Sealing Off Formations: The State Geologist shall determine that surface casing used in all wells shall be of suitable grade and wall thickness. In all wells drilled in areas where pressure and formation are unknown, sufficient surface casing shall be run to reach a depth below known potable fresh water levels. Surface casing shall be cemented by the pump and plug or displacement method with sufficient cement to circulate to the top of the hole:

(a) Each fluid bearing zone above the producing horizon in oil and gas wells shall be cased and sealed off to prevent effectively the migration of formation fluids to other areas. Such casing and sealing off shall be effected and tested in such

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manner and by such methods and means as may be prescribed by the State Geologist or his representative.

(b) In wells drilled in areas where subsurface conditions have been established by drilling experience, surface casing size at the operator's option shall be set and cemented to the surface by the pump and plug or displacement method at a depth sufficient to protect all potable fresh water.

(c) Cement shall be allowed to set a minimum of twelve (12) hours under pressure before drilling the plug.

(3) Mud-Laden Fluid to be Applied: No rock formation containing natural gas shall be drilled or be permanently left open without the application of mud-laden fluid to prevent the escape of gas during further drilling in or through such gas bearing formations.

**(4) Well-Head Equipment:**

(a) In all proven areas, the use of blow-out equipment shall be in accordance with established practice in the area.

(b) In unproven areas, (wildcat wells) all drilling wells shall be equipped with a full closure gate, or its equivalent, an adequate blow-out preventer, together with a flow line valve of the proper size and working pressure. The entire control equipment shall be in good working condition at all times.

(5) Well Records (Logs): During the drilling, deepening or reworking of every well, except seismic, core, or other shallow wells drilled solely for geological data, the owner, operator, contractor, driller, or other person responsible for the conduct of drilling operations, shall keep at the well a detailed and accurate record of the well, reduced to writing from day to day, which shall be accessible to the State Geologist and his agents at all reasonable times. A copy of the records shall be furnished to the State Geologist upon a form prescribed by the State Geologist within twenty (20) days after the completion or abandonment of any well which ever date comes first:

(a) Any logging including, but not limited to, electrical logging or bore hole surveying of the well shall also be recorded and copy furnished the Board within twenty (20) days after completion or abandonment which ever date comes first. Upon request by the State Geologist, a complete set of cuttings or samples of cores, if taken, correctly labeled and identified as to depth, shall be filed with the Supervisor within 20 days after completion or abandonment of every such well.

(b) Well logs, electrical logs, cuttings, and cores shall be kept confidential for a period of two years from the required filing date. The well record shall describe progressively the strata, water, oil, or gas encountered in drilling a well with such additional information as to gas volumes, pressures, rate of fill-up, water depths, caving strata, casing record, shooting, perforating, chemical treatment, etc., as are usually recorded in the normal procedure of drilling.

(6) Deepening: Every person, owner, or producer who desires to deepen a well to a depth below that to which it was originally drilled shall file a written notice of intention to deepen. The notice shall set forth in detail the new proposed total depth, the plan for sealing off any oil, gas, brine, or fresh-water strata to be found or expected to be found in the deepening. If the method set forth is satisfactory and the person, owner, or producer is not in violation of the law or the rules of the Board, the director shall issue a deepening permit. The actual deepening shall not be started until the deepening permit has been posted at the well location.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Identification of Wells**

632-10-016 Hereafter, every person drilling for oil or gas or operating, owning, or controlling or in possession of any well drilled for oil or gas, shall paint or stencil and post and keep posted in a conspicuous place near the well, the name of the person drilling, operating, owning, or controlling the well, the

name of the lease, the number of the well, and the number of the permit for the well, together with the Section, Township, and Range.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Organization Reports**

632-10-018 Every person acting as principal or agent for another or independently engaged in drilling for oil or gas or in the production, storage, reclaiming, treating, or processing of crude oil or natural gas produced in Oregon shall immediately file with the Board in the form of an affidavit: the name under which such business is being conducted or operated; the name and post office address of such person, the business or businesses in which he is engaged; the plan of organization and, in case of a corporation, the law under which it is chartered and the name and post office address of any person acting as a trustee, together with the name of the manager, agent, attorney-in-fact, or principal executive thereof, and the name and post office address of each officer thereof. In each case where such business is conducted under an assumed name, such report shall show the names and post office addresses of all owners in addition to the other information required and also the name of the county in which the certificate of assumed name is filed. Immediately after any change occurs as to the facts stated in the report filed, a supplementary report under oath shall be immediately filed with the Board with respect to such change.

Stat. Auth.: ORS Ch.

Hist: GMI 2, f. 6-20-55

**Surface Equipment**

632-10-020 Meter fittings of adequate size to measure the gas efficiency for the purpose of obtaining gas-oil ratios shall be installed on the gas vent-line of every separator. Well-head equipment shall be installed and maintained in first-class condition so that static bottom hole pressure may be obtained at any time by the duly authorized agents of the Board or the director. Valves shall be installed so that pressures can be readily obtained on both casing and tubing.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Blow-Out Prevention**

632-10-122 In drilling in areas where high pressures are likely to exist, all proper and necessary precautions shall be taken for keeping the well under control, including the use of blow-out preventers and high-pressure fittings attached to casing strings properly anchored and cemented.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Drilling Fluid**

632-10-124 At any time of drilling any well by rotary method, the operator shall continuously maintain in the bore, from top to bottom, good mud-laden fluid in accordance with recognized safe practice.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Cleaning Wells**

632-10-126 All wells shall be cleaned into a pit not less than one hundred fifty (150) feet from the derrick floor and one hundred fifty (150) feet from any fire hazard.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

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**Boiler or Light Plant**

632-10-128 No boiler or electric lighting generator shall be placed nearer than 100 feet to any producing well or oil tank.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Rubbish or Debris**

632-10-130 Any rubbish or debris that might constitute a fire hazard shall be removed to a distance of at least 150 feet from the vicinity of wells, tanks, and pump stations. All waste shall be burned or disposed of in such manner as to avoid creating a fire hazard or polluting streams and fresh-water strata.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Tubing**

632-10-132 All wells shall be equipped with tubing. Production shall be exclusively through tubing, unless otherwise approved by the State Geologist. The bottom of tubing on flowing wells shall not be higher than 100 feet above the top of the producing horizon or as otherwise approved by the State Geologist.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79; GMI 1-1981, f. & ef. 2-26-81

**Chokes**

632-10-134 All flowing wells shall be equipped with chokes or beans adequate to control the flow thereof.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Separators**

632-10-136 All flowing wells must be produced through an approved oil and gas separator.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Fire Walls**

632-10-138 Every permanent oil tank, or battery of tanks, must be surrounded by a dike or fire wall with a capacity of one and one-half times that of the tank or battery of tanks.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Slush Pits Or Sumps**

632-10-140 Materials and fluids or any fluid necessary to the drilling, production, or other operations by the permittee shall be discharged or placed in pits and sumps approved by the State Geologist and the State Department of Environmental Quality. The operator shall provide pits, sumps, or tanks of adequate capacity and design to retain all materials. In no event shall the contents of a pit or sump be allowed to:

(1) Contaminate streams, artificial canals or waterways, groundwaters, lakes, or rivers.

(2) Adversely affect the environment, persons, plants, fish, and wildlife and their population.

(3) When no longer needed, pits and sumps are to be filled and covered and the premises restored to a near natural state so as not to damage the aesthetic values of the property or adjacent properties.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Directional Drilling**

632-10-142 (1) Any well which is drilled or deepened shall be surveyed at reasonably frequent intervals to determine the deviation from the vertical. Deviation from the vertical is permitted without special permission for short distances, to straighten the holes, sidetrack junk, or correct other mechanical difficulties. For the purposes of this rule an affected operator is an owner in a lease directly or diagonally offsetting any lease upon which the operation is proposed to be conducted.

(2) Except for the purposes of straightening the hole, sidetracking junk, or correcting mechanical difficulties as provided in this rule, no well shall be intentionally deviated from the vertical unless the operator thereof shall first file application and obtain a permit from the State Geologist. If drilling is in progress, the operator must notify the State Geologist immediately of the deviation of the hole or his intention to deviate the hole. When an operator follows this procedure, he must file an application as soon as practicable and obtain a permit as prescribed in subsection (a) of this section:

(a) The application shall be made in such form as provided below and shall include or have attached to it:

(A) Surface and proposed producing interval locations in terms of distances from lease and section boundaries.

(B) Reason for deviation.

(C) List of affected operators and a showing that each has been furnished a copy of the application by registered mail, or a showing that the applicant is the only affected operator.

(D) Neat and accurate plat of the lease and of all affected leases showing the names of all affected operators and the surface and proposed producing interval locations of the well. The plat shall be drawn to a scale which will permit easy observation of all pertinent data.

(b) Paragraphs (C) and (D) of subsection (a) shall not be applicable to any well drilled on lands subject to an approved unit unless the proposed subsurface location of such well shall be nearer to any exterior boundary of such unit or to the subsurface location or proposed subsurface location of any producing or drilling well not subject to such unit than the applicable distances required as to oil and gas wells, respectively.

(c) If the applicant is the only affected operator and the State Geologist does not object to the application, the State Geologist may approve it immediately. If there are other affected operators, the State Geologist will hold the application for 30 days unless a letter of non-objection from each affected operator has been filed with the State Geologist. If objection from an operator to the proposed intentional deviation is received within the 30-day period, the application shall be subject to public hearing. If no objection from the affected operators is interposed within the 30-day period, the application shall be approved and permit issued by the State Geologist.

(3) Upon completion a complete directional survey of the well obtained by approved well surveying methods shall be filed with the State Geologist together with other regularly required reports.

(4) If the proposed or final location of the producing interval of the directionally deviated well is not in compliance with the spacing or other rules applicable to the reservoir, proper application shall be made to obtain approval of exceptions to such rules. Such approval shall be granted or denied at the discretion of the State Geologist and shall be accorded the same consideration and treatment as if the well had been drilled vertically to the producing interval.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79; GMI 3-1980, f. 2-29-80, ef. 3-1-80

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**Report of Result of Shooting, Perforating, or Treating of Well**

**632-10-144** Within 60 days after either the shooting or chemical treatment of a well, a report shall be filed with the State Geologist by the owner, giving the condition of the well after shooting and other pertinent data.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Vacuum Pumps Prohibited**

**632-10-146** The use of vacuum pumps or other devices for the purpose of putting a vacuum on any gas or oil-bearing stratum is prohibited, unless, upon application and hearing, and for good cause shown, the Board shall permit the use of vacuum pumps.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Production Practice**

**632-10-148** Naturally flowing wells shall be produced at a continuous uniform rate as far as is practical, in keeping with the current allowable, unless the Board specifically permits stop-cocking to reduce the gas-oil ratio.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Removal Of Casings**

**632-10-150** No person shall remove a casing, or any portion thereof, from any well without first giving advance notice and obtaining approval in writing from the State Geologist or his deputy.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Notification of Fire, Breaks, Leaks, or Blow-Outs**

**632-10-151 (1)** All persons controlling or operating any oil and gas wells, or receiving tanks, storage tanks, or receiving and storage receptacles into which crude oil is produced, received, or stored, shall immediately notify the Board by letter giving full details concerning all fires which occur at such oil or gas wells or tanks or receptacles on their property, and all such persons shall immediately report all tanks or receptacles struck by lightning and any other fire which destroys oil or gas, and shall immediately report any breaks in or from tanks or receptacles and pipe lines from which oil or gas is escaping or has escaped.

(2) In all such reports of fires, breaks, leaks, or escapes, or other accidents of this nature, the location of the well, tank 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 likewise specify what steps have been taken or are in progress to remedy the situation reported and shall detail the quantity of oil or gas lost, destroyed, or permitted to escape.

(3) In case any tank or receptacle is permitted to run over, the escape thus occurring shall be reported as in the case of a leak. The report hereby required as to oil losses shall be necessary only in case such oil loss exceeds five barrels in the aggregate.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Multiple Completion of Wells**

**632-10-152** No well shall be permitted to produce either oil or gas from different strata through the same tubing without approval of the State Geologist. The approval of the State Geologist will require evidence of adequate and complete separation as ascertained by pressure or circulated tests

conducted at the time the packers are set. Subsequently, if packer leakage is suspected the State Geologist may request the operator to provide proof of adequate and complete separation of the pools involved in the completion or make a packer leakage test. Notification shall be given so that the State Geologist or his agent may witness the actual operation of multiple completion of a well or witnessing any packer leakage test.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Determining and Naming Pools**

**632-10-154** Wells shall be classified as to the pool from which they produce and pools shall be determined and named by the director, provided, that in the event any person is dissatisfied with any such classification, an application may be made to the Board for such classification as the applicant deems proper, and the Board will hear and determine the same.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Spacing Units**

**632-10-156** Immediately upon the discovery of any pool or at any time after the effective date of this rule, the Board may prescribe spacing units for each pool and specify the size, shape, and location thereof.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Location and Spacing of Wells**

**632-10-158 (1) Spacing Plan:**

(a) The minimum spacing for oil wells shall be 40 acres, and the minimum spacing for gas wells shall be 160 acres when the producing zone is less than 7000 feet in depth. The minimum spacing for oil wells shall be 160 acres and the minimum spacing for gas wells shall be 640 acres when the producing zone is equal to or greater than 7000 feet in depth.

(b) In portions of the state covered by federal land survey grid, the spacing for oil wells shall consist of a governmental quarter or quarter quarter section and the spacing for gas wells shall consist of a governmental section or quarter section. In portions of the state not covered by federal land survey grid, the spacing units shall be square in shape and of an area prescribed in subsection (a) for oil and gas wells.

(c) Any existing dry holes shall not affect the spacing for producing wells.

(2) **Location of Well:** The completion location of each well permitted to be drilled on any spacing unit shall be the location of the well at the top of the producing horizon. For oil wells the completion location of the well shall not be located nearer than 250 feet from the unit boundary, and 500 feet from the nearest producing well from the same pool. For gas wells the completion location of the well shall not be located nearer than 500 feet from the unit boundary, and 1000 feet from the nearest producing well from the same pool. Exceptions may be recognized by the Board after a hearing when reasonably necessary on the basis of geology, productivity, topography, enhancement requirements, or environmental protection.

(3) **Exceptions:** Whenever a uniform spacing plan has been prescribed for any pool exceptions thereto may be permitted if the Board finds, after notice and hearing, that conditions within such pool are such that reasonably uniform spacing would be impracticable.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54; GMI 3-1980, f. 2-29-80, ef. 3-1-80

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**Underground Reservoirs for Natural Gas Storage**

632-10-159 Rules providing for well spacing and proration of gas shall not apply to gas storage wells, injection wells or monitor wells.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Pooling of Small Tracts**

632-10-160 When two or more separately owned tracts of land are embraced within a spacing unit which has been established by the Board, the owners thereof may pool their interests and develop their lands as a unit. Where, however, such owners have not agreed to pool their interests, the Board, for the prevention of waste or to protect correlative rights, may limit the allowable of each such owner to his reasonable prorata share of production from such spacing unit.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Illegal Production**

632-10-162 No purchaser, producer, operator, or any other person shall produce any crude oil, natural gas, or waste oil from any spacing unit or pool in this state except in accordance with the rules, regulations, and orders of the Board: Provided that tank splitting shall not be required.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Limitation of Production**

632-10-163 In the absence of unitization, whenever the Board, after notice and hearing, finds that waste as defined in the Act, is occurring or is imminent in any oil or gas field or pool and that the production of oil or gas from such field or pool should be limited to prevent waste, then the Board shall issue an order limiting production from such field or pool and specify rules applicable thereto for the allocation or distribution of allowable production therefrom as provided for in ORS 520.005(1) and 520.015.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Commingling of Production Prohibited**

632-10-164 The production from one pool shall not be commingled with that from another pool in the same field before delivery to a purchaser, unless otherwise ordered by the Board.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Allocation of Gas Pursuant to Special Pool Rules**

632-10-165 Whenever the full production from any pool producing natural gas is in excess of the market demand for gas from that pool, any operator or interest owner in accordance with ORS 520.115 may petition the agency for a hearing and an order establishing a method of determining the market demand from the pool and of distributing that demand among the wells producing therefrom.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Reports by Purchasers and Producers**

632-10-166 (1) Purchasers: Each purchaser or taker of any oil or gas from any well, lease, or pool shall on or before the 25th day of each month succeeding the month in which the purchasing or taking occurs, file with the director on a form furnished by the Board, a verified statement of all oil or gas

purchased, or taken from any such well, lease, or pool during the preceding month.

(2) Producers: The producer or operator of each and every well or spacing unit in prorated pools shall each month submit to the director a sworn statement showing the amount of production made by each well and by each such spacing unit upon forms furnished therefor.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Maximum Efficient Rate Hearings**

632-10-167 The Board on its own motion may, or at the request of any interested party shall, call hearings to determine the maximum efficient rate at which any pool in the state can produce oil and gas without waste.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Use of Earthen Reservoirs**

632-10-168 Oil shall not be stored or retained in earthen reservoirs or in open receptacles.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Natural Gas Policy Act Determination Procedures**

632-10-169 (1) All category determinations under that Natural Gas Policy Act of 1978 will be initiated by the operator by filing with the State Geologist single legible copies of the documentation described below. A co-lessee may make application if the operator refuses to take such action upon written request:

(a) For new onshore reservoirs, an application under section 102(c)(1)(C) (Natural Gas Policy Act of 1978) will be accompanied by:

(A) Federal Energy Regulatory Commission Form 121.

(B) Application for permit to drill.

(C) Geological information sufficient to support a determination that the reservoir is a new onshore reservoir including all well logs, results of well potential tests, geologic maps and cross-sections showing the extent of the reservoir as known at the time of application, gas analyses, well completion reports, and directional drilling surveys if performed.

(D) Well summary report (completion report).

(E) Monthly production reports, if there has been production.

(F) A statement by the operator under oath:

(i) That he has made, or has caused to be made pursuant to his instructions, a diligent search of all records (including but not limited to production, state severance tax, and royalty payment records) which are reasonably available and contain information relevant to the determination of eligibility describing the search made, the records reviewed, the location of such records, and a description of any records which he believes may contain information relevant to the determination but which he has determined are not reasonably available to him;

(ii) That on the basis of the results of this search and examination, he has concluded that to the best of his information, knowledge, and belief, the natural gas to be produced and for which he seeks determination is from a new onshore reservoir.

(iii) That he has no knowledge of any other information not described in the application which is inconsistent with his conclusion; and

(iv) The applicant, in his statement under oath, shall also answer, to the best of his information, knowledge and belief, and on the basis of the results of his search and examination, the following questions:

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(I) Was natural gas produced in commercial quantities from the reservoir prior to April 20, 1977?

(II) Was the reservoir penetrated before April 20, 1977, by an old well from which natural gas or crude oil was produced in commercial quantities from any reservoir?

(III) If the question in paragraph (II) is answered in the affirmative, could natural gas have been produced in commercial quantities from the reservoir before April 20, 1977?

(IV) If the natural gas is to be produced through an old well, were suitable facilities for the production and delivery to a pipeline of such natural gas in existence on April 20, 1977?

(b) For new natural gas, an application under section 102(c)(1)(B) (Natural Gas Policy Act of 1978) will be accompanied by:

(A) Federal Energy Regulatory Commission Form 121.

(B) Application for permit to drill.

(C) A plat map showing the location of all oil and gas wells within 2.5 miles of the subject well at a scale of 1:48,000 or larger.

(D) Well summary reports (completion reports) and logs on the subject well and directional drilling surveys, if performed.

(E) A description of any wells shown in paragraph (b)(C) which had production between January 1, 1970, and April 20, 1977.

(F) Monthly production reports, if there has been production.

(G) A statement by the applicant, under oath:

(i) That he has made or has caused to be pursuant to his instructions, a diligent search of all records (including but not limited to production, state severance tax, and royalty payment records) which are reasonably available and contain information relevant to the determination of eligibility; describing the search made, the records reviewed, the location of such records, and a description of any records which he believes may contain information relevant to the determination but which he has determined are not reasonably available to him;

(ii) That on the basis of the results of this search and examination, he has concluded that to the best of his information, knowledge and belief, there is no marker well within 2.5 miles of the well for which he seeks a determination which has a completion location less than 1,000 feet above the completion location of the new well; and

(iii) That he has no knowledge of any other information not described in the application which is inconsistent with his conclusion.

(c) For new onshore production wells an application under section 103 (Natural Gas Policy Act of 1978) will be accompanied by:

(A) Federal Energy Regulatory Commission Form 121.

(B) Application for permit to drill.

(C) A plat map showing the location of the subject well. If the subject well is within a spacing unit, the map shall also show the boundaries of the unit and any existing wells in the unit.

(D) Well summary report (completion report) and logs on the subject well and directional surveys, if performed.

(E) A statement by the applicant, under oath:

(i) That the surface drilling of the well for which he seeks a determination was begun on or after February 19, 1977;

(ii) That the well satisfies any applicable federal or state well spacing requirements;

(iii) That, except as provided in paragraph (F) of this subsection, the well is not within a spacing unit:

(I) Which was in existence at the time the surface drilling of the well began;

(II) What was applicable to the reservoir from which such natural gas is produced; and

(III) Which was applied to any other well which either produced natural gas in commercial quantities or the surface drilling of which was begun before February 19, 1977, and was thereafter capable of producing natural gas in commercial quantities;

(iv) That on the basis of the documents submitted in the application, the applicant has concluded that to the best of his information, knowledge, and belief, the natural gas for which he seeks a determination is produced from a new onshore production well; and

(v) That the applicant has no knowledge of any other information not described in the application which is inconsistent with his conclusion.

(F) If the applicant is seeking a determination with respect to a new well to be drilled into an existing spacing unit, the applicant must file all items required in paragraphs (A) through (E) of this subsection, except for the portion of the oath statement described in paragraph (E)(iii) and demonstrate by appropriate geological evidence that the new well is necessary to effectively and efficiently drain a portion of the reservoir covered by the spacing unit which cannot be effectively and efficiently drained by any existing well within the spacing unit.

(d) For stripper wells an application under section 108 (Natural Gas Policy Act of 1978) will be accompanied by:

(A) Federal Energy Regulatory Commission Form 121.

(B) Application for permit to drill.

(C) A plat map showing the location of the subject well.

(D) Well summary report (completion report).

(E) Monthly production reports.

(F) Copies of all lithologic, electric, gamma, and other logs, drill test results and directional surveys, if performed.

(G) Name and address of operator and parties to purchase contracts.

(H) For cases of increased production resulting from enhanced recovery techniques, a description of the processes and equipment used for such recovery and the dates such processes or equipment were installed and used.

(I) For cases of seasonally affected production, a description of the nature of the fluctuations and the data used to determine the seasonal variation.

(J) A statement by the applicant, under oath, that to the best of his information, knowledge and belief, the information supplied and conclusions drawn are true and that the operator has no knowledge of any information not contained or described in the application which is inconsistent with any of his conclusions.

(2) The applicant shall, at the time of filing for a category determination, notify, by certified mail the purchasers and all working interest owners of such filing, and mail a list of the parties as notified to the Board. If more than one category determination is being requested as to a single well, separate applications for each determination must be filed. The application, upon filing, shall be given a filing number and date.

(3) Applications containing logs which are confidential under the provisions of ORS 520.095(2) shall be kept confidential by the State Geologist.

(4) The Board will review uncontested applications at its regularly scheduled meetings.

(5) Any person desiring to protest the granting of a determination shall send, within 15 days after receiving notification from the applicant, a written protest to the Board and applicant by certified mail. The protest must be supported by documentation in the same manner as the documentation submitted by the applicant. Contested applications will be referred to public hearings. The Board will review the record of the hearing and issue a category determination at its regularly scheduled meeting.

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(6) The Board shall give written notice of its category determination to the Federal Energy Regulatory Commission, the applicant, parties to the purchase contract, working interest owners and any protestant within 15 days after the meeting date.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Reservoir Surveys**

632-10-170 By special order of the Board, periodic surveys may be made of the reservoirs in this state containing oil and gas. These surveys will be thorough and complete and shall be made under the supervision of the petroleum and natural gas engineers of the Board. The condition of the reservoirs containing oil and gas and the practices and methods employed by the operators shall be investigated. The volume and source of crude oil and natural gas; the reservoir pressure of the reservoir as an average; the areas of regional or differential pressure; stabilized gas-oil ratios; and the producing characteristics of the field as a whole and the individual wells within the field shall be specifically included.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Operators to Assist in Reservoir Surveys**

632-10-172 All operators of oil wells are required to permit and assist the agents of the Board and the director in making any and all tests including bottom hole pressure and gas-oil ratio determinations that may be required by the Board or director on any or all of their wells.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Measurement of Potential Open-Flow of Gas Wells**

632-10-174 The potential open-flow of a gas well may be ascertained by U.S. Bureau of Mines back pressure method, or by other approved methods.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Supervision of Open-Flow and Pressure Tests**

632-10-176 All tests made in determining the potential flow and shut-in well-head or bottom hole pressure of a gas well and used in calculating the allowable of the spacing unit which the well is located shall be made under the supervision of representatives of the Board.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Duration of Tests**

632-10-178 The tests for open-flow and pressure of completed gas wells shall be made at such intervals and shall continue for such time as may be necessary to effect accurate determination.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Notice of Tests**

632-10-180 Open-flow and pressure tests of gas wells may be witnessed or observed by a representative of any producer in the field, and the owners of the adjoining or offset leases must be notified by the owner of the well on which the test is to be taken, stating the time when such test will commence.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Gas to be Metered**

632-10-182 (1) Meters: All gas when produced or sold shall be metered with an approved meter of sufficient capacity, provided that gas may be metered from a lease or unitized property as a whole if it is shown that ratable taking can be maintained; provided that meters shall not be required for gas produced and used on the lease for development purposes and lease operations.

(2) Meter Charts and Records: Purchasers shall keep meter charts and records on gas purchased in a permanent file, for a period of at least two years, and such information shall be made available to the Board and director.

(3) By-Passes: By-passes shall not be connected around meters in such manner as to permit the improper taking of gas.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Direct Well Pressure**

632-10-184 The use of direct well pressure to operate any machinery is hereby prohibited.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Gas-Oil Ratio**

632-10-186 No well shall be permitted to produce gas in excess of the maximum ratio determined for a pool unless all gas produced in excess thereof is returned to the pool from which it was produced.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Gas-Oil Ratio Surveys and Reports**

632-10-188 Gas-oil ratios and surveys shall be taken in the manner prescribed by the Board for individual fields where upon gas-oil ratio limits have been fixed and in accordance with the rules prescribed for each individual pool:

(1) Flowing Wells Intermittently (Stop-Cocked) Produced: In computing the operating gas-oil ratio, the total volume of gas and the total barrels of oil that are produced in order to obtain the daily oil allowable must be used regardless of the flowing time in the 24-hour period.

(2) Gas Lift or Jet Wells: The total volume of gas to be used in computing the operating gas-oil ratio is the total out-put volume minus the total input volume.

(3) Pumping Wells: Should gas be withdrawn from the casing in an attempt to maintain a fluid seal, or for any other reason, this volume of gas must be added to the gas produced through tubing in computing the gas-oil ratio.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Gas Utilization**

632-10-190 (1) No gas shall be permitted to escape to the atmosphere except for short periods during testing authorized by the State Geologist or his representative.

(2) Flaring of produced gas shall not be permitted except by special order of the Board.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Disposal of Brine or Salt Water**

632-10-192 In addition to the requirement of the Act to prevent the escape of oil or gas out of one stratum to another and to prevent the pollution of fresh water supplies by oil, gas, or salt water, and in addition to any regulations of the State Department of Environmental Quality and the State Water Resources Department, the following conditions shall control

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the disposal of brine or salt water liquids, and any other means or methods of disposal which may be permitted.

**(1) Disposal in Pits:**

(a) Brine or salt water may be disposed of by evaporation when impounded in excavated earthen pits, which may be used for such purpose only when the pit is lined with impervious material and a Water Pollution Control Facilities permit has been issued by the Department of Environmental Quality.

(b) Impounding of brine or salt water in earthen pits that are porous is hereby prohibited. Earthen pits used for impounding brine or salt water shall be so constructed and maintained as to prevent the escape of fluid.

(c) The State Geologist shall have authority to condemn any pit which does not properly impound such water and order the disposal of such water into an underground formation, or by other authorized method.

(d) The level of brine or salt water in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have a continuous embankment surrounding them sufficiently above the level of the surface to prevent surface water from running into the pit. Such embankment shall not be used to impound brine or salt water.

(e) At no time shall brine or salt water impounded in earthen pits be allowed to escape over adjacent land or into streams.

**(2) Disposal by Injection:** Salt water may also be disposed of by injection into the strata from which produced or into other proved salt water bearing strata.

(3) Ocean discharge of salt water may be permitted if water quality is acceptable and if such discharge is approved by the State Department of Environmental Quality through issuance of an National Pollutant Discharge Elimination System waste discharge permit.

Stat. Auth.: ORS Ch. 520

Hist.: GMI I. f. 1-27-54; GMI I-1979, f. & ef. 1-25-79

**Water Injection and Water Flooding of Oil and Gas Properties**

**632-10-194 (1) Application and Approval:** The owner or operator of any well may inject water under pressure into the formation containing oil or gas for the purpose of obtaining oil or gas from the reservoir, upon application to and approval by the Board.

(2) **Casing and Cement:** Wells used for the injection of water into the producing formation or repressuring wells shall be cased with sound casing so as not to permit leakage and the casing cemented in such manner that damage will not be caused to oil, gas, or fresh water resources.

(3) **Application, Contents, Notice, Objection, Hearing, and Approval:**

(a) No water injection or water flooding program shall be instituted until it has been regularly authorized by the Board.

(b) The application therefor shall be verified and filed with the Board, showing:

(A) The location of the intake well.

(B) The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the name of landowners and lessees within one-half mile of the intake well.

(C) The formations from which wells are producing or have produced.

(D) The name, description, and depth of the formations to be flooded.

(E) The depths of each formation into which water is to be injected.

(F) The elevations of the top of the oil or gas bearing formation in the intake well and the wells producing from the same formation within one-half mile radius of the intake well.

(G) Log of the intake well or similar information as is available.

(H) Description of the intake well casing.

(I) Description of the liquid, stating the kind, where obtained, and the estimated amounts to be injected daily.

(J) The names and addresses of the operators.

(K) Such other information as the Board may require to ascertain whether the flooding may be safely and legally made.

(c) Applications may be made to include the use of more than one intake well on the same lease, or on more than one lease.

(d) Applications shall be executed by all operators who are to participate in the proposed water injection or water flooding plan.

(e) No order approving water injection or water flooding of oil properties shall be issued until after notice has been given by the Board to each operator in such pool, and hearing has been had before the Board.

**(4) Notice of Commencement and Discontinuance of Water Injection or Water Flooding Operations:**

(a) Immediately upon the commencement of water injection or water flooding operations, the applicant shall notify the Board stating the date of commencement.

(b) Within 10 days after the discontinuance of water injection or water flooding operations, the applicant or the one in charge thereof shall notify the Board of the date of such discontinuance and the reasons therefor.

(c) Before any intake well shall be abandoned, notice shall be served on the Board, and the same procedure shall be followed in the plugging of such well as provided for the plugging of oil and gas wells.

**(5) Records:**

(a) The owner or operator of an intake well shall keep an accurate record of:

(A) The amount of water injected into the intake wells;

(B) The total amount of water produced; and

(C) The total amount of oil produced from the area flooded.

(b) Such information shall be made available to the Board or its agents.

Stat. Auth.: ORS Ch. 520

Hist.: GMI I. f. 1-27-54

**Gas Injection of Oil and Gas Properties**

**632-10-196 (1) Application and Approval:** The owner or operator of any well may inject gas under pressure into the formation containing oil or gas for the purpose of increasing production of oil or gas from the reservoir or for storing pipeline natural gas upon application to and approval by the Board.

(2) **Casing and Cement:** Wells used for the injection of gas into the producing formation shall be cased with sound casing so as not to permit leakage and the casing cemented in a manner that damage will not be caused to oil, gas, or fresh water resources. All injection of gas shall be through tubing with a casing packer set at the lower end above the zone of injection and the annular space between tubing and casing shall be monitored to be sure the packer is holding.

(3) **Application, Contents, Notice, Objection, Hearing, and Approval:**

(a) No gas shall be injected into a well for gas injection purposes until approved by the Board pursuant to application and notice as herein required.

(b) The application shall be verified and filed with the Board showing:

(A) The location of the intake well.

(B) The location and depth of all oil and gas wells, including abandoned and drilling wells and dry holes, and the name of landowners and lessees within a two and one-half mile radius of the injection well.

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(C) The formations from which wells are producing or have produced.

(D) The name, description, and depth of the formations to be injected.

(E) The depths of each formation into which gas is to be injected.

(F) The elevations of the top of the oil or gas bearing formation in the injection well and the well producing from the same formation within one-half mile of the intake well.

(G) The log of the injection well, or similar information as is available.

(H) Description of the injection well casing.

(I) Description and chemical analysis of the gas, stating the kind, where obtained, and the estimated amounts to be injected daily.

(J) The names and addresses of the operators.

(K) Such other information as the Board may require to ascertain whether the gas injection plan meets the requirements of law and safety.

(c) Applications may be made to include the use of more than one intake well on the same lease or on more than one lease.

(d) Applications shall be executed by all operators who are to participate in the proposed gas injection plan.

(4) Notice of Commencement and Discontinuance of Gas Injection:

(a) Immediately upon commencement of gas injection operations, the applicant shall notify the State Geologist stating the date of commencement.

(b) Within 10 days after the discontinuance of gas injection operations, the applicant or the one in charge of the operations shall notify the Board of the date of discontinuance and the reasons therefor.

(c) Before any injection well shall be abandoned, notice shall be served on the State Geologist and the same procedure shall be followed in the plugging of such well as provided for the plugging of oil and gas wells.

(d) The above notification requirements shall not apply to a gas storage facility except for the initial injection and filling of the reservoir or for the abandonment of the storage reservoir.

(5) Records: The owner or operator of the gas injection project shall keep an accurate record of:

(a) The amount of gas injected into the injection wells;

(b) The amount of gas produced; and

(c) The amount of oil produced from leases affected by the gas injection;

(d) The well-head injection pressures.

Such information shall be made available to the State Geologist or his agents.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Abandonment, Unlawful Abandonment, Suspension, Well Plugging**

**632-10-198 (1) Oil, Gas, and Water to be Protected:**

(a) Before any well or any producing horizon encountered therein shall be abandoned, the owner or operator shall use such means, methods, and procedure as may be necessary to prevent water from entering any oil or gas-bearing formation, and to protect any underground or surface water that is suitable for domestic or irrigation purposes from waste, downward drainage, harmful infiltration and addition of deleterious substances.

(b) The operator of any hole drilled for oil and gas which penetrates a usable fresh-water horizon, except those drilled for the purposes of seismic prospecting, shall be required to set casing through this formation and cement such casing from top to bottom, unless special exception is granted by the Board.

(2) Suspension: Removal of Equipment: Application: Extension: The Board may authorize a permittee to suspend operations or remove equipment from a well for the period stated in the Board's written authorization, given upon written application of the permittee and his or its affidavit showing good cause. The period of suspension may be extended by the Board, upon written application made before expiration of the previously authorized suspension, accompanied by affidavit of the permittee showing good cause for the granting of such extension.

(3) Abandonment: Notice of Intention: Presumptions:

(a) Before any work is commenced to abandon any well drilled for oil or gas, the permittee shall give written notice to the Board of his intention to abandon such well. The notice shall be upon forms supplied by the Board and shall contain the permit number of the well and such other information as reasonably may be required by the Board.

(b) After operations on or at a well have been suspended with the approval of the Board pursuant to section (2) of this rule, if operations are not resumed within six months from the date specified in such approval of suspension, an intention to abandon and unlawful abandonment shall be presumed unless the permittee has obtained from the Board an extension of time of such suspension, upon his or its written application and affidavit showing good cause for the granting of such extension.

(c) Whenever operations on or at any well shall have been suspended for a period of six months without compliance with these regulations, the well shall be presumed unlawfully abandoned.

(d) A well shall be deemed unlawfully abandoned if, without notice given to the Board as required by these rules, any drilling or producing equipment is removed.

(e) Any unlawful abandonment under these regulations shall be declared by the Board and such declaration of abandonment shall be entered in the Board minutes and written notice thereof mailed by registered mail both to such permittee at his last known post office address as disclosed by the records of the Board and to the permittee's surety; and the Board may thereafter proceed against the permittee and his or its surety.

(f) All wells abandoned or declared abandoned as herein provided shall be plugged as required by law and by these regulations.

(g) The bond furnished by permittee shall not be released until all procedures required by these regulations shall have been completed and the Board in writing shall have authorized such release.

(4) Plugging Methods and Procedure: The methods and procedure for plugging a well shall be as follows:

(a) The bottom of the hole shall be filled to the top of each producing formation, or a bridge shall be placed at the top of each producing formation, and in either event a cement plug not less than 15 feet in length shall be placed immediately above each producing formation whenever possible.

(b) A cement plug not less than 15 feet in length shall be placed approximately 50 feet below all freshwater bearing strata.

(c) A plug shall be placed at the surface of the ground in each hole plugged in such manner as not to interfere with soil cultivation.

(d) The interval between plugs shall be filled with an approved heavy mud-laden fluid.

(e) The operator shall have the option as to the method of placing cement in the hole by:

(A) Dump bailer;

(B) Pumping through tubing;

(C) Pump and plug; or

(D) Other method approved by the Board.

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(5) Affidavit on Completion: Copies: Within 20 days after the plugging of any well has been accomplished, the owner or operator thereof shall file an affidavit with the director setting forth in detail the method used in plugging the well. Such affidavit shall be made on a form supplied by the Board. Copies of well-plugging records and affidavits filed, except those relating to core drilling and seismic or other wells drilled for geological data, will be furnished to anyone requesting them on payment of 50 cents per copy.

(6) Seismic Core and Other Exploratory Holes to be Plugged: Methods: Affidavit: Before abandoning any hole drilled for seismic, core, or other exploratory purposes, which hole penetrates a usable fresh-water horizon, it shall be the duty of the owner or driller of such hole to plug the same in such manner as to protect properly all water-bearing formations; and within 60 days after the plugging, an affidavit shall be filed with the Director by the owner or driller, setting forth the location of the holes and the method used in plugging the same to protect water-bearing formations.

(7) Wells Used for Fresh Water:

(a) When the drilled well to be plugged may safely be used as a fresh-water well and such use is desired by the land owner, the well need not be filled above the required sealing plug set below fresh water; provided, however, authorization for use of any such well shall be obtained from the State Engineer, in conformance with Chapter 708, Oregon Laws 1955.

(b) Application for leaving the well partially unplugged as a fresh-water well may be made to the Board by the land owner, accompanied by his affidavit as to his need of water and the intended use of the well, together with certified copy of the State Engineer's order or permit, or that officer's statement that no permit is required.

(c) The operator shall leave the fresh-water well in a condition approved by the Board.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54; GMI 3, f. 4-3-56

**Confidential Information**

632-10-200 No information herein required to be furnished to the Board shall be disclosed by any employee of the Board except as expressly authorized by the Board.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54

**Drilling Bond**

632-10-205 Every person who engages in the drilling, deepening, or reworking of any well shall file with the State Geologist on a form provided by the State Geologist a surety bond in the sum of \$10,000 for each well drilled, reworked, or deepened, or a \$50,000 blanket bond for the drilling, deepening, or reworking of one or more wells being conducted at any time. The bond shall be filed with the State Geologist at the time of the filing of the notice of intention to drill, deepen, or rework as required in rule 632-10-010. The bond shall be executed by such person, as principal, and by a surety company authorized to do business in the State of Oregon, as surety, conditioned upon the faithful compliance by the principal with the rules, regulations, and orders of the Department of Geology and Mineral Industries.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1-1979, f. & ef. 1-25-79

**Disposal of Solid and Liquid Wastes**

632-10-210 (1) Stipulations approved by the State Department of Environmental Quality regarding disposal of solid and liquid wastes generated by drilling, deepening, or reworking operations shall be made a part of every permit issued under rule 632-10-010.

(2) Once field development is initiated a separate permit is required from the State Department of Environmental Quality for disposal of liquid and solid wastes.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1-1979, f. & ef. 1-25-79

**Underground Storage Of Natural Gas**

632-10-215 Wells drilled for the purpose of storing natural gas in an underground reservoir shall be drilled in such manner as shall protect the underground reservoir against pollution and against escape of natural gas in a manner which complies with the orders and rules of this chapter.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1-1979, f. & ef. 1-25-79

**Measurement of Oil**

632-10-220 The volume of production of oil shall be computed in terms of barrels of clean oil on the basis of properly calibrated meter measurements or tank measurement of oil level differences made and recorded to the nearest quarter inch, using 100 percent tank capacity tables, subject to the following corrections:

(1) Correction for Impurities: The percentage of impurities (water, sand, and other foreign substances not constituting a natural component part of oil) shall be determined to the satisfaction of the State Geologist, and the observed gross volume of oil shall be corrected to exclude the entire volume of such impurities.

(2) Temperature Correction: The observed volume of oil corrected for impurities shall be further corrected to the standard volume at 60° F. in accordance with A.S.T.M. Standards or any revisions thereof approved by the State Geologist.

(3) Gravity Determination: The gravity of oil at 60° F. shall be determined in accordance with A.S.T.M. Standards or any revisions thereof and any supplements thereto or any close approximation thereof approved by the State Geologist.

Stat. Auth.: ORS Ch. 520

Hist.:

GMI 1-1979, f. & ef. 1-25-79

**Special Rules, Mist Gas Field**

**Spacing Plan**

632-10-225 The minimum spacing for gas wells in the Mist Field shall be 160 acres when the top of the producing zone is less than 7,000 feet in vertical depth.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 2-1980, f. 2-29-80, ef. 3-1-80

**Location of Well**

632-10-230 The completion location of each well permitted to be drilled on any spacing unit shall be the location of the well at the top of the producing horizon. For gas wells the completion location of the well shall not be located nearer than 250 feet from the unit boundary and 500 feet from the nearest producing well from the same pool.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 2-1980, f. 2-29-80, ef. 3-1-80

**Exceptions**

632-10-235 (1) The Board may grant exceptions to the above field rules after holding a hearing when necessary on the basis of geology, productivity, topography, enhancement requirements, or environmental protection.

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(2) Exceptions granted by the Board to Reichhold and partners:

(a) Variance for the location of Reichhold's Columbia County No. 1 Redrill at the south line of the producing unit defined by boundaries of the NW1/4 of section 11, T. 6N., R. 5W.

(b) Variance for the location of Reichhold's Columbia County No. 6 Redrill No. 2 located in the extreme southwest portion of the producing unit defined by the NE1/4 of section 10, T. 6N., R. 5W.

(c) Variance for the producing unit defined by the NE1/4 of section 10, T. 6 N., R. 5W., to contain wells Reichhold's Columbia County No. 3 Redrill and Reichhold's Columbia County No. 6 Redrill No. 2.

(d) Variance for the location of Reichhold's Columbia County No. 12 to be closer to the section boundary than 250 feet.

Stat. Auth.: ORS Ch. 520

Hist: GMI 2-1980, f. 2-29-80, cf. 3-1-80

STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 State Office Building  
Portland, Oregon 97201



LAWS AND ADMINISTRATIVE RULES  
RELATING TO GEOTHERMAL EXPLORATION  
AND DEVELOPMENT IN OREGON

MISCELLANEOUS PAPER No. 4

PART 2

REVISED 1981

# Chapter 522

## 1981 REPLACEMENT PART

### Geothermal Resources

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Air and water pollution control permit for geothermal well drillings and operation, 468.350
Assessment of lands subject to geothermal resource exploration leases for ad valorem taxation, 308.370
Exploration, mining and processing of geothermal resources in areas zoned for farm use, 215.213
Geothermal resource rights on state lands, 273.780

# GENERAL PROVISIONS

**522.005 Definitions.** As used in this chapter, unless the context requires otherwise:

(1) "Board" means the governing board of the State Department of Geology and Mineral Industries.

(2) "By-product" means any mineral or minerals, exclusive of helium or of oil, hydrocarbon gas or other hydrocarbon substances, which are found in solution or in association with geothermal resources and which have a value of less than 75 percent of the value of the geothermal resource or are not, because of quantity, quality, or technical difficulties in extraction and production, of sufficient value to warrant extraction and production by themselves.

(3) "Completed geothermal well" means a well producing geothermal resources for which the operator has received the department's written assurance that the manner of drilling of and producing geothermal resources from the well are satisfactory.

(4) "Cooperative agreement" means an agreement or plan of development and operation for the production or utilization of geothermal resources in which separate ownership units independently operate without allocation of production.

(5) "Correlative rights" means the right of each owner in a geothermal area to obtain that owner's just and equitable share of the underlying geothermal resource, or an economic equivalent of that share of the resource, produced in a manner and in an amount that does not injure the reservoir to the detriment of others.

(6) "Department" means the State Department of Geology and Mineral Industries.

(7) "Drilling" includes drilling, redrilling and deepening of a geothermal well.

(8) "Enhanced recovery" means the increased recovery from a reservoir achieved by artificial means or by the application of energy extrinsic to the reservoir. The artificial means include, but are not limited to, reinjection of hot brine, fluid or water into a reservoir.

(9) "Geothermal area" means any parcel of land that is, or reasonably appears to be, underlain by geothermal resources.

(10) "Geothermal reinjection well" means any well or converted well constructed to dispose of geothermal fluids derived from

geothermal resources into an underground reservoir.

(11) "Geothermal resources" means the natural heat of the earth, the energy, in whatever form, below the surface of the earth present in, resulting from, or created by, or which may be extracted from, the natural heat, and all minerals in solution or other products obtained from naturally heated fluids, brines, associated gases, and steam, in whatever form, found below the surface of the earth, exclusive of helium or of oil, hydrocarbon gas or other hydrocarbon substances, but including, specifically:

(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, gas, or other fluids artificially introduced into geothermal formations;

(c) Heat or other associated energy found in geothermal formations; and

(d) Any by-product derived from them.

(12) "Geothermal well" includes any excavation made for producing geothermal resources and any geothermal reinjection well as defined in subsection (10) of this section.

(13) "Land" means both surface and mineral rights.

(14) "Operator" means the person:

(a) Who possesses the legal right to drill a geothermal well;

(b) Who has obtained a drilling permit pursuant to ORS 522.135; or

(c) Who possesses the legal right to operate a completed geothermal well as defined in subsection (3) of this section or who has been granted the authority to operate the well by that person.

(15) "Prospect well" includes any well drilled as a geophysical test well, seismic shot hole, mineral exploration drilling, core drilling or temperature gradient test well, less than 2,000 feet in depth, and drilled in prospecting for geothermal resources. "Prospect well" does not include a geothermal well as defined in subsection (12) of this section.

(16) "Reservoir" means an aquifer or combination of aquifers or zones containing a common geothermal or groundwater resource. "Reservoir" includes, but is not limited to, a hot dry rock conductive system.

(17) "Royalty interest" means a right or interest in geothermal resources produced from land or in the proceeds of the first sale of those resources.

(18) "Unit agreement" means an agreement or plan of development and operation developed under the provisions of ORS 273.775, 308.370, 522.015, 522.405 to 522.545, 522.815, 522.990 and this section for the production or use of geothermal resources in separately owned interests as a single consolidated unit and which provides for the allocation of costs and benefits.

(19) "Unit area" means the area described in a unit agreement which constitutes the land subject to development under the agreement.

(20) "Unit operator" means the person designated in the unit agreement to manage and conduct the operation involving unitized land.

(21) "Unit production" means all geothermal resources produced from a unit area from the effective date of a unit agreement approved by the board under ORS 522.405.

(22) "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 resource 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 of geothermal resources and the location, spacing, drilling, equipping, operation or production of a geothermal resource well in such a manner that causes or tends to cause the unnecessary or excessive surface loss or destruction of geothermal resources released from a reservoir.

(23) "Working interest" means an interest in geothermal resources or in land containing them which is held under a lease, operating agreement, fee title or otherwise and under which, except as otherwise provided in a unit or cooperative agreement, the owner of the interest has the right to explore for, develop, produce or utilize the resources. "Working interest" does not include a right delegated to a unit operator as such by a unit agreement. [1975 c.552 §3; 1979 c.163 §1; 1981 c.588 §3; 1981 c.694 §4]

522.010 [1971 c.776 §2; 1973 c.388 §1; repealed by 1975 c.552 §55]

**522.015 Policy.** (1) The Legislative Assembly hereby finds and declares that:

(a) The people of the State of Oregon have a direct and primary interest in the development of geothermal resources situated in this state.

(b) The State of Oregon, through the State Department of Geology and Mineral Industries, shall control the drilling, redrilling and deepening of wells for the discovery and production of geothermal resources so that such wells will be constructed, operated, maintained and abandoned in the manner necessary to safeguard the life, health, property and welfare of the people of this state, to safeguard the air, water and other natural resources of this state, and to encourage the maximum economic recovery of geothermal resources therefrom.

(2) It is the policy of the Legislative Assembly that this chapter be administered:

(a) To prevent damage to and waste of geothermal resources;

(b) To prevent interference with or damage to waters used or to be used for beneficial purposes that may result from improper drilling, operation, maintenance or abandonment of geothermal or prospect wells;

(c) To supervise the drilling, operation, maintenance and abandonment of geothermal or prospect wells in a manner permitting the operator to utilize all methods known to the industry for the purpose of increasing the ultimate economic recovery of geothermal resources, that are suitable, and consistent with protection of the air, water and other natural resources of the state; and

(d) To provide for the development, management and production of geothermal resources in a manner that minimizes state involvement, enhances resource recovery, prevents waste, maximizes economic development and protects correlative rights of the resource owners. [Formerly 522.050; 1981 c.588 §4]

**522.019 Injection of geothermal fluids; department rules; water pollution control facilities permit.** (1) (a) In order to accomplish the policy of ORS 522.015 all geothermal fluids derived from geothermal resources shall be reinjected into the same reservoir from which withdrawn unless it is determined by the department that these policies and the public interest require other disposal of the fluids.

(b) Subject to the determination in paragraph (a) of this subsection, injection into other reservoirs or disposal by other means may be allowed by the department in specific instances where it is shown that such action is consistent with the policies cited in this section. Disposal by other means may include any secondary use of geothermal fluid after the primary use of such fluid for electrical power generation or for other direct application of the heat or other associated energy contained in such fluids or for by-product extraction. Secondary uses may include, but shall not be limited to, use of condensate resulting from electrical power plant operations for plant-cooling purposes, or use of such geothermal fluid for agricultural, commercial or industrial purposes.

(2) The State Department of Geology and Mineral Industries shall adopt rules which govern the disposal by reinjection or other means of geothermal fluids derived from geothermal resources from wells of 250 or more degrees Fahrenheit bottom hole temperature or wells 2,000 or more feet deep. The rules shall include standards whereby contamination may be determined, construction standards for reinjection wells, testing procedures for identifying aquifers, standards and procedures for determining whether adjacent aquifers are being degraded by the reinjection process, guidelines for conservation of the resource, criteria for evaluating reservoirs or zones for geothermal fluid disposal and requirements for prior approval of all geothermal fluid reinjection proposals.

(3) A water pollution control facilities permit shall be obtained from the Department of Environmental Quality under ORS 468.740 before reinjection is commenced. The Department of Environmental Quality may, by agreement with the State Department of Geology and Mineral Industries, waive this requirement for reinjection into the reservoir from which the fluid came where adequate standards and tests have been adopted to insure the fluid and its residues are uncontaminated. [1979 c.163 §4; 1979 c.547 §1]

**522.020** [1971 c.776 §32; repealed by 1975 c.552 §55]

**522.025 Application.** (1) The provisions of this chapter relating to the location and drilling of any well for the production of geothermal resources do not apply to any wells producing geothermal resources on July 1, 1975, or wells, other than prospect wells,

drilled to a depth no greater than 2,000 feet where:

(a) The geothermal fluids produced are of less than 250 degrees Fahrenheit bottom hole temperature; or

(b) Such fluids have been appropriated pursuant to ORS 537.505 to 537.795.

(2) The provisions of this chapter relating to regulation of production of geothermal resources from a geothermal reservoir apply only to wells with a bottom hole temperature of at least 250 degrees Fahrenheit.

(3) If the bottom hole temperature of a well that was initially at least 250 degrees Fahrenheit falls below 250 degrees Fahrenheit, the State Geologist and the Water Resources Director, after consulting with the well owner, shall determine the agency with regulatory responsibility for that specific well. This determination shall be documented in writing and shall supersede a determination made under subsection (1) or (2) of this section. [1975 c.552 §4; 1981 c.589 §1]

**522.035 Ownership rights.** Ownership rights to geothermal resources shall be in the owner of the surface property underlain by the geothermal resources unless such rights have been otherwise reserved or conveyed. However, nothing in this section shall divest the people or the state of any rights, title or interest they may have in geothermal resources. [1975 c.552 §21]

**522.045 Abandoned well; jurisdiction.** Any well drilled under authority of this chapter from which usable geothermal resources cannot be derived, or the owner or operator has no intention of deriving usable geothermal resources, shall be plugged and abandoned as provided in this chapter or, upon the operator's written application to the department and with the concurrence and approval of the Water Resources Director, jurisdiction over the well may be transferred to the Water Resources Director and, in such case, the well shall no longer be subject to the provisions of this chapter but shall be subject to any applicable laws and rules relating to wells drilled for appropriation and use of ground waters. If an application is made to transfer jurisdiction, a copy of all logs, records, histories and descriptions shall be provided to the Water Resources Director by the applicant. [1975 c.552 §4e]

**522.050** [1971 c.776 §1; 1975 c.552 §1; renumbered 522.015]

**PROSPECT WELLS**

**522.055 Permit; application; fee.** (1) No person shall engage in drilling a prospect well without first obtaining a permit issued under the authority of the State Geologist and without complying with the conditions of such permit.

(2) An application to drill prospect wells shall contain such information as the department may require, and shall be accompanied by a fee set by the department but not to exceed \$200 to cover all prospect wells included within the application. [1975 c.552 §4a]

**522.060** [1971 c.776 §34; repealed by 1975 c.552 §55]

**522.065 Circulation of application to state agencies; suggested conditions to permit; time limit for permit action.** (1) Upon receipt of an application to drill prospect wells, the State Geologist shall circulate copies of the application to the Water Resources Director, the Director of the Department of Environmental Quality, the Director of the Department of Land Conservation and Development, and the Director of the Division of State Lands.

(2) Any public agency desiring to suggest conditions under which a permit should be granted shall provide such information to the department within 15 days of receipt of the copy of the application.

(3) Except as provided in ORS 522.075, within 30 days of receipt of an application to drill prospect wells, the State Geologist shall grant a permit to drill, subject to such conditions as he may impose. Included among the conditions shall be provision for the proper and safe abandonment of each prospect well. [1975 c.552 §4b]

**522.070** [1971 c.776 §7; repealed by 1975 c.552 §55]

**522.075 Bond or security; execution; cancellation; waiver.** (1) No permit for prospect wells shall be granted until the applicant has filed with the department a bond or security deposit in the sum of not less than \$5,000 for each hole to be drilled or a blanket bond in the amount of \$25,000 for all prospect wells which are included within the application and to be drilled by the applicant.

(2) The bond or deposit shall be conditioned upon compliance with the requirements of this chapter, rules adopted and orders issued pursuant thereto, which shall secure the state against all losses, charges and expenses incurred by it in obtaining such compliance.

(3) The bond provided for in subsection (1) of this section shall be executed by the applicant, as principal, and shall meet such conditions as the board by rule may establish.

(4) With the consent of the board, any bond submitted as required by this section may be terminated and canceled and the surety be relieved of all obligations thereunder. However, the board shall not consent to the termination and cancellation of any bond until the prospect wells described by such bond have been properly and safely abandoned pursuant to the abandonment plan required by the permit or another valid bond for the prospect wells has been submitted and approved by the board.

(5) For those applications concerning prospect wells on federal lands, the board may waive the requirements of subsections (1) to (4) of this section upon receipt of suitable proof of compliance by the applicant with federal bond requirements which would, in the opinion of the board, be unnecessarily duplicated by the requirements of this section. [1975 c.552 §4c; 1977 c.87 §1; 1979 c.163 §2]

**522.085 Report certifying completion of abandonment plan.** Upon completion of all drilling and testing undertaken pursuant to an application to drill prospect wells, the applicant shall file with the State Geologist a report certifying the completion of the abandonment plan required by the permit. [1975 c.552 §4d]

**522.110** [1971 c.776 §11; 1973 c.388 §2; repealed by 1975 c.552 §55]

**GEO THERMAL WELLS**

**522.115 Permit; application; fee.** (1) No person shall engage in the drilling or operating of any geothermal well without first obtaining a permit issued under the authority of the State Geologist, and without complying with the conditions of such permit.

(2) An application for a permit shall contain:

(a) The location and elevation of the floor of the proposed derrick.

(b) The number or other designation approved by the department by which the well shall be known.

(c) The applicant's estimate of the depths to be drilled.

(d) The nature and character of the geothermal resource sought.

(e) Such other information as the board by rule may require.

(3) An application shall be accompanied by a nonrefundable fee of \$100.

(4) All fees collected by the department under this section shall be deposited with the State Treasurer and are continuously appropriated to the department for the administration of chapter 552, Oregon Laws 1975. [1975 c.552 §5; 1977 c.87 §2]

**Note:** The Legislative Counsel has not, pursuant to 173.160, undertaken to substitute specific ORS references for the words "this Act" in 522.115 or 522.135. Chapter 552, Oregon Laws 1975, enacted into law and amended the ORS sections which may be found by referring to the 1975 Comparative Section Table located in volume 6A of Oregon Revised Statutes.

**522.120** [1971 c.776 §12, 13; 1973 c.388 §3; repealed by 1975 c.552 §5]

**522.125 Circulation of application to state agencies; suggested conditions to permit.** (1) Upon receipt of an application for a permit to drill or operate a geothermal well, the department shall circulate copies of the application to the Water Resources Director, the State Fish and Wildlife Director, the Director of the Department of Environmental Quality, the Administrator of the Parks and Recreation Division, the Director of the Department of Land Conservation and Development, the Director of the Department of Energy, the Director of the Division of State Lands and the governing body of the county and the geothermal heating district in which the well will be located.

(2) Any public agency desiring to suggest conditions under which a permit should be granted shall provide such information to the department within 30 days of receipt of the copy of the application. [1975 c.552 §6; 1981 c.694 §5]

**522.130** [1971 c.776 §14; repealed by 1975 c.552 §5]

**522.135 Permit; time limit for action; grounds for issuance; conditions; construction of permit.** (1) Within 45 days after receipt of the application, the State Geologist shall by order issue, deny, suspend, modify, revoke or not renew a permit pursuant to this chapter and ORS 183.310 to 183.550 except that appeal of any order issued pursuant to this section shall be made to the governing board of the State Department of Geology and Mineral Industries before any appeal under ORS 183.480 is allowed.

(2) The State Geologist may issue the permit if, after receipt of comments from the agencies referred to in ORS 522.125, the State Geologist determines that issuance thereof would be consistent with the purposes set forth in ORS 468.280, 468.710 and 537.525, rules adopted pursuant to ORS 468.725, and the purposes of this chapter.

(3) If the State Geologist issues a permit pursuant to this section, the State Geologist shall impose such conditions as the State Geologist considers necessary to carry out the purposes set forth in ORS 468.280, 468.710 and 537.525, rules adopted pursuant to ORS 468.725, and the purposes of this chapter. The State Geologist shall include in the permit a statement that issuance thereof does not relieve any person from any obligation to obtain a permit under ORS 468.725 or 468.730.

(4) The State Geologist shall incorporate into the permit requirements:

(a) Any conditions made by the Water Resources Director necessary to comply with the purposes set forth in ORS 537.525; and

(b) Any conditions made by the Department of Environmental Quality necessary to comply with the purposes set forth in ORS 468.280 and 468.710.

(5) A drilling, redrilling or deepening operation must begin within 180 days after the date of permit issuance or the permit shall expire. However, the State Geologist may extend the permit for a reasonable period not to exceed 180 days beyond the initial 180-day period.

(6) Nothing in chapter 552, Oregon Laws 1975, shall be construed to excuse an operator of a geothermal well from complying with the provisions of the Federal Water Pollution Control Act amendments of 1972 (Public Law 92-500) or ORS 468.730 or to dilute the authority of the Department of Environmental Quality to issue National Pollution Discharge Elimination Systems Permits. [1975 c.552 §7; 1981 c.694 §6]

**Note:** See note under 522.115.

**522.140** [1971 c.776 §6; 1973 c.388 §4; repealed by 1975 c.552 §5]

**522.145 Bond or security; execution; cancellation; waiver.** (1) Except as waived by rule of the board, no permit shall be granted until:

(a) The applicant has filed with the department a bond or security deposit in the sum of \$10,000 for each well to be drilled; or

(b) The applicant to drill more than one geothermal well has filed with the department a bond or security deposit in the sum of \$50,000 for all wells to be drilled.

(2) The bond or deposit shall be conditioned upon compliance with the requirements of this chapter, rules adopted and orders issued pursuant thereto, which shall secure the state against all losses, charges and expenses incurred by it in obtaining such compliance.

(3) The bonds provided for in subsection (1) of this section shall be executed by the applicant, as principal, and shall meet such conditions as the board by rule may establish.

(4) With the consent of the board, any bond submitted as required by this section may be terminated and canceled and the surety be relieved of all obligations thereunder. However, the board shall not consent to the termination and cancellation of any bond until the geothermal well described by such bond has been:

(a) Lawfully abandoned as a dry hole; or

(b) Properly completed, has ceased production and been lawfully abandoned.

(5) For those applications concerning geothermal wells on federal lands, the board may waive the requirements of subsections (1) to (4) of this section upon receipt of suitable proof of compliance by the applicant with federal bond requirements which would, in the opinion of the board, be unnecessarily duplicated by the requirements of this section. [1975 c.552 §8; 1977 c.87 §3; 1981 c.694 §7]

522.150 [1971 c.776 §8; repealed by 1975 c.552 §55]

**522.155 Liability for failure to protect ground water; standards for protection of ground and surface water.** (1) In addition to any other liability of the operator of a geothermal well, the operator shall be liable to any person or public agency that sustains damages from failure of the operator to comply with a condition in a permit requiring him to provide for the protection of ground water in the area affected by the well.

(2) The board shall adopt by rule standards for blowout prevention, equipment and casing design and removal, and any other procedures necessary to shut out detrimental substances from strata containing ground or surface water usable for beneficial purposes. [1975 c.552 §9]

522.160 [1971 c.776 §18; repealed by 1975 c.552 §55]

**522.165 Location, number or designation change; alteration of casing.** (1) The location, number or designation specified for any geothermal well in a permit issued pursuant to ORS 522.135 shall not be changed without first obtaining written consent from the department.

(2) No operator shall alter in any manner the casing of a geothermal well without notifying the department and obtaining its approval. [1975 c.552 §10]

522.170 [1971 c.776 §5; repealed by 1975 c.552 §55]

**522.175 Abandonment; proceedings against operator for unlawful abandonment.** (1) No person shall abandon a geothermal well without first obtaining approval of the department.

(2) A geothermal well shall be considered lawfully abandoned when the operator has conformed to ORS 522.245 and to rules adopted by the board designed to:

(a) Protect underground and surface water usable for beneficial purposes from pollution resulting from infiltration or addition of any deleterious substance;

(b) Prevent the escape of all fluids to the surface;

(c) Close the surface aperture of the well; and

(d) Remove all surface equipment except that necessary to maintain permanent closure of the well.

(3) When the operator has violated subsection (1) or (2) of this section or ORS 522.225, or when the department has issued a written disapproval of abandonment, the board may proceed against the operator and surety of the operator as provided for in ORS 522.145 and may bring suit pursuant to ORS 522.810. [1975 c.552 §11; 1981 c.694 §8]

522.180 [1971 c.776 §19; repealed by 1975 c.552 §55]

522.185 [1975 c.552 §13; repealed by 1981 c.694 §12]

522.190 [1971 c.776 §20; repealed by 1975 c.552 §55]

**522.195 Monthly production statement.** Except as excluded by rule adopted by the board, the operator of any completed geothermal well shall file with the department a monthly statement of the geothermal resources production from such well during the preceding calendar month. [1975 c.552 §14]

522.200 [1971 c.776 §28; repealed by 1975 c.552 §55]

**522.205 Transfer or purchase of well; notice; application; fee; notice by land-owner of transfer or purchase.** (1) Except as excluded from the provisions of this section by rule of the board, any prospective operator of a geothermal well shall notify the department in such form as the department may direct of the purchase, assignment, transfer, conveyance or exchange of such well within 15 days of the purchase and shall accompany such notice with an application for transfer of the permit for the particular well. The fee for transfer of a permit is \$25.

(2) Any buyer of land on which a geothermal well is located shall notify the department of the purchase, assignment, transfer, conveyance or exchange of the land upon which such well is situated within 15 days of such purchase. [1975 c.552 §15]

522.210 [1971 c.776 §31; repealed by 1975 c.552 §55]

**522.215 Suspension of drilling or operation; application; terms; extension; presumption of abandonment; unlawful abandonment; notice; proceedings against operator.** (1) No operator shall suspend drilling or operation of a geothermal well without obtaining permission from the department.

(2) The department may authorize an operator to suspend for a specific period operations or remove equipment from an uncompleted geothermal well upon such terms as the department may specify, upon written application of the operator and an affidavit showing good cause therefor.

(3) Within a period of six months from the ending date specified for such suspension, the operator may make written application for an extension of suspension, and file it with an affidavit showing good cause for such an extension. Upon a finding that the extension is merited, the board may extend the suspension for an additional specific period.

(4) If, after suspension, operations are not resumed by the operator within six months from the ending date specified for the suspension or extension thereof, an intention to abandon and unlawful abandonment shall be presumed.

(5) Whenever an operator whose operations have been suspended fails to comply with such terms as the department may specify in its authorization, the geothermal well shall be presumed unlawfully abandoned. A well shall also be deemed unlawfully abandoned, if, without notice to the department,

any drilling or producing equipment is removed.

(6) An unlawful abandonment shall be declared by order of the board, and written notice thereof shall be mailed by registered mail both to such operator at the last-known post-office address of the operator, to the registered agent of the operator, if any, and to the operator's sureties.

(7) After declaration of unlawful abandonment, the board may proceed against the operator and the surety of the operator as provided for in ORS 522.145 and may bring suit pursuant to ORS 522.810. [1975 c.552 §16; 1981 c.694 §9]

522.220 [1971 c.776 §21; repealed by 1975 c.552 §55]

**522.225 Notice of intent to abandon.** (1) Before commencing any operation to abandon a geothermal well, the operator shall give notice to the department of his intention to abandon the well and the date upon which the work of abandonment will begin.

(2) Such notice shall be given at least 24 hours before the commencement of abandonment operations and shall indicate:

(a) The condition of the well;

(b) The proposed method of the abandonment operation; and

(c) Any additional information that may be required by the department. [1975 c.552 §17]

522.230 [1971 c.776 §23; repealed by 1975 c.552 §55]

**522.235 Conditions precedent to abandonment.** Before the proposed date upon which the work of abandonment will begin, the department shall furnish the operator with:

(1) Approval to commence the abandonment operation;

(2) Conditional approval to commence the abandonment operation, stating what specific work or tests will be necessary before approval of the abandonment operation will be given; or

(3) A report stating what specific information is required to be furnished by the operator to the department before the department may take action upon the proposed abandonment operation. [1975 c.552 §18]

522.240 [1971 c.776 §9; repealed by 1975 c.552 §55]

**522.245 Department approval of abandonment; report by operator; effect of failure to comply; proceedings against operator.** (1) A representative of the depart-

ment may be present during any abandonment operation. If the representative determines that the abandonment is satisfactory, the representative shall approve the abandonment of the well.

(2) Within 30 days after the completion of abandonment of any geothermal well, the operator of the well shall make a written report of all work done with respect to the abandonment. Within 10 days after the receipt of such report, the department shall furnish the operator with a written final approval of abandonment, or a written disapproval of abandonment setting forth the conditions upon which the disapproval is based.

(3) Failure to abandon in accordance with the approved method of abandonment, failure to submit to the department any notice or report required by this chapter, or failure to furnish the department with any required information shall constitute sufficient grounds for disapproval of the abandonment of such well.

(4) When the department has issued a written disapproval of abandonment, the board may proceed against the operator and the surety of the operator as provided for in ORS 522.145 or may bring suit pursuant to ORS 522.810. [1975 c.552 §19; 1981 c.694 §10]

522.260 [1971 c.776 §10; repealed by 1975 c.552 §55]

**522.255 Resolution of conflicts between geothermal and water uses.** If interference between an existing geothermal well permitted under this chapter and an existing water appropriation permitted under ORS chapter 537 is found by either the State Geologist or the Water Resources Director, the State Geologist and the Water Resources Director shall work cooperatively to resolve the conflict and develop a cooperative management program for the area. In determining what action should be taken, they shall consider the following goals:

(1) Achieving the most beneficial use of the water and heat resources;

(2) Allowing all existing users of the resources to continue to use those resources to the greatest extent possible; and

(3) Insuring that the public interest in efficient use of water and heat resources is protected. [1981 c.589 §8]

522.260 [1971 c.776 §30; repealed by 1975 c.552 §55]

## ADMINISTRATION

**522.275 Administration by State Geologist.** Subject to policy direction by the board, the State Geologist shall administer this chapter, the rules and orders made pursuant thereto, and supervise the department in carrying out the provisions of this chapter. [1975 c.552 §23]

**522.305 Rules.** In accordance with applicable provisions of ORS 183.310 to 183.550, the board may make reasonable rules necessary for the administration of this chapter. [1975 c.552 §22]

522.310 [1971 c.776 §24; repealed by 1975 c.552 §55]

**522.315 Final order of department; delivery to operator.** Whenever the department gives any written direction concerning any geothermal well and the operator requests in writing that a final order for purposes of ORS 183.310 to 183.550 be made, the department shall, within 15 days after receipt of the notice, deliver such final written order to the operator. [1975 c.552 §24]

522.320 [1971 c.776 §§25, 26; repealed by 1975 c.552 §55]

**522.325 Compliance with final order; appeal.** (1) The operator of any geothermal well shall within 15 days from the date of the service of any order, either comply with the order or file with the department a written statement that the order is not acceptable, and the reasons therefor, and the statement shall constitute an appeal from such order to the board.

(2) Any final written order of the board may be appealed in the manner provided in ORS 183.310 to 183.550 for appeals from final orders in contested cases. [1975 c.552 §25]

522.330 [1971 c.776 §27; repealed by 1975 c.552 §55]

## WELL RECORDS

**522.355 Records of well; contents; drill cutting and core samples.** (1) The operator of any geothermal well shall keep, or cause to be kept, a careful and accurate log, core record and history of the drilling of the well.

(2) The log referred to in subsection (1) of this section shall show the character and depth of each formation encountered in the drilling of the well; the amount, size and weight of casing used; and the location, depth

and temperature of water-bearing strata, including the temperature, chemical composition and other chemical and physical characteristics of fluid encountered from time to time, so far as determined.

(3) The core record referred to in subsection (1) of this section shall show the depth, character and fluid content of cores obtained, so far as determined from the study and analysis thereof.

(4) The history referred to in subsection (1) of this section shall show the location and amount of sidetracked casings, tools or other material; the depth and quantity of cement in cement plugs; the shots of dynamite or other explosives used; the results of production and other tests during drilling operations; and completion data.

(5) The log referred to in subsections (1) and (2) of this section shall be kept in the local office of the operator and, together with the tour reports of the operator, shall be subject, during business hours, to inspection by the board, or department.

(6) The operator of any geothermal well shall, in addition to furnishing the log, records, and tests required by this section, collect representative drill cuttings. The operator shall additionally, in the event cores are taken, collect representative core samples. The drill cuttings and core samples shall be filed with the department promptly upon completion or upon its written request, and upon the abandonment or upon suspension of operations for a period of at least six months.

[1975 c.552 §26; 1977 c.87 §4]

**522.365 Filing record with department; exemption from disclosure.** (1) Each operator of any geothermal well or his designated agent shall file with the department a copy of the log, history and core record, or any portion thereof, promptly upon completion, or upon the written request of the department at any time after the commencement of the work of drilling any geothermal well, and upon the abandonment or upon suspension of operations for a period of at least six months.

(2) For a period of four years after the receipt of any log, history, core record, or any portion thereof, such record shall be exempt from disclosure as a trade secret pursuant to ORS 192.500 (1) unless the operator gives approval to release the data. [1975 c.552 §27]

#### UNITIZATION OF GEOTHERMAL RESOURCE AREA

**522.405 Unitization; development of unit agreement.** (1) When two or more separately owned tracts of land are within an area under which a reservoir is located or reasonably believed to be located, or when there are separately owned interests in all or part of such an area, the board, upon its own motion may or upon the application of an interested person or state or local governmental governing body, special district or agency, shall review the need for unitization of the area. The board by rule or order may require the development of a unit agreement for the geothermal resource area if it finds:

(a) Unitized management, operation and development of the geothermal resources in a reservoir is necessary to increase the ultimate recovery of the resources;

(b) The application of unitized methods of operation will prevent waste and aid efficient production and utilization of the resource; or

(c) Unitization and the unitized method of operation are in the public interest and reasonably necessary to protect the correlative rights of owners.

(2) When the board requires the development of a unit agreement under this section, it shall encourage the development of a voluntary agreement between the affected parties. In the absence of a voluntary agreement, the board shall itself develop or cause to be developed a unit agreement that satisfies the provisions of ORS 273.775, 308.370, 522.005, 522.015, 522.405 to 522.545, 522.815 and 522.990. In adopting a rule or entering an order for a unit agreement, the board shall consider any plant dedicated area agreement in effect and shall not contravene or interfere with that agreement unless it finds that a term or condition of that agreement violates the policies stated in ORS 522.015. The board shall require the development of the resource in accordance with a proposed unit agreement if it finds that the agreement conforms with the provisions of ORS 273.775, 308.370, 522.005, 522.015, 522.405 to 522.545, 522.815 and 522.990.

(3) The development of a unit agreement under subsections (1) and (2) of this section shall be conducted as a rulemaking proceeding in accordance with ORS 183.310 to 183.550 unless an interested party requests that it be conducted as a contested case in accordance

with ORS 183.310 to 183.550. In either event, notice shall be given in accordance with the applicable provisions of ORS 183.310 to 183.550.

(4) As used in this section, "plant dedicated area agreement" means a contractual relationship in geothermal energy development between a geothermal resource owner and a customer which makes a specific surface area and related resource base available exclusively to that customer. [1981 c.588 §8]

**522.410** [1971 c.776 §3; repealed by 1975 c.552 §55]

**522.415 Unit operation plan.** A voluntary or board-sponsored unit agreement developed in response to a rule adopted or an order issued under ORS 522.405 shall provide a unit operation plan that includes:

(1) A description of the geothermal reservoir and the overlying land to be operated as a unit.

(2) A statement of the nature of the operations contemplated.

(3) A provision for credits and charges to be made in the adjustment among the owners in a unit area for their respective investments in geothermal wells, prospect wells, machinery, materials and equipment used in the unit operation.

(4) The division of interest or a formula for apportionment of unit production among the separately owned tracts within the unit area which reasonably permits a person or state or local governing body, special district or agency otherwise entitled to share in or benefit by production from a tract to receive an equitable and reasonable share of the unit production or other benefit. An equitable and reasonable share of unit production is measured by the proportion the value of the separately owned tract for geothermal resources recovery bears to the value of the unit for that purpose, taking acreage into account.

(5) Provisions which state how the costs will be paid, how unit production is to be measured and when, how and by whom unit production is to be allocated. The provision shall provide that unit production due to an owner who does not pay that owner's share of the cost of unit operation or that owner's interest may be sold and the proceeds applied to the cost.

(6) A provision, if necessary, for making financing available to any person or state or local governing body, special district or agency that wishes to obtain financing. The provision

shall allow a reasonable interest charge for the service payable out of that respective share of production.

(7) A provision for the supervision and conduct of the unit operation. Each person or state or local governing body, special district or agency shall have a vote on the provision with a weight corresponding to the percentage of the cost of unit operation chargeable against that respective interest.

(8) The time when the unit operation shall begin and the manner and circumstances under which the unit operation shall terminate.

(9) Provisions, if necessary, for the protection of preexisting water users within the unit area and for administration of future water development from the reservoir covered by the unit agreement. [1981 c.588 §9]

**522.420** [1971 c.776 §35; repealed by 1975 c.552 §55]

**522.425 Provisions in rule or order requiring unit operation.** Any board rule or order providing for the unit operation of a geothermal resource area may include provisions for:

(1) Division of a reservoir into zones;

(2) Establishment of spacing units, including a description of their location, size and shape;

(3) The integration of separately owned tracts or interests within a spacing unit, the development and operation of the spacing unit and the sharing of production;

(4) The protection of existing and future beneficial uses of water;

(5) Maintenance of the renewability of geothermal resources and any other natural resources; and

(6) Any additional provisions the board considers necessary for carrying out the provisions of this chapter or for protection of the public health, safety and welfare. [1981 c.588 §10]

**522.430** [1971 c.776 §36; repealed by 1973 c.388 §8]

**522.435 Rule, order to supersede previous board action.** Any rule adopted or order entered under ORS 522.405 shall supersede any right or privilege previously granted by the board to the same person or state or local governing body, special district or agency with respect to the reservoir. [1981 c.588 §11]

**522.440** [1971 c.776 §38; repealed by 1973 c.388 §8]

**522.445 Condition to effectiveness of unitization plan and unit agreement.** (1) No board rule or order which creates a unit and prescribes a unitization plan and no applicable unit agreement shall be effective unless the plan of unit operation required by the board under ORS 522.405 has been approved in writing by:

(a) The operators who will be required to pay under the board's rule or order at least 75 percent of the unit operation costs; and

(b) The persons or state or local governing body, special district or agency that, at the time of the board rule or order, own record legal title to 75 percent of the royalties payable with respect to the geothermal resource produced from the unit area.

(2) If the royalty owners who own the required percentage interest in the unit area and the operators have not approved the unitization plan within six months of the date on which the rule or order creating the unit is adopted or entered, that rule or order shall become ineffective and shall be considered to have been repealed or revoked by the board. [1981 c.588 §12]

522.450 [1971 c.776 §37; repealed by 1973 c.388 §8]

**522.455 Rehearing on rule or order; judicial review.** (1) Any person or state or local governing body, special district or agency with an interest in geothermal resources within an area to be designated as a unit that is adversely affected by any rule or order of the board may apply to the board for a rehearing within 30 days after the adoption of the rule or entry of the order. The board shall decide within 45 days after the filing date of the rule or order whether to grant a rehearing. If granted, the rehearing shall be held without undue delay. Failure to act within the 45-day period constitutes approval of the rehearing request.

(2) Any person or state or local governing body, special district or agency that holds a working interest in geothermal resources in a designated or proposed unit area that is adversely affected by any rule promulgated or order entered by the board may obtain judicial review of the rule or order pursuant to ORS 183.310 to 183.550. [1981 c.588 §13]

522.460 [1971 c.776 §4; repealed by 1975 c.552 §55]

**522.465 Appointment of unit operator.** As part of a proposed rule or order designating a unit area and approving a unitization plan or as part of a unit agreement, the work-

ing interest owners under the agreement, within the time specified by the board, shall appoint the unit operator. If the working interest owners do not make the appointment within the specified time, the board shall appoint the unit operator. [1981 c.588 §14]

522.470 [1971 c.776 §22; 1973 c.388 §5; repealed by 1975 c.552 §55]

**522.475 Board review of disputes over unit operation; appeal.** (1) Any disagreement with respect to the unit operation between persons or between persons and state or local governing bodies, special districts or agencies owning any interest in the geothermal resources in a unit area, or between persons or state and local governing bodies, special districts or agencies owning an interest in geothermal resources in a unit area and a unit operator, including a dispute over replacement of a unit operator, may be submitted to the board for its review and decision.

(2) The board decision under this section may be appealed to the Court of Appeals. The appeal must be filed within 60 days of the date of the board's decision. [1981 c.588 §15]

522.480 [1971 c.776 §33; 1973 c.388 §6; repealed by 1975 c.552 §55]

**522.485 Amendment of unitization plan.** Subject to the same conditions and limitations provided with respect to the creation of a unit, the following may occur:

(1) A unit area may be enlarged to include adjoining portions of the same geothermal resource area, including another unit area, and a new unit created for the unitized management, operation and development of the enlarged unit area; or

(2) The unitization plan may be otherwise amended, including, but not limited to, an amendment reducing unit area size. [1981 c.588 §16]

**522.495 Presumptions regarding conduct of operation.** Any operation on any portion of the unit area, including, but not limited to, the drilling or operation of a well, is considered for all purposes the conduct of the same operation on the whole unit area. The portion of unit production allocated to a separately owned tract in a unit area is considered for all purposes to actually have been produced from a well drilled upon that tract. An operation conducted pursuant to a board rule adopted or order issued under ORS 522.405 constitutes a fulfillment of all express or implied obligations under each lease or

contract covering lands in the unit area. {1981 c. 588 §17}

**522.505 Unauthorized operation in unit area prohibited; exemption.** (1) The operation of a geothermal well in a unit area by anyone other than by a person or state or local governing body, special district or agency acting under the unit's authority shall be unlawful. That operation is prohibited from the effective date of the board rule or order creating the unit and prescribing the unitization plan or the unit agreement, except in the manner and to the extent provided in the unitization plan or agreement.

(2) The provisions of ORS 273.775, 308.370, 522.005, 522.015, 522.405 to 522.545, 522.815 and 522.990 shall not affect the ability of a groundwater user to exercise a water right that existed before the initiation of a unit agreement. {1981 c.588 §18}

522.510 {1971 c.776 §15; 1973 c.794 §24; repealed by 1975 c.552 §55}

**522.515 When agreement or plan held not to violate state securities or trade law.** (1) A unit agreement or unitization plan under a board rule adopted or order issued pursuant to ORS 522.405 shall not be held or construed to violate ORS chapter 59 or any state statute relating to trusts, monopolies or contracts and combinations in restraint of trade if the board has made a finding that the agreement is in the public interest for the protection of correlative rights and is necessary to enhance recovery of geothermal resources or to prevent waste.

(2) Any voluntary unit agreement or plan for unitization between owners, holders of working interests and holders of royalty interests for the exploration, development and operation of a unit area shall not be held or construed to violate ORS chapter 59 or any state statute relating to trusts, monopolies or contracts and combinations in restraint of trade if the agreement is approved by the board as being in the public interest for the protection of correlative rights and necessary to enhance recovery of geothermal resources or to prevent waste.

(3) A voluntary agreement may be submitted to the board for approval as being in the public interest for the protection of correlative rights and necessary to enhance recovery of geothermal resources or to prevent waste. Board approval constitutes a complete defense to any proceeding charging violation of ORS

chapter 59 or of any state statute relating to trusts or monopolies on account of operations conducted pursuant to the agreement.

(4) The failure to submit a voluntary agreement for board approval does not constitute evidence that the agreement or operation violates ORS chapter 59 or any state statute relating to trusts or monopolies. {1981 c.588 §19}

522.520 {1971 c.776 §17; 1973 c.794 §25; repealed by 1975 c.552 §55}

**522.525 Land subject to board authority; federal lands.** Board authority applies to all private, municipal, state and federal land in the state which is subject to the state's regulatory authority. When land subject to federal jurisdiction is committed to a unit agreement or cooperative agreement the board may suspend the operation of this chapter or any provision of this chapter if:

(1) The unit operation is regulated by the United States; and

(2) The unit agreement prevents waste and encourages maximum economic development of the resource. {1981 c.588 §20}

522.530 {1971 c.776 §16; repealed by 1973 c.794 §34}

**522.535 Fees.** (1) The board shall establish reasonable fees by rule pursuant to ORS 183.310 to 183.550 for the purpose of the development and administration of a unit agreement to be paid by all persons or state or local governing bodies, special districts or agencies with a royalty interest in that unitized development. The fee schedule shall recognize the reduced workload involved in review of a voluntary unit agreement that complies with this chapter.

(2) When a person or state or local governing body, special district or agency with a royalty interest fails to pay a fee imposed by the board under ORS 522.545 or this section, the board may require that the fee be paid from the proceeds of the sale of the unit production attributable to that interest. {1981 c.588 §21}

522.540 {1971 c.776 §29; repealed by 1973 c.794 §34}

**522.545 Rulemaking authority.** The board may make, in compliance with ORS 183.310 to 183.550, rules and orders for the following purposes:

(1) To review and enforce voluntary unit agreements governing production of geothermal resources in a manner that is consistent with the provisions of this chapter.

(2) To provide application forms and procedures to enable a person to request the board to initiate a unit agreement.

(3) To develop and enforce, when necessary, unit agreements satisfying the requirements of this chapter.

(4) To settle disagreements between the parties to a unit agreement over unit operation.

(5) To change the boundaries of a unit area.

(6) To prevent the drilling and operation of geothermal wells and the production of geothermal resources in a manner that causes injury to neighboring leaseholds or property.

(7) To levy fees on any operator, person, state or local governing body, special district or agency that holds a royalty interest in a unit area to cover reasonable costs associated with the development and administration of a unit agreement. [1981 c.588 §22]

### ENFORCEMENT

**522.810 Suits to enjoin violations.** Whenever it appears that any person is violating or threatening to violate any provision of this chapter or any rule or order of the board made thereunder, or is threatening to or committing waste, the board may bring suit against such person in the circuit court of any county where the violation or waste occurs or is threatened, to restrain such person from continuing such violation or waste. In any such suit, the court shall have jurisdiction to grant to the board, without bond or other undertaking, such temporary restraining orders or final prohibitory and mandatory injunctions as the facts may warrant, including any such orders restraining the movement, disposition or waste of geothermal resources. [1971 c.776 §41; 1973 c.388 §7; 1975 c.552 §29]

**522.815 Rules by board; scope; adoption; notice.** (1) In accordance with the rulemaking provisions of ORS 183.310 to 183.550, the board may adopt rules necessary to conserve geothermal resources or other natural resources, or to protect the environment, the correlative rights of any person having an ownership interest in the affected land or resource, or beneficial uses of water, or to accomplish the efficient and economical development of a geothermal reservoir. The rules shall include a description of the geothermal

reservoir and the overlying land and may also include provisions for the following:

(a) Division of a geothermal reservoir into zones;

(b) Establishment of spacing units including a description of the location, size and shape of such spacing units;

(c) The integration of separately owned tracts or interests within a spacing unit for the development and operation of the spacing unit and the sharing of production therefrom;

(d) The protection of existing and future beneficial uses of water;

(e) Maintaining the renewability of geothermal resources and any other natural resources; and

(f) Any additional provisions the board deems necessary for carrying out the provisions of this chapter or for protecting the public health, safety and welfare.

(2) Any rule adopted under this section may in the board's discretion supersede any right or privilege previously granted by or previously entered by the board with respect to such reservoir and may be amended in accordance with the rulemaking provisions of ORS 183.310 to 183.550 as appears necessary to the board to further the policy stated in ORS 522.015.

(3) Any proceeding under this section shall be conducted as a rulemaking proceeding in accordance with ORS 183.310 to 183.550 unless an interested party requests that it be conducted as a contested case in accordance with ORS 183.310 to 183.550. In either event, notice shall be given in accordance with the requirements of ORS chapter 183. Notice shall always be given to the following persons:

(a) Any operator who has a drilling permit issued pursuant to ORS 522.135 or has a legal right to operate a completed geothermal well in the geothermal reservoir; and

(b) Any person who has an ownership interest in the geothermal reservoir. [1975 c.552 §43; 1981 c.588 §5; 1981 c.694 §11]

### PROHIBITED ACTS

**522.910 Aiding in violations prohibited.** No person shall knowingly aid or abet any other person in the violation of any provision of this chapter or of any rule or order of the board made thereunder. [1971 c.776 §40; 1975 c.552 §30]

**522.915 False entries, omissions, destruction or removal of records or reports.** No person shall:

(1) Make or cause to be made any false entry or statement in a report, record, log, account or other writing required by this chapter or any rule adopted pursuant thereto;

(2) Omit or cause to be omitted from any such report, record, log, account or writing, full, true and correct entries as required by this chapter or any rule or order adopted pursuant thereto;

(3) Destroy, mutilate, alter or falsify any such report, record, log, account or writing; or

(4) Remove from this state the original copy of any such report, record, log, account or writing before an abandonment has been approved pursuant to ORS 522.245 (2). [1975 c.552 §28]

~~522.920~~ [1971 c.776 §39; repealed by 1975 c.552 §55]

#### **PENALTIES**

**522.990 Penalties.** Violation of any provision of this chapter or of any rule or order of the board made thereunder, excluding ORS 522.405 to 522.545 and any rule promulgated thereunder, is punishable, upon conviction, by a fine of not more than \$2,500 or by imprisonment in the county jail for not more than six months, or both. [1971 c.776 §42; 1975 c.552 §31; 1981 c.588 §6]

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**CHAPTER 632**

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**DIVISION 20**

**GEOHERMAL REGULATIONS**

**Jurisdiction and Authority**

632-20-005 (1) The 1971 Geothermal Resources Act authorized the Department of Geology and Mineral Industries to control the drilling, redrilling, and deepening of wells for the discovery and production of geothermal resources so that such wells will be constructed, operated, maintained, and abandoned in the manner necessary to safeguard the life, health, property, and welfare of the people of this state and to encourage the maximum economic recovery of geothermal resources therefrom. The Act also gives the Department responsibility for regulating re-injection of geothermal fluids into underground reservoirs within prescribed limits of ORS 522.019(2) in a manner which will not be detrimental to beneficial use of waters of the state.

(2) The Governing Board of the Department shall:

(a) Administer and enforce the provisions of the Geothermal Resources Act; and

(b) In accordance with the applicable provisions of ORS Chapter 183, adopt rules and regulations and issue orders that it may deem necessary in carrying out the provisions of the Geothermal Resources Act.

(3) The permittee shall in addition to complying with the 1971 Geothermal Act and these regulations comply with applicable laws and regulations of the Water Resources Department, Department of Environmental Quality, and any other agency having jurisdiction and control in the field of natural resources within the State of Oregon.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Definitions**

632-20-010 (1) "Board" means governing board of the State Department of Geology and Mineral Industries.

(2) "By Products" means any mineral or minerals, exclusive of helium or of oil, hydrocarbon gas, or other hydrocarbon substances, which are found in solution or in association with geothermal resources and which have a value of less than 75 percent of the value of the geothermal resource or are not, because of quantity, quality, or technical difficulties in extraction and production, of sufficient value to warrant extraction and production by themselves.

(3) "Department" means the State Department of Geology and Mineral Industries.

(4) "Geothermal Area" means any parcel of land that is, or reasonably appears to be underlain by Geothermal Resources.

(5) "Geothermal Resources" means the natural heat of the earth, the energy, in whatever form, below the surface of the earth present in, resulting from, or created by, or which may be extracted from, the natural heat, and all minerals in solution or other products obtained from naturally heated fluids, brines, associated gases, and steam, in whatever form, found below the surface of the earth, exclusive of helium or of oil, hydrocarbon gas or other hydrocarbon substances, but including, specifically:

(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, gas or other fluids artificially introduced into geothermal formations;

(c) Heat or other associated energy found in geothermal formations; and

(d) Any by product derived from them.

(6) "Operator" means the person:

(a) Who possesses the legal right to drill a geothermal well;

(b) Who has obtained a drilling permit pursuant to ORS 522.135; or

(c) Who possesses the legal right to operate a completed geothermal well as described by ORS 522.185.

(7) "Owner" means the person who has the right to drill into and produce from a geothermal resources field or reservoir, or to appropriate the production therefrom, or both, either for himself or for himself and others.

(8) "Person" means any individual, corporation, company, association of individuals, joint venture, partnership, receiver, trustee, guardian, executor, administrator, or personal representative that is the subject of legal rights and duties under these regulations.

(9) "Pollution" means contamination or other alteration of the physical, chemical, or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt, or odor of the waters, or such radioactive or other substance into any waters of the state which either by itself or in connection with any other substance present, will or can reasonably be expected to create a public nuisance or render such waters harmful, detrimental, or injurious to public health, safety, or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life, or the habitat thereof.

(10) "Prospect Well" includes any well drilled as a geophysical test well, seismic shot hole, core drilling, or temperature gradient test well, less than 2,000 feet in depth, and drilled in prospecting for geothermal resources. "Prospect Well" does not include a geothermal well as defined in section (13) of this rule.

(11) "Waste" means any physical waste, deleterious effects on surface and groundwater, 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 resource well or prospect well in such manner that reduces or tends to reduce the ultimate economic recovery of the geothermal resources within a reservoir; and surface waste resulting from the location, spacing, drilling, equipping, operation, or production of a geothermal resource well or prospect well in such a manner that causes or tends to cause the unnecessary or excessive surface loss or destruction of geothermal resources released from the reservoir.

(12) "State Geologist" means the chief administrator of the Department of Geology and Mineral Industries.

(13) "Geothermal Well" includes any well drilled for producing geothermal resources and any geothermal re-injection well as defined in section (16) of this rule.

(14) "Blow-Out" means a sudden or violent uncontrolled escape of fluids, as from a drilling well when high formation pressure is encountered.

(15) "Permittee" means "owner".

(16) "Geothermal Re-Injection Well" means any well or converted well constructed to dispose of geothermal fluids derived from geothermal resources into an underground reservoir.

(17) "Contamination" means any alteration of the physical, chemical, or biological properties of surface or groundwaters of the state but such alteration may not create a public nuisance or prevent the beneficial use of such waters.

(18) "Reservoir" means an aquifer or combination of aquifers or zones containing a common geothermal or groundwater resource.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**OREGON ADMINISTRATIVE RULES**  
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**Inspection and Supervision**

**632-20-015** The State Geologist or his representative shall inspect and supervise geothermal operations for the purpose of enforcing compliance with the rules, regulations, and orders promulgated by the Board.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**General Rules**

**632-20-020** General rules shall be statewide in application unless otherwise specifically stated and applicable to all lands within the jurisdiction of the State of Oregon.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**Supremacy of Special Rules**

**632-20-025** Special rules will be issued when required and shall prevail as against general rules if in conflict therewith.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**Application and Permit to Drill, Redrill, or Deepen**

**632-20-030** (1) The owner or operator of any geothermal well or prospect well before commencing the drilling, redrilling, or deepening of any well or prospect well shall file with the State Geologist or his authorized representative a written notice of intention to commence such drilling, redrilling, or deepening accompanied by a fee of \$100 for each geothermal well and no more than \$200 for prospect wells. The notice will contain the following:

(a) The location and ground elevation of the proposed drill-site. The location shall include the township, range, section, and quarter-quarter section together with the distance and bearing to a section or quarter section corner.

(b) The number or other designation, approved by the State Geologist, by which the well shall be known.

(c) The owner's or operator's estimate of the depths between which production will be attempted.

(d) Such other pertinent data as the State Geologist may require on the printed forms to be supplied by the Department or on other forms acceptable to the State Geologist.

(2) The State Geologist shall notify the State Fish and Wildlife Director, the State Water Resources Department, the State Department of Environmental Quality, the State Forester, the administrative officer of the State Soil and Water Conservation Commission, the Administrator of the Parks and Recreation Division, the Water Policy Review Board, the State Highway Engineer, the Director of the Department of Land Conservation and Development, the Director of the Division of State Lands, and the governing body of the city or county and any geothermal heating district in which the well is located prior to the issuance of a permit under the provisions of the Geothermal Resources Act and these regulations.

(3) Upon receipt of the application, the fee and the bond required under rule 632-20-035, the State Geologist or his authorized representative will make his determination and issue such person a permit to drill, unless the drilling of the well or prospect well is contrary to law, or to rule, regulation, or order of the Board. The drilling, redrilling, or deepening of a well or prospect well for geothermal resources is prohibited until a permit is obtained. If the permit is disallowed, the State Geologist or his authorized representative will immediately notify the person in writing the reasons therefor. In issuing the permit the State Geologist will inform the applicant that issuance of such permit is not a finding of compliance with statewide planning goals required under ORS 197.225 or the acknowledged comprehensive county plan.

(4) Drilling, redrilling, or deepening operations must commence within 180 days from the date of issuance of the permit or such permit shall become void unless the Board grants an extension of time.

(5) After completion, suspension, or abandonment of any well, the provisions of this section shall also apply, where applicable, to the deepening or redrilling of the well, to any operation involving the plugging of the well and to any operations permanently altering in any manner the casing of the well.

(6) The number or designation specified for any geothermal well or prospect well in a notice filed as required by this section, shall not be changed without first obtaining the written consent of the State Geologist.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Drilling Bond**

**632-20-035** (1) Every person who engages in the drilling, redrilling, or deepening of any geothermal well shall file with the State Geologist an indemnity bond in the sum of \$10,000 for each well drilled, redrilled, or deepened, or a \$25,000 blanket bond for the drilling, redrilling, or deepening of one or more wells. The Bond shall be filed with the State Geologist at the time of the filing of an application to drill, redrill, or deepen as under rule 632-20-030. The bond shall be executed by such person, as principal, and by a surety company authorized to do business in the State of Oregon, as surety, conditioned upon the faithful compliance by the principal with the rules, regulations, and orders of this chapter.

(2) Every person who engages in the drilling of any prospect well shall file with the State Geologist an indemnity bond in the sum of not less than \$5,000 for each hole to be drilled or a blanket bond in the amount of \$25,000 for all prospect wells which are included within the application and to be drilled by the applicant.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Assignment, Transfers of Ownership**

**632-20-040** The owner or operator of a well shall notify the Supervisor in writing in such form as the Supervisor may direct, of the sale, assignment, transfer, conveyance, or exchange by him of such well and of the sale, assignment, transfer, conveyance, or exchange of the land upon which such well is situated within five days thereof. Each such notice shall contain the following:

(1) The name and address of the person to whom such well or land was sold, assigned, transferred, conveyed, or exchanged.

(2) The name and location of such well.

(3) The date of such sale, assignment, transfer, conveyance, or exchange.

(4) The date when possession of such well or land was relinquished by such owner or operator.

(5) A description of the land upon which the well is situated.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**Notice of Change in Ownership**

**632-20-045** Every person who acquires the ownership or the right of operation of a well or land as described by rule 632-20-040 of this Act shall, within five days after acquiring such well or land, notify the State Geologist or his authorized representative, in writing of his newly acquired ownership or right of operation. Each notice shall contain the following:

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- (1) The name and address of the person from whom the well or land was acquired.
- (2) The name and location of such well.
- (3) The date of such acquisition.
- (4) The date when possession of such well or land was acquired by him.
- (5) A description of the land upon which such well is situated.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Cancellation of Bond**

**632-20-050** Any bond submitted as required by rule 632-20-035 of these regulations may with the consent of the Board, be terminated and canceled and the surety be relieved of all obligations thereunder. However, the Board shall not consent to the termination and cancellation of any bond until the well described by such bond has been properly completed or abandoned or another valid bond for such well has been submitted therefor and approved by the Board.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Proper Completion and Abandonment**

**632-20-055** (1) A well is properly completed for the purposes of this chapter when it has been completed and is producing geothermal resources and the person engaged in drilling, redrilling, or deepening such well has shown to the satisfaction of the State Geologist that both the manner of drilling, redrilling, or deepening of the well and the manner of producing geothermal resources therefrom are satisfactory. A well shall be considered completed when it is demonstrated such well can sustain commercial production.

(2) A well shall be considered properly abandoned, for the purpose of this chapter, when the drilling, redrilling, or deepening has ceased before the completion and production of geothermal resources therefrom or when the well no longer produces economic quantities of geothermal resources and when the conditions of the Geothermal Act and these regulations are fulfilled and the person drilling, redrilling, or deepening such well has shown to the satisfaction of the State Geologist that all proper steps have been taken to protect underground and surface water used for irrigation or domestic purposes from pollution resulting from the infiltration or addition of any detrimental substance and to prevent the escape of all fluids to the surface.

(3) Proper completion and abandonment shall be also conditioned upon adequate procedures to implement protection of the environment and of aesthetic qualities of the surface in the area of operation.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Well Records**

**632-20-060** (1) The owner or operator of any well shall keep, or cause to be kept, a careful and accurate log, core record, representative samples of drill cuttings and cores, if cores are taken, and history of the drilling of the well. In the case of prospect wells, a log shall be kept describing the type of rock penetrated and depths of water-bearing formations. Copies of prospect well logs may be made available to the State Water Resources Department.

(2) The log referred to in section (1) of this rule for geothermal wells shall show the character and depth of each formation encountered in the drilling of the well; the amount, size, and weight of casing used; the size, type, and depths of perforations; and the location, depth, and temperature of water-bearing strata, including the temperature, chemical

composition, and other chemical and physical characteristics of fluid encountered from time to time, so far as determined.

(3) The core referred to in section (1) of this rule for geothermal wells shall show the depth, character, and fluid content of cores obtained, so far as determined from the study and analysis thereof.

(4) The history referred to in section (1) of this rule for geothermal wells shall show the location and amount of sidetracked casings, tools, or other material; type and depth of bore hole, surveys made; the depth and quantity of cement in cement plugs; the shots of dynamite or other explosives used; the results of production and other tests during drilling operations and completion data.

(5) The log referred to in sections (1) and (2) of this rule for geothermal wells and prospect wells shall be kept at the drill-site or local office of the owner or operator and, together with the tour reports of the owner or operator, shall be subject, during business hours, to inspection by the State Geologist or his authorized representative.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Sundry Notices and Reports**

**632-20-065** (1) Any written notice of intention to do work or to change plans previously approved must be filed with the State Geologist unless otherwise directed, and must be approved by him before work is begun. If, in case of emergency, any notice is given orally or by wire, an approval is obtained, the transaction shall be confirmed in writing. A subsequent report of the work performed must also be filed with the State Geologist.

(2) Notice shall be given in advance to the State Geologist or his representative of the date and time when the operator or owner expects to make a casing test. Later, by agreement, the exact time shall be fixed. In the event of casing failure during the test, the casing must be repaired or replaced or recemented as required by the State Geologist or his representative. The results of the test must be reported within thirty (30) days after making a casing test. The report must describe the test completely and state the amount of mud and cement used, the lapse of time between running and cementing the casing and making the test, and the method of testing.

(3) Before the repairing or conditioning of a well, a notice setting forth in detail the plan of work must be filed with, and approved by, the State Geologist. A detailed report of the work accomplished and the methods employed, including all dates, and the results of such work must be filed within thirty (30) days after completion of the repair work.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Well Designations**

**632-20-070** Every person drilling any well for geothermal resources or operating, owning, or controlling or in possession of any well drilled for geothermal resources, shall paint or stencil and post and keep posted in a conspicuous place near the well, the name of the person drilling, operating, owning, or controlling the well, the name of the lease, the number of the well, and the number of the permit for the well, together with the Section, Township, and Range.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**Filing of Records Confidential Period**

**632-20-075** (1) Upon the completion or abandonment of any well or upon suspension of operations conducted with respect to any well for a period of at least six months, copies of

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the lithologic log, core record, borehole surveys, representative samples or drill cuttings and cores, if any cores are taken, and history, prepared in such form as the State Geologist may direct, shall be filed with the State Department of Geology and Mineral Industries within 60 days after such completion, abandonment or six-month suspension for geothermal wells and prospect holes. Records of subsequent work shall be filed upon the recompletion of any well.

(2) For a period of four years from the date of completion, abandonment, or six-month suspension, the State Geologist shall keep such logs and records confidential and shall not permit public inspection of such records.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Inspection of Records**

**632-20-080** Each owner or operator of any well or his designated agent shall file with the State Geologist a copy of the lithologic log, bore hole surveys, history and core record, or any portion thereof, or the driller's log in the case of a prospect well, at any time after commencement of the work of drilling any well or prospect well upon the written request of the State Geologist or his authorized representative. The request shall be signed by the State Geologist and served such owner, operator or agent either personally or by mailing a copy of the request by registered mail to the last-known post-office address of such owner, operator, or agent.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Blow-Out Prevention**

**632-20-085** [GMI 4, f. 7-20-72, ef. 8-1-72;  
Repealed by GMI 4-1980, f. & ef. 10-2-80]

**Noise Abatement**

**632-20-090** The lessee shall minimize noise when conducting air drilling operations or when the well is allowed to produce while drilling or drilling is conducted. 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 State Geologist and shall comply with the regulations and standards pertaining thereto adopted by the Oregon Department of Environmental Quality.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Casing Requirements**

**632-20-095** (1) The owner or operator of any geothermal well shall properly case such well with adequate grade casing and cement such casing where necessary with methods approved by the State Geologist or his authorized representative. Design of casings shall take into account stress imposed by the maximum expected temperature and the physical effects of produced fluids and gases on casing durability.

(2) The owner or operator of any such well shall also use every reasonable effort to shut out detrimental substances from strata containing water used for irrigation or domestic purposes and from surface water used for such purposes and to prevent the infiltration of detrimental substances into such strata or into such surface water. The operator of any well drilled for geothermal resources which penetrates a usable fresh water horizon shall be required to set casing through this formation and cement such casing from top to bottom unless the State Geologist approves a different program.

(3) Casing and casing seals used for prospect wells, where the temperature of groundwater does not exceed 250°F., shall

comply with the general standards for the construction and maintenance of water wells set by the State Water Resources Department.

(4) Each fluid bearing zone above the producing horizon in a geothermal resources well shall be cased and sealed off to prevent effectively the migration of formation fluids to other areas. Such casing and sealing off shall be effected and tested in such manner and by such methods and means as may be prescribed by the State Geologist.

(5) Cements used in cementing casing and sealing formations shall be of grade and type best suited for expected reservoir temperature, formation water chemistry and bonding properties. Cements acceptable for use in high temperature holes include Modified Type A or G, Alumina Silica Flour, Phosphate Bonded Glass or other equivalent high temperature design cement.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Removal of Casings**

**632-20-100** No person shall remove a casing, or any portion thereof, from any well or prospect well without first giving advance notice and obtaining approval in writing from the State Geologist or his representative.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Directional Drilling**

**632-20-105** (1) The maximum point at which a well penetrates the producing formation shall not unreasonably vary from the vertical drawn from the center of the hole at the surface. Deviation is permitted without special permission for short distances to straighten the hole, sidetrack junk or correct other mechanical difficulties.

(2) Except for the purposes of straightening the hole, sidetracking junk, or correcting mechanical difficulties as provided in this rule, no well shall be intentionally deviated from the vertical unless the operator thereof shall first file application and obtain a permit from the State Geologist. If drilling is in progress, the operator must notify the State Geologist immediately of the deviation of the hole or his intention to deviate the hole. When an operator follows this procedure, he must file an application as soon as practicable.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Serving Orders**

**632-20-110** Whenever the State Geologist or his authorized representative makes or gives any written direction concerning the drilling, testing, or other operations conducted with respect to any well or prospect well drilled, in the process of being drilled, redrilled, deepened, or in the process of being abandoned and the operator, owner, or designated agent of either, serves written notice, either personally or by mail, addressed to the State Geologist or representative, requesting that a definite order be made upon such subject, the State Geologist or his representative shall, within a reasonable time after receipt of the notice, deliver a final written order on the subject matter. Any such final written order of the State Geologist may be appealed to the Board and further redress may be sought in the manner provided in ORS Chapter 183 for appeals from final orders in contested cases.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

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**Measurement of Geothermal Resources**

**632-20-115** The lessee shall measure or gauge all production from each well in accordance with methods approved by the State Geologist or may arrange with the State Geologist 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.

Stat. Auth.: ORS Ch. 522

Hist.: GMI 4, f. 7-20-72, cf. 8-1-72; GMI 4-1980, f. & cf. 10-2-80

**Production Reports**

**632-20-120** The owner or operator of any well producing geothermal resources shall file with the State Geologist before the 20th day of each month a statement of the geothermal resources production from such well during the preceding calendar month. Such report shall be submitted on such forms and in such manner as may be prescribed by the State Geologist.

Stat. Auth.: ORS Ch. 522

Hist.: GMI 4, f. 7-20-72, cf. 8-1-72; GMI 4-1980, f. & cf. 10-2-80

**Abandonment**

**632-20-125** (1) Notice of Intention. Protection of water and geothermal resources:

(a) Before any operation is commenced to abandon any well drilled for geothermal resources, the owner or operator of such well shall give written notice to the State Geologist or his representative of his intention to abandon the well and the date upon which the work of abandonment will begin.

(b) The notice referred to in subsection (a) of this section shall be given at least 24 hours before the proposed date for the commencement of abandonment operations, and it shall give the condition of the well and the proposed method of such abandonment operation.

(c) The owner or operator of such well shall furnish the State Geologist or his representative any additional information that may be requested regarding the condition of the well and the proposed method of abandonment, at any time between the filing of the notice of intention to abandon the well and the completion of abandonment operation.

(2) Geothermal resource, environment, and water resources to be protected:

(a) Before any well or any producing horizon encountered therein shall be abandoned, the owner or operator shall use such means, methods, and procedure as may be necessary to prevent water from entering any geothermal resources bearing formation, and to protect any underground or surface water that is suitable for domestic or irrigation purposes from waste, downward drainage, harmful infiltration, and addition of deleterious substances.

(b) Prior to granting approval for final abandonment of any well drilled for geothermal resources, the State Geologist shall determine that the site be restored to as near its original state as possible.

(3) Suspension, Unlawful Abandonment. Removal of Equipment:

(a) The Board may authorize a permittee to suspend operations or remove equipment from a well for the period stated in the Board's written authorization, given upon written application of the permittee and his or its affidavit showing good cause. The period of suspension may be extended by the Board, upon written application made before expiration of the previously authorized suspension, accompanied by affidavit of the permittee showing good cause for granting of such extension.

(b) After operations on or at a well have been suspended with the approval of the Board pursuant to subsection (a) of

this section, if operations are not resumed within six months from the date specified in such approval of suspension, an intention to abandon and unlawful abandonment shall be presumed unless the permittee has obtained from the Board an extension of time of such suspension, upon his or its written application and affidavit showing good cause for the granting of such extension.

(c) Whenever operations on or at any well shall have been suspended for a period of six months without compliance with these regulations, the well shall be presumed unlawfully abandoned.

(d) A well shall be deemed unlawfully abandoned if, without notice given to the Board as required by these rules, any drilling or producing equipment is removed.

(e) Any unlawful abandonment under these regulations shall be declared by the Board and such declaration of abandonment shall be entered in the Board minutes and written notice thereof delivered by registered mail both to such permittee at his last known post office address as disclosed by the records of the Board and to the permittee's surety; and the Board may thereafter proceed against the permittee and his or its surety.

(f) All wells abandoned or declared abandoned as herein provided shall be plugged as required by law and by these regulations.

(4) Plugging Methods and Procedure, Geothermal Wells:

(a) The hole shall be filled with an approved mud-laden fluid from bottom to top of the hole with the exception of intervals required to be plugged with cement. At the top of each producing formation a cement plug shall be placed which extends either from the bottom of the hole or from a point twenty-five (25) feet below the top of each producing formation upward to a point at least fifty (50) feet above each producing formation.

(b) If a well penetrates below a fresh water zone, a cement plug shall extend from twenty-five (25) feet below the bottom of the water-bearing zone to at least fifty (50) feet above the water zone.

(c) A twenty (20) foot cement plug shall be placed at the top of the casing in each hole plugged in such a manner as not to interfere with soil cultivation and a steel plate welded over the casing stub.

(d) The interval between plugs shall be filled with an approved heavy mud-laden fluid. Approved heavy mud-laden fluid is defined as mud weighing approximately 9.0 pounds per gallon of not less than thirty-six (36) viscosity (API Full Funnel Method).

(e) If the surface string of casing is set below the deepest fresh water-bearing formation, a cement plug shall be placed in the hole extending from a point at least twenty-five (25) feet below the base of a surface string and twenty-five (25) feet into the bottom of the casing. The hole shall also be capped as provided in subsection (c) above.

(f) The operator shall have the option as to method of placing cement in the hole:

- (A) by the dump bailer;
- (B) pumping through tubing;
- (C) pump and plug displacement; or
- (D) other method approved by the State Geologist.

(5) Affidavit on Completion. Copies: Within 60 days after the plugging of a geothermal well or prospect wells, the owner or operator thereof shall file an affidavit with the state Geologist setting forth in detail the method used in plugging the well. Such affidavit shall be made on a form supplied by the State Geologist.

(6) Plugging Methods and Procedure, Prospect Wells. Before abandoning any prospect well which penetrates a useable fresh-water horizon, it shall be the duty of the owner or operator of such prospect well to plug the same in such

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manner as to protect properly all water-bearing formations; and within sixty (60) days after the plugging, an affidavit shall be filed with the State Geologist by the owner or operator, setting forth the location of the prospect well and the method used in plugging the same to protect water-bearing formations, if any were penetrated. Plugging shall consist of the following procedures unless a different method is approved by the State Geologist:

(a) In wells where water is not encountered, the hole shall be filled with heavy mud-laden fluid or backfilled with drill cuttings and a ten (10) foot cement plug placed at the top of the hole in such a manner as not to interfere with soil cultivation.

(b) In wells where water is encountered but is not under artesian pressure, the hole shall be filled with cement to a point at least fifty (50) feet above the water zone, or if the top of the zone is less than fifty (50) feet from the ground surface, the cement shall extend to the ground surface. If a well penetrates below a fresh-water zone, a cement plug shall extend from twenty-five (25) feet below the bottom of the water bearing zone to at least fifty (50) feet above the water zone.

(c) In wells where artesian water is encountered, the hole shall be plugged with cement as required under subsection (b). If the plug does not seal off the flow of water, the hole shall be re-plugged or pressure-grouted with cement until the flow is stopped.

**(7) Wells Used for Fresh Water:**

(a) When the drilled well to be plugged may safely be used as a fresh-water well and such use is desired by the land owner, the well need not be filled above the required sealing plug set below fresh water; provided, however, authorization for use of any such well shall be obtained from the Water Resources Department.

(b) Application for leaving the well partially unplugged as a fresh water well may be made to the State Geologist by the land owner, accompanied by his affidavit as to his need of water and the intended use of the well, together with certified copy of the Water Resources Department's order or permit authorizing such use.

(c) The operator shall leave the fresh water well in a condition approved by the State Geologist.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Subsequent Abandonment Report**

**632-20-130** (1) Within thirty (30) days after the completion of abandonment of any well, the owner or operator of such well shall make, in such form as the State Geologist or his representative may direct, a written report, in duplicate, of all work done with respect to the abandonment. The State Geologist or his representative shall, within a reasonable time after the receipt of a written report of completion, furnish the owner or operator with a written final approval of abandonment, or a written disapproval of abandonment, setting forth the conditions upon which the disapproval is based.

(2) Failure to abandon in accordance with the approved method of abandonment, failure to submit to the State Geologist or his representative any notice or report required by these regulations or failure to furnish the State Geologist or his representative, at his request, with any information regarding the condition of the well, shall constitute sufficient grounds for disapproval of the abandonment of such well.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Well Spacing**

**632-20-135** The Board shall approve proposed well-spacing programs for development wells or prescribe such modifications to the programs as it determines necessary for proper

development. The State Geologist may allow exceptions to well spacing for exploration holes. In determining well spacing the Board shall give, consideration to such factors as:

- (1) Topographic characteristics of the area;
- (2) Hydrologic and geologic conditions in the reservoir;
- (3) Minimum number of wells required for adequate development; and
- (4) Protection of the environment.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Commingling Production**

**632-20-140** The State Geologist may authorize the lessee to commingle the production from different wells and/or leases with the production of other operators subject to such conditions as he may prescribe.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Pits or Sumps**

**632-20-145** (1) Materials and fluids or any fluid necessary to the drilling, production, or other operations by the permittee may be discharged or placed in pits and sumps if approval to do so is obtained from the State Geologist and the State Department of Environmental Quality. The operator shall provide pits and sumps of adequate capacity and design to retain all materials. In no event shall the contents of a pit or sump be allowed to:

(a) Contaminate streams, artificial canals or waterways, groundwaters, lakes, or rivers;

(b) Adversely affect the environment, persons, plants, fish, and wildlife and their populations; or

(c) Damage the aesthetic values of the property or adjacent properties.

(2) When no longer needed, pits and sumps are to be filled and covered and the premises restored to a near natural state.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Disposal of Solid and Liquid Wastes**

**632-20-150** (1) The Department of Geology and Mineral Industries has authority for regulating re-injection of geothermal fluids derived from geothermal resources as specified in ORS 522.025 and ORS 522.019(2) and the Department of Environmental Quality has authority for regulating other methods for disposing of fluids and wastes derived from geothermal operations.

(2) Re-injection of geothermal fluids shall not pollute waters of the state, create a public nuisance, impair beneficial uses of waters, or degrade the biologic habitat of aquatic life and domestic and wild animals.

(3) Methods of handling geothermal fluids derived from geothermal resources other than re-injection may be approved by the State Geologist or his representative if after consultation with the Director of the Department of Environmental Quality or his representative it is determined that no pollution will occur.

Stat. Auth.: ORS Ch. 522

Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Handling of Test Fluids**

**632-20-151** Prior to conducting formation and production tests, the operator shall provide adequate storage for anticipated volumes of formation fluids and drilling mud. Arrangements for ultimate disposal of waste fluids shall be made with the local Department of Environmental Quality representative.

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Stat. Auth.: ORS Ch. 522  
Hist: GM14-1980, f. & ef. 10-2-80

**Re-Injection and Conservation**

632-20-154 Re-injection shall be the preferred method for handling geothermal fluids derived from geothermal resources to conserve natural heat energy and to maintain reservoir temperature and pressure. This rule applies to fluids derived from wells defined in ORS 522.005(6) and ORS 522.025 and to wells 2,000 feet in depth or deeper used for injection of geothermal fluids regardless of temperature of the fluids.

Stat. Auth.: ORS Ch. 522  
Hist: GM14-1980, f. & ef. 10-2-80

**Application to Drill Re-Injection Well**

632-20-155 (1) No person shall engage in the drilling or operating of any geothermal re-injection well without first obtaining a permit issued under the authority of the State Geologist, and without complying with the conditions of such permit.

(2) An application for a permit to re-inject a geothermal fluid into any underground reservoir shall contain all the information required by the State Geologist, including but not limited to the following:

(a) A plan of re-injection explaining the proposed system including facilities other than the re-injection well necessary to conduct the operations.

(b) A map of adequate scale (preferably 1:24,000, but not less than 1:62,500 or 1" = 1 mile) to show all existing and proposed wells, pipelines, and other surface facilities. All wells shall be distinguished by type.

(c) The injection fluid characteristics such as quality, quantity, source, chemical analysis, chemical reactivity, toxicity, temperature, etc.

(d) The characteristics of the proposed injection zone including volume capacity of the zone, geologic formation and structure, porosity, permeability, chemical analysis of zonal water, static formation pressures and temperatures, anticipated zonal fluid reactivity to the injected fluids, any previous history of injection operations into the same or similar formations, any injectivity tests which may have been conducted, and other pertinent data.

(e) Hydrology of the surrounding area, including ground-water quality, quantities, analyses, and the predicted effects of contamination by injected fluids on the existing surface and groundwaters.

(f) Subsurface maps and cross sections of the producing and injecting zone structure and lithology and any available logs or histories of well or other wells penetrating the injection zone, that have not previously been submitted. Discuss the effects of injection on such factors as potable water, seismicity, and local tectonic conditions.

(g) Representative injection well drilling program.

(h) Proposed downhole and surface injection equipment and metering facilities with capacity, design capabilities and design safety factors, in sufficient detail to enable adequate environmental analysis. Construction and engineering design plans should be included.

(i) Proposed injectivity surveys and other means to monitor injection performance.

(3) The State Geologist shall circulate copies of an application to construct a re-injection well to those agencies specified in ORS 522.125. Any of those agencies desiring to suggest conditions under which a permit should be granted shall provide such information to the Department within 30 days of receipt of the copy of the application. Such conditions may be stipulated by the State Geologist as conditions of the permit.

(4) An application for a re-injection well permit shall be accompanied by a \$100 fee to cover cost of processing.

Stat. Auth.: ORS Ch. 522  
Hist: GMI 4, f. 7-20-72, ef. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Permit for Re-Injection**

632-20-156 (1) Within 45 days after receipt of the application for a re-injection well permit, the State Geologist shall by order issue, deny, or suspend, modify, revoke, or not renew a permit subject to the right of appeal by the applicant described in rule 632-20-165.

(2) The State Geologist may issue the permit after finding that issuance thereof is consistent with the purposes set forth in ORS 468.280, 468.710, 468.725, 537.525, and ORS 522.

(3) A water pollution control facilities permit shall be obtained from the Department of Environmental Quality under ORS 468.740 before re-injection is commenced. The Department of Environmental Quality may, by agreement with the State Department of Geology and Mineral Industries, waive this requirement for re-injection into the reservoir from which the fluid came where adequate standards and tests have been adopted to insure the fluid and its residues will not cause pollution.

(4) Issuance of a re-injection permit does not relieve any person from any obligation to obtain a permit under ORS 468.725 or 468.730 (Department of Environmental Quality).

(5) The State Geologist shall not issue a permit for re-injection of geothermal fluids until the operator has posted a bond in the amount and under conditions specified in rule 632-20-035.

Stat. Auth.: ORS Ch. 522  
Hist: GMI 4-1980, f. & ef. 10-2-80

**Construction of Re-Injection Wells**

632-20-157 (1) Re-injection wells shall be constructed in compliance with standards required in rules 632-20-095 and 632-20-125.

(2) Special standards may be required by the State Geologist to allow for corrosive effects of injected fluids, precipitation of dissolved minerals, more extensive cementing of casings, specifications for tubing packers and casing packers or other construction practices generally accepted by the industry.

Stat. Auth.: ORS Ch. 522  
Hist: GMI 4-1980, f. & ef. 10-2-80

**Well-Head Equipment**

632-20-158 Adequate well-head equipment shall be installed to control expected pressures. Where underground conditions are unknown, the same equipment shall be used as required for exploration holes.

Stat. Auth.: ORS Ch.  
Hist: GMI 4-1980, f. & ef. 10-2-80

**Monitoring Re-injection**

632-20-159 (1) The State Geologist shall require monitoring of re-injection operations to insure that there will be no escape of geothermal fluids from the casings or through the annular space between casings and open hole except in the zone for which re-injection is permitted.

(2) Monitoring required by the State Geologist may include gauging pressure between casings, periodic testing for casing leaks, surveys to detect movement of fluid in adjacent rock formations, cement bond logs, temperature measurements, analyses of water chemistry, special well-head equipment or other methods employed by industry to monitor re-injection operations.

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Stat. Auth.: ORS Ch. 522  
Hist: GMI 4-1980, f. & ef. 10-2-80

**Appeals From Board Actions**

**632-20-160** Application for rehearing by person adversely affected by order of Board. Any person adversely affected by any rule, regulation, or order of the Board may within 30 days after its entry apply to the Board for a rehearing. Such application shall be acted upon by the Board within 30 days from its filing date, and if granted, such rehearing shall be held without undue delay.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, cf. 8-1-72

**Judicial Review of Board Actions**

**632-20-165 (1)** Any person adversely affected by any rule, regulation, or an order entered by the Board may obtain judicial review thereof pursuant to ORS Chapter 183.

**(2)** The Court of Appeals having jurisdiction shall, in so far as is practicable, give precedence to proceedings for judicial review under this chapter.

**(3)** Either party may appeal to the Supreme Court of the State of Oregon in the same manner as provided by the laws for appeals from the circuit court in suits in equity.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, cf. 8-1-72; GMI 4-1980, f. & ef. 10-2-80

**Environmental Protection**

**632-20-170** In the absence of coverage by any other section of these regulations, the permittee shall conduct operations under this chapter so as not to pollute land, water or air, pollute streams, damage the surface or pollute the underground water. The operator must comply with Federal and State air and water quality standards. 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 Supervisor before action is taken under them.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, cf. 8-1-72

**Geothermal Blow-Out Prevention**

**Blow-Out Prevention, Geothermal Wells**

**632-20-175 (1)** Cementing of Casing. The conductor and surface casing strings shall be cemented with a quantity of cement sufficient to fill the annular space back to the surface. The intermediate casing string shall be cemented to prevent migration of fluids. Production casing shall be cemented with a high temperature resistant admix, unless waived by the State Geologist and shall be cemented in a manner necessary to exclude, isolate, or segregate overlying formation fluids from the geothermal resources zone and to prevent the movement of fluids into possible fresh water zones. Production casing shall be cemented back to the surface or, if lapped, to the top of the lap. A temperature or cement bond log may be required by the State Geologist after setting and cementing the production casing and after all primary cementing operations if an unsatisfactory cementing job is indicated. Proposed well cementing techniques differing from the requirements of this paragraph will be considered by the State Geologist on an individual well basis.

**(2) Pressure Testing:**

**(a)** Prior to drilling out the casing shoe after cementing, all casing strings set to a depth of 500 feet or greater, except for conductor casing, shall be pressure tested to a minimum

pressure of 1,000 psi or 0.2 psi/ft whichever is greater. All casing strings set at a depth less than 500 feet, except for conductor casing, shall be pressure tested to a minimum pressure of 500 psi. Exceptions to these minimum pressures may be allowed with the specific prior permission of the State Geologist. Such test shall not exceed the rated working pressure of the casing or the blow-out preventer stack assembly, whichever is lesser.

**(b)** In the event of casing failure during the test, the casing must be repaired or recemented until a satisfactory test is obtained. A pressure decline of 10 percent or less in 30 minutes shall be considered satisfactory.

**(c)** Casing test results shall be recorded in the driller's log and reported to the State Geologist within 60 days after the completion of such test. Advance notice of all casing and lap tests shall be given in sufficient time to enable the State Geologist or his representative to be present to witness such tests. The casing and lap test reports shall give a detailed description of the test; including mud and cement volumes, lapse of time between running and cementing casing and testing, method of testing and test results.

**(3) Blow-Out Prevention Equipment and Procedures.** All necessary precautions shall be taken to keep all wells under control at all times, utilize trained and competent personnel, and utilize properly maintained equipment and materials. Blow-out preventers and related well control equipment shall be installed, tested immediately thereafter and maintained ready for use until drilling operations are completed. Certain components, such as packing elements and ram rubbers, shall be of high temperature resistant material as necessary. All kill lines, blowdown lines, manifolds and fittings shall be steel and shall have a temperature derated minimum working pressure rating equivalent to the maximum anticipated wellhead surface pressure. Subject to subsections (a) and (b) of this section, blow-out prevention equipment shall have manually operated gates and hydraulic actuating systems and accumulators of sufficient capacity to close all of the hydraulically operated equipment and have a minimum pressure of 1,000 psi remaining on the accumulator. Dual control stations shall be installed with a high pressure backup system. One control panel shall be located on the ground at least 50 feet away from the wellhead or rotary table. Air or other gaseous fluid drilling systems shall have blow-out prevention assemblies. Such assemblies may include, but are not limited to, a rotating head, a double ram blow-out preventer or equivalent, a banjo-box or an approved substitute therefor and a blind ram blow-out preventer or gate valve, respectively. Exceptions to the requirements of this paragraph will be considered by the State Geologist only for certain geologic and well conditions such as stable surface areas with known low subsurface formation pressures and temperatures:

**(a) Conductor Casing.** In certain instances a remotely controlled hydraulically operated expansion type preventer or an acceptable alternative, approved by the State Geologist, including a drilling spool with side outlets or equivalent may be required by the State Geologist in areas where shallow thermal zones are indicated.

**(b) Surface, Intermediate, and Production Casing.** Unless otherwise approved by the State Geologist, before drilling below any of these strings, the blow-out prevention equipment shall include a minimum of:

**(A)** One expansion-type preventer and accumulator or rotating head;

**(B)** A manual and remotely controlled hydraulically operated double ram blow-out preventer or equivalent having a temperature derated minimum working pressure rating which exceeds the maximum anticipated surface pressure at the anticipated reservoir fluid temperature;

**(C)** A drilling spool with side outlets or equivalent;

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- (D) A fillup line;
- (E) A kill line equipped with at least one valve; and
- (F) A blowdown line equipped with at least two valves and securely anchored at all bends and at the end.

(c) Testing and Maintenance:

(A) Ram type blow-out preventers and auxiliary equipment shall be tested to a minimum of 1,000 psi or to the working pressure of the casing or assembly, whichever is the lesser. Expansion type blow-out preventers shall be tested to 70 percent of the above pressure testing requirements. The blow-out prevention equipment shall be pressure tested:

- (i) when installed;
- (ii) prior to drilling out plugs and/or casing shoes;
- (iii) not less than once each week, alternating the control stations; and
- (iv) following repairs that require disconnecting a pressure seal in the assembly.

(B) During drilling operations, blow-out prevention equipment shall be actuated to test proper functioning as follows: once each trip for blind and pipe rams but not less than once each day for pipe rams; and at least once each week on the drill pipe for expansion type preventers.

(C) All flange bolts shall be inspected at least weekly and retightened as necessary during drilling operations. The auxiliary control systems shall be inspected daily to check the mechanical condition and effectiveness and to insure personnel acquaintance with the method of operation. Blow-out prevention and auxiliary control equipment shall be cleaned, inspected, and repaired, if necessary, prior to installation to assure proper functioning. Blow-out prevention controls shall be plainly labeled, and all crew members shall be instructed on the function and operation of such equipment. A blow-out prevention drill shall be conducted weekly for each drilling crew. All blow-out prevention tests and crew drills shall be recorded on the driller's log.

(4) Related Well Control Equipment. A full opening drill string safety valve in the open position shall be maintained on the rig floor at all times while drilling operations are being conducted. A kelly clock shall be installed between the kelly and the swivel.

(5) Drilling Fluid. The properties, use, and testing of drilling fluids and the conduct of related drilling procedures shall be such as are necessary to prevent the blow-out of any well. Sufficient drilling fluid materials to ensure well control shall be maintained in the field area readily accessible for use at all times.

(6) Drilling Fluid Control. Before pulling drill pipe, the drilling fluid shall be properly conditioned or displaced. The hole shall be kept reasonably full at all times, however, in no event shall the annular mud level be deeper than 100 feet from the rotary table when coming out of the hole with drill pipe. Mud cooling techniques shall be utilized when necessary to maintain mud characteristics for proper well control and hole conditioning.

(7) Drilling Fluid Testing:

(a) Mud testing and treatment consistent with good operating practice shall be performed daily or more frequently as conditions warrant. Mud testing equipment shall be maintained on the drilling rig at all times.

(b) The following drilling fluid system monitoring or recording devices shall be installed and operated continuously during drilling operations, with mud, occurring below the shoe of the conductor casing. No exceptions to these requirements will be allowed without the specific prior permission of the State Geologist:

- (A) High-low level mud pit indicator including a visual and audio-warning device;
- (B) Degassers, desilters, and desanders;

(C) A mechanical, electrical, or manual surface drilling fluid temperature monitoring device. The temperature of the drilling fluid going into and coming out of the hole shall be monitored, read, and recorded on the driller's or mud log for a minimum of every 30 feet of hole drilled below the conductor casing; and

(D) A hydrogen sulfide indicator and alarm shall be installed in areas suspected or known to contain hydrogen sulfide gas which may reach levels considered to be dangerous to the health and safety of personnel in the area.

(8) Well-head Equipment and Testing:

(a) Completions. All wellhead connections shall be fluid pressure tested to the API or ASA working pressure rating. Cold water is recommended as the testing fluid. Welding of wellhead connections shall be performed by a certified welder using materials in conformance with ASTM specifications.

(b) Well-head Equipment. All completed wells shall be equipped with a minimum of one casinghead with side outlets, one master valve and one production valve, unless otherwise authorized by the State Geologist. All casingheads, christmas trees, fittings, and connections shall have a temperature derated working pressure equal to or greater than the surface shut-in pressure of the well at reservoir temperature. Packing, sealing mediums, and lubricants shall consist of materials or substances that function effectively at, and are resistant to, high temperatures. Wellhead equipment, valves, flanges, and fittings shall meet minimum ASA standards or minimum API Standard 6A specifications. Casinghead connections shall be made such that fluid can be pumped between casing strings.

(9) Supervision. From the time drilling operations are initiated and until the well is completed or abandoned, a member of the drilling crew or the toolpusher shall monitor the rig floor at all times for surveillance purposes, unless the well is secured with blow-out preventers or cement plugs.

Stat. Auth.: ORS Ch. 522

Hist: GMI 8, f. & cf. 11-17-76; GMI 4-1980, f. & cf. 10-2-80

**Blow-Out Prevention Rules for Prospect Wells**

**632-20-180** The following stipulations shall apply to the drilling of shallow prospect holes. All wells drilled below a depth of 500 feet shall have adequate well-head controls installed:

(1) If hot water or flowing steam at 65° C. (150° F.) or greater is encountered, further drilling shall stop immediately, the operator shall notify the State Geologist, and the hole will be either:

(a) Completed as an observation hole using steel tubing cemented from total depth to surface; or

(b) Abandoned by plugging with cement from total depth to surface; or

(c) Deepened only after a review of the adequacy of well-head control equipment and permission of the State Geologist. If the prospect well is deepened as described in this section, it shall be completed as described in (a) and (b) above.

(2) If cold flowing artesian water is encountered, the hole will be completed as in (1)(a) or (1)(b) hereinabove, except that plastic tubing may be used.

(3) Locations proposed in natural thermal areas within a 1,000 foot radius of hot springs, fumaroles, or other surface geothermal indicators, or in areas of known artesian water flow, will require a detailed drilling program for each hole, approved by the State Geologist. The State Geologist may require special drilling and completion techniques for such holes (such as cemented surface casing and simple expansion type blow-out preventers) to safely control formations containing geothermal or other resources which may be penetrated.

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(4) A supply of mud and lost circulation material shall be kept on hand while drilling to control abnormal pressure if rotary equipment is used.

Stat. Auth.: ORS Ch. 522

Hist: GM18, f. & ef. 11-17-76; GMI 4-1980, f. & ef. 10-2-80

STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 State Office Building  
Portland, Oregon 97201



LAWS AND ADMINISTRATIVE RULES  
RELATING TO OIL AND GAS EXPLORATION  
AND DEVELOPMENT IN OREGON

MISCELLANEOUS PAPER No. 4

PART 1

Revised 1980

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DIVISION 10

GENERAL

**General Rules**

632-10-002 General rules shall be state-wide in application unless otherwise specifically stated and applicable to all lands within the jurisdiction of the State of Oregon.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Supremacy of Special Rules**

632-10-004 Special rules will be issued when required and shall prevail as against general rules if in conflict therewith.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Secretary to the Board**

632-10-006 The director of the State Department of Geology and Mineral Industries shall act as secretary to the Board.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Definitions**

632-10-008 As used in rules 632-10-010 to 632-10-200, unless otherwise required by context:

- (1) "Allowable" shall mean the quantity of natural gas or oil allowed by order of the Board to be produced within a stated period.
- (2) "Atmospheric Pressure" shall mean the pressure of air at sea level, equivalent to about 14.73 pounds per square inch absolute.
- (3) "Barometric Pressure" shall mean the pressure or weight of air determined by the use of a barometer at a given point.
- (4) "Barrel" shall mean 42 U.S. gallons of oil at a temperature of 15.55 degrees Centigrade (60 degrees Fahrenheit), with deductions for the full percent of basic sediment, water and other impurities present, ascertained by centrifugal or other recognized and customary test.
- (5) "Blow-Out" shall mean an uncontrolled escape of oil, natural gas, or saltwater as a flow of oil, or natural gas or saltwater from a well.
- (6) "Blow-Out Preventer" shall mean a heavy casing-head control of special gates or rams which will seal the annular space between drill pipe or tubing and casing or which completely closes off the top of the inner casing string.
- (7) "Bottom Hole Pressure" shall mean the pressure in pounds per square inch at or near the bottom of an oil or gas well determined at the face of the producing horizon by means of a pressure recording instrument, adopted and recognized by the oil and gas industry, and corrected to the sea level elevation.
- (8) "Casing Pressure" shall mean the pressure built up between the casing and tubing when the casing and tubing are packed off at the top of the well and measured at the surface.
- (9) "Casing-Head Gas" shall mean any gas or vapor, or both gas and vapor, indigenous to an oil stratum and produced from such stratum with oil.
- (10) "Combination Well" shall mean well productive of both oil and gas in commercial quantities from the same common source of supply and which has sufficient natural pressure to cause gas to enter a pipe line carrying more than atmospheric pressure.
- (11) "Common Source of Supply" is synonymous with

pool.

(12) "Condensate" shall mean hydrocarbons existing in the gaseous state in the reservoir, by condensing to a liquid at pressures or temperatures below those of the reservoir. For the purpose of brevity, the use herein of the word "oil" shall include condensate as defined herein, unless otherwise provided. For instance, oil well shall mean not only an oil well but also a condensate well.

(13) "Connate Water" shall mean the water which was present with the deposition of solid sediments in an oil or gas reservoir and which has not, during the oil accumulation, been displaced.

(14) "Correlative Rights" as used in these rules shall mean that each owner or producer in a pool is privileged to produce therefrom only in such manner or amount as not to injure the reservoir to the detriment of others or to take an undue proportion of the oil or gas obtainable therefrom, or to cause net drainage between developed units.

(15) "Cubic Foot of Gas" shall mean the volume of gas expressed in cubic feet computed at standard pressure base of 14.73 pounds per square inch absolute and a standard temperature base of 60 degrees F.

(16) "Day" shall mean a period of twenty-four consecutive hours from 7 a.m. one day to 7 a.m. the following day.

(17) "Development" shall mean any work which actively looks toward bringing in production, such as erecting rigs, building tanks, drilling wells, etc.

(18) "Developed Area or Developed Unit" shall mean a proration unit having a well completed thereon which is capable of producing oil or gas in paying quantities; however, in the event it be shown, and the Board finds, that a part of any unit is nonproductive, then the developed area of the unit shall include only that part so found to be productive.

(19) "Differential Pressure" shall mean in the case of wellhead measurement, the difference between the tubing pressure and the casing pressure; in the case of an orifice meter, the pressure difference between the up-stream and the down-stream sides of the orifice, a pressure difference measured with a differential gauge or with a manometer (U tube).

(20) "State Geologist" shall mean the chief administrator for the State Department of Geology and Mineral Industries.

(21) "Edge Water" shall mean water that holds the oil or gas, or both oil and gas, in a higher structural position usually encroaching on a pool as the oil or gas is recovered.

(22) "Field" shall mean the general area underlain by one or more pools.

(23) "Gas" shall mean all natural gas, including casing-head gas and other hydrocarbons not defined as oil in section (5) of this rule.

(24) "Gas Allowable" shall mean the amount of natural gas authorized to be produced by order of the Board.

(25) "Gas-Oil Ratio" shall mean the relation of the gas in cubic feet to the production of oil in barrels as accepted by pipelines.

(26) "Gas Repressuring" shall mean the introduction of gaseous substances into a pool by artificial means in order to replenish, replace, or increase the reservoir energy.

(27) "Gas, Sour" shall mean gas which contains hydrogen-sulphide, sulphur, or other deleterious substances, in sufficient quantities to render it unfit for domestic light and fuel.

(28) "Gas Well" shall mean:

(a) A well which produces natural gas only;

(b) That part of a well where the gas producing stratum has been successfully cased off from the oil, the gas and oil being produced through separate casing or tubing;

(c) Any well capable of producing gas in commercial quantities; or

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(d) A well producing from a reservoir containing no liquid hydrocarbons.

(29) "Illegal Gas" shall mean gas which has been produced within the state from any well or wells in excess of the amount allowed by any rule, regulation, or order of the Board, as distinguished from gas produced within the state not in excess of the amount of allowed production by any such rule, regulation, or order which is legal gas.

(30) "Illegal Oil" shall mean oil which has been produced within the state from any well or wells in excess of the amount allowed by any rule, regulation, or order of the Board, as distinguished from oil produced within the state not in excess of the amount so allowed by any such rule, regulation, or order which is legal oil.

(31) "Illegal Product" shall mean any product of oil or gas, any part of which was processed or derived, in whole or in part, from illegal oil or illegal gas or from any product thereof, as distinguished from legal product, which is a product processed or derived to no extent from illegal gas or illegal oil.

(32) "Indices of Productive Value" shall mean the factors to be considered in ascertaining the productivity of all property in a pool for the purpose of fixing the allowable production. These indices can mean, at the discretion of the Board, potential acreage, gas-oil ratios, static reservoir pressures, flowing pressures, fluid level draw-downs, the well or wells, or any other pertinent factors.

(33) "Mud-Laden Fluid" shall mean any approved mixture of fluid and clay or other material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

(34) "Net Drainage" shall mean the drainage or migration of oil or gas within the reservoir which is not equalized by counter-drainage.

(35) "Nomination" shall mean the statement made by a purchaser as to the amount of oil or gas he is willing to purchase for a given period.

(36) "Oil" shall mean crude petroleum oil and any other hydrocarbons, regardless of gravity, which are produced at the well head in liquid form and from gas by ordinary production methods.

(37) "Oil Allowable" shall mean the amount of oil authorized to be produced by order of the Board.

(38) "Oil Well" for the purpose of the rules, shall mean any well not a gas well capable of producing oil or condensate in paying quantities.

(39) "Operator" shall mean any person who, duly authorized, is in charge of the development of a lease or the operation of a producing well.

(40) "Overage, Overproduction" shall mean the oil or gas produced in excess of the allowable fixed by the Board.

(41) "Owner" shall mean the person who has the right to drill into and produce from a field or pool, or to appropriate the production therefrom, or both, either for himself or for himself and others.

(42) "Period Allowable" shall mean the period as designated in which an allowable may be produced.

(43) "Person" shall mean any natural person, partnership, corporation, association, receiver, trustee, guardian, fiduciary, executor, administrator, representative of any kind, or the State of Oregon and its political subdivisions.

(44) "Pipe Line Oil" shall mean oil free from water and basic sediment to the degree that it is acceptable for pipe line transportation and refinery use.

(45) "Pool" shall mean an underground reservoir containing or appearing to contain a common accumulation of oil and natural gas. A zone of a structure which is completely separated from any other zone in the same structure is a pool.

(46) "Potential" shall mean the computed daily ability of a well to produce oil as determined by a test made in conformity with rules prescribed by the Board.

(47) "Pressure Maintenance" shall mean:

(a) The re-introduction (in the early stages of field development) of gas or fluid produced from an oil or gas well to maintain the pressure of the reservoir;

(b) The introduction of gas or fluid for the same purpose but obtained from an outside source.

(48) "Producer" or "owner" shall mean a person who has the right to drill into and to produce from any pool and to appropriate the oil or gas he produces therefrom either for others, for himself, or for himself and others.

(49) "Product" shall mean any commodity made from oil or gas, and shall include refined crude oil, crude tops, topped crude, processed crude petroleum, residue from crude petroleum, cracking stock, uncracked fuel oil, fuel oil, treated crude oil, residuum, gas oil, casing-head gasoline, natural gas, gasoline, kerosene, benzene, wash oil, waste oil, blended gasoline, lubricating oil, blends or mixtures of oil with one or more liquid products or by-products derived from oil or gas, and blends or mixtures of two or more liquid products or by-products from oil or gas.

(50) "Proved Oil or Gas Land" shall mean the area which has been shown by development or geological information to be such that additional wells drilled thereon are reasonably certain to be commercially productive of oil or gas, or both.

(51) "Purchaser" shall mean any person who directly or indirectly purchases, transports, takes, or otherwise removes production to his account from a well, wells, or pool.

(52) "Recycle" — See Pressure Maintenance (section (47)).

(53) "Repressure" — See Pressure Maintenance (section (47)).

(54) "Run" shall mean oil or gas piped from one place to another.

(55) "Separator" shall mean an apparatus for separating oil, gas, water, etc., with efficiency as it is produced.

(56) "Share, Fair" shall mean that part of the authorized production for the pool which is substantially in the proportion that the quantity of recoverable oil and gas in the developed area of a tract in the pool bears to the recoverable oil and gas in the total developed area of the pool, insofar as these amounts can be practically ascertained.

(57) "Shortage of Underage" shall mean the amount of production less than the allowable.

(58) "Spacing Unit" shall mean the maximum area in a pool which may be efficiently and economically drained by one well.

(59) "Storage" shall mean produced oil, gas, or both confined in tanks, reservoirs, or containers.

(60) "Storage, Underground" shall mean underground cavities either natural or artificial or both which are suitable for storage of natural gas, produced petroleum, and petroleum products. The term may also mean the produced petroleum and petroleum products confined in underground cavities.

(61) "Survey" shall mean all tests made for the purpose of obtaining information concerning the productive possibility of any geological formation and shall include electrical and directional surveys.

(62) "Waste" in addition to its ordinary meaning, shall mean "physical waste" as that term is generally understood in the petroleum industry. It includes:

(a) Underground waste and the inefficient, excessive, or improper use or dissipation of reservoir energy, including gas energy and water drive, of any pool; and the locating, spacing, drilling, equipping, operating, or producing of any oil well or gas well in a manner which results or tends to result in reducing the quantity of oil or gas ultimately recoverable from any pool;

(b) Surface waste and the inefficient storing of oil and the locating, spacing, drilling, equipping, operating, or producing of oil wells or gas wells in a manner causing or tending to cause

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unnecessary or excessive surface loss or destruction of oil or gas.

(63) "Well" shall mean a well drilled in search of oil or gas, but shall not include core test wells, stratigraphic test wells or wells drilled for information purposes only as distinguished from wells drilled for the purpose of producing oil or gas if found.

(64) "Well Log" shall mean the written record progressively describing the strata, water, oil or gas encountered in drilling a well with such additional information as to give volumes, pressure, rate of fill-up, water depths, casing strata, casing record, etc., as is usually recorded in normal procedure of drilling, also to include electrical survey or logging.

(65) "Wildcat Well" shall mean a drilling or producing well in an unproved area.

(66) Additional definitions may be found in ORS 520.005 and 520.015.

(67) "Abandonment" shall mean that a well is to be considered abandoned when it has been properly plugged and sealed off and requirements under the regulations have been fulfilled to the satisfaction of the Board.

(68) "Completion" shall mean, for the purposes only of filing well records that a well is considered completed:

(a) When it is capable of producing oil and/or gas;

(b) When it has been properly plugged and abandoned.

When operations to accomplish subsections (a) or (b) of this section have been suspended for a period of thirty (30) consecutive days or more. In such instances any required supplemental data shall be furnished the State Geologist upon the occurrence of either subsections (a) or (b) of this section.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54; GMI 2, f. 6-20-55; GMI 1-1979, f. & ef. 1-25-79

**Application and Permit to Drill, Deepen, or Rework**

632-10-010 (1) No person proposing to drill, deepen, or rework any well for oil or gas shall commence the drilling, deepening, or reworking until he has applied to the State Geologist upon a form prescribed by the State Geologist for a permit to operate the well, paid to the Board a fee of \$100 for each such well, posted a \$10,000 bond required pursuant to rule 632-10-205 and obtained the permit to drill, deepen, or rework the well pursuant to section (3) of this rule.

(2) The State Geologist shall require that the application indicate:

(a) The location of the well;

(b) The name and address of the owner, operator, and any other person responsible for the conduct of the drilling operations;

(c) The elevation of the well above the sea level;

(d) Casing and cementing programs giving details of casing sizes, casing grade, hole diameters, and volume of cement to be used;

(e) Ecologic objectives for holes drilled in known producing areas, proposed depth in all cases.

(3) The State Geologist shall circulate the application for technical review to appropriate state natural resource agencies and the governing body of the county or city in which the well will be located. The agencies have 20 days from the date of application in which to comment.

(4) If upon receipt of the application the State Geologist or his agent determines that the method of drilling and equipment to be used by the applicant in drilling the well comply with applicable laws and rules, the State Geologist shall issue the permit within 30 days. The State Geologist may refuse to issue a permit if he determines that the methods of drilling or equipment to be used or being used in drilling the well do not comply with the applicable laws or rules. If the State Geologist refuses to issue a permit, he shall notify the applicant in writing

within 30 days from the date of application the reasons for denying the permit. Any person adversely affected by a ruling of the State Geologist may within 30 days of such ruling apply to the Board for a rehearing.

(5) When issuing the permit, the State Geologist shall inform the applicant that:

(a) Issuance of the permit is not a finding of compliance with the Statewide Planning Goals (ORS 197.225) or the acknowledged comprehensive plan; and

(b) The applicant must receive a land use approval from the affected local government. The approval may include a determination that the proposed action is in compliance with the Statewide Planning Goals.

(6) The State Geologist may revoke a permit for noncompliance with rules of this chapter after first giving the permittee written notice and after such notice the permittee fails to correct the violation within 30 days from receipt of the notice. A person receiving a permit to drill, deepen, or rework any well shall commence such drilling, deepening, or reworking within 180 days from issuance of the permit, otherwise the permit will become invalid. The permit may be extended by the Board upon receipt of written notice from the permittee giving reasons for not beginning drilling, deepening, or reworking within the 180-day period.

Stat. Auth.: ORS Ch. 520

Hist: GMI 2, f. 6-20-55; GMI 1-1978(Temp), f. 5-26-78, ef. 7-1-78; GMI 1-1979, f. & ef. 1-25-79; GMI 3-1980, f. 2-29-80, ef. 3-1-80

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

**Changes of Location or Ownership**

632-10-012 (1) If, prior to the drilling of a well, the person to whom the permit was issued desires to change the location, he shall submit a letter so stating and another application properly filled out showing the new location. No additional fee is necessary, but drilling shall not be started until the transfer has been approved and the new permit posted at the new location.

(2) If, while a well is drilling or after it has been completed, the person to whom the permit was issued disposes of his interest in the well, he shall submit a written statement to the director setting forth the facts.

(3) Before the transfer of any well, the person who is to acquire it must obtain a permit and post a bond as required by rule 632-10-010.

Stat. Auth.: ORS Ch. 520

Hist: GMI 2, f. 6-20-55

**Drilling Practices**

632-10-014 (1) Pits for Drill Cuttings: There shall be provided at every well before the actual drilling has been started, one or more pits of adequate and approved size for holding the drill cuttings removed from such well.

(2) Casing and Sealing Off Formations: The State Geologist shall determine that surface casing used in all wells shall be of suitable grade and wall thickness. In all wells drilled in areas where pressure and formation are unknown, sufficient surface casing shall be run to reach a depth below known potable fresh water levels. Surface casing shall be cemented by the pump and plug or displacement method with sufficient cement to circulate to the top of the hole.

(a) Each fluid bearing zone above the producing horizon in oil and gas wells shall be cased and sealed off to prevent effectively the migration of formation fluids to other areas. Such casing and sealing off shall be effected and tested in such

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manner and by such methods and means as may be prescribed by the State Geologist or his representative.

(b) In wells drilled in areas where subsurface conditions have been established by drilling experience, surface casing size at the operator's option shall be set and cemented to the surface by the pump and plug or displacement method at a depth sufficient to protect all potable fresh water.

(c) Cement shall be allowed to set a minimum of twelve (12) hours under pressure before drilling the plug.

(3) Mud-Laden Fluid to be Applied: No rock formation containing natural gas shall be drilled or be permanently left open without the application of mud-laden fluid to prevent the escape of gas during further drilling in or through such gas bearing formations.

(4) Well-Head Equipment: In all proven areas, the use of blow-out shall equipment shall be in accordance with established practice in the area.

In unproven areas, (wildcat wells) all drilling wells shall be equipped with a full closure gate, or its equivalent, an adequate blow-out preventer, together with a flow line valve of the proper size and working pressure. The entire control equipment shall be in good working condition at all times.

(5) Well Records (Logs): During the drilling, deepening or reworking of every well, except seismic, core, or other shallow wells drilled solely for geological data, the owner, operator, contractor, driller, or other person responsible for the conduct of drilling operations, shall keep at the well a detailed and accurate record of the well, reduced to writing from day to day, which shall be accessible to the State Geologist and his agents at all reasonable times. A copy of the records shall be furnished to the State Geologist upon a form prescribed by the State Geologist within twenty (20) days after the completion or abandonment of any well which ever date comes first:

(a) Any logging including, but not limited to, electrical logging or bore hole surveying of the well shall also be recorded and copy furnished the Board within twenty (20) days after completion or abandonment which ever date comes first. Upon request by the State Geologist, a complete set of cuttings or samples of cores, if taken, correctly labeled and identified as to depth, shall be filed with the Supervisor within 20 days after completion or abandonment of every such well.

(b) Well logs, electrical logs, cuttings, and cores shall be kept confidential for a period of two years from the required filing date. The well record shall describe progressively the strata, water, oil, or gas encountered in drilling a well with such additional information as to gas volumes, pressures, rate of fill-up, water depths, caving strata, casing record, shooting, perforating, chemical treatment, etc., as are usually recorded in the normal procedure of drilling.

(6) Deepening: Every person, owner, or producer who desires to deepen a well to a depth below that to which it was originally drilled shall file a written notice of intention to deepen. The notice shall set forth in detail the new proposed total depth, the plan for sealing off any oil, gas, brine, or fresh-water strata to be found or expected to be found in the deepening. If the method set forth is satisfactory and the person, owner, or producer is not in violation of the law or the rules of the Board, the director shall issue a deepening permit. The actual deepening shall not be started until the deepening permit has been posted at the well location.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Identification of Wells**

**632-10-016** Hereafter, every person drilling for oil or gas or operating, owning, or controlling or in possession of any well drilled for oil or gas, shall paint or stencil and post and keep posted in a conspicuous place near the well, the name of the person drilling, operating, owning, or controlling the well, the

name of the lease, the number of the well, and the number of the permit for the well, together with the Section, Township, and Range.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Organization Reports**

**632-10-018** Every person acting as principal or agent for another or independently engaged in drilling for oil or gas or in the production, storage, reclaiming, treating, or processing of crude oil or natural gas produced in Oregon shall immediately file with the Board in the form of an affidavit: the name under which such business is being conducted or operated; the name and postoffice address of such person, the business or businesses in which he is engaged; the plan of organization and, in case of a corporation, the law under which it is chartered and the name and postoffice address of any person acting as a trustee, together with the name of the manager, agent, attorney-in-fact, or principal executive thereof, and the name and postoffice address of each officer thereof. In each case where such business is conducted under an assumed name, such report shall show the names and postoffice addresses of all owners in addition to the other information required and also the name of the county in which the certificate of assumed name is filed. Immediately after any change occurs as to the facts stated in the report filed, a supplementary report under oath shall be immediately filed with the Board with respect to such change.

Stat. Auth.: ORS Ch.

Hist: GMI 2, f. 6-20-55

**Surface Equipment**

**632-10-020** Meter fittings of adequate size to measure the gas efficiency for the purpose of obtaining gas-oil ratios shall be installed on the gas vent-line of every separator. Well-head equipment shall be installed and maintained in first-class condition so that static bottom hole pressure may be obtained at any time by the duly authorized agents of the Board or the director. Valves shall be installed so that pressures can be readily obtained on both casing and tubing.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Blow-Out Prevention**

**632-10-122** In drilling in areas where high pressures are likely to exist, all proper and necessary precautions shall be taken for keeping the well under control, including the use of blow-out preventers and high-pressure fittings attached to casing strings properly anchored and cemented.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Drilling Fluid**

**632-10-124** At any time of drilling any well by rotary method, the operator shall continuously maintain in the hole, from top to bottom, good mud-laden fluid in accordance with recognized safe practice.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

**Cleaning Wells**

**632-10-126** All wells shall be cleaned into a pit not less than one hundred fifty (150) feet from the derrick floor and one hundred fifty (150) feet from any fire hazard.

Stat. Auth.: ORS Ch. 520

Hist: GMI 1, f. 1-27-54

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**Boiler or Light Plant**

632-10-128 No boiler or electric lighting generator shall be placed nearer than 100 feet to any producing well or oil tank.

Stat. Auth.: ORS Ch. 520  
Hist: GMI I, f. 1-27-54

**Rubbish or Debris**

632-10-130 Any rubbish or debris that might constitute a fire hazard shall be removed to a distance of at least 150 feet from the vicinity of wells, tanks, and pump stations. All waste shall be burned or disposed of in such manner as to avoid creating a fire hazard or polluting streams and fresh-water strata.

Stat. Auth.: ORS Ch. 520  
Hist: GMI I, f. 1-27-54

**Tubing**

632-10-132 All wells shall be equipped with, and produced through tubing. The bottom of tubing on flowing wells shall not be higher than 100 feet above the top of the producing horizon or as otherwise approved by the State Geologist.

Stat. Auth.: ORS Ch. 520  
Hist: GMI I, f. 1-27-54; GMI I-1979, f. & ef. 1-25-79

**Chokes**

632-10-134 All flowing wells shall be equipped with chokes or beans adequate to control the flow thereof.

Stat. Auth.: ORS Ch. 520  
Hist: GMI I, f. 1-27-54

**Separators**

632-10-136 All flowing wells must be produced through an approved oil and gas separator.

Stat. Auth.: ORS Ch. 520  
Hist: GMI I, f. 1-27-54

**Fire Walls**

632-10-138 Every permanent oil tank, or battery of tanks, must be surrounded by a dike or fire wall with a capacity of one and one-half times that of the tank or battery of tanks.

Stat. Auth.: ORS Ch. 520  
Hist: GMI I, f. 1-27-54

**Slush Pits Or Sumps**

632-10-140 Materials and fluids or any fluid necessary to the drilling, production, or other operations by the permittee shall be discharged or placed in pits and sumps approved by the State Geologist and the State Department of Environmental Quality. The operator shall provide pits, sumps, or tanks of adequate capacity and design to retain all materials. In no event shall the contents of a pit or sump be allowed to:

- (1) Contaminate streams, artificial canals or waterways, groundwaters, lakes, or rivers.
- (2) Adversely affect the environment, persons, plants, fish, and wildlife and their population.
- (3) When no longer needed, pits and sumps are to be filled and covered and the premises restored to a near natural state so as not to damage the aesthetic values of the property or adjacent properties.

Stat. Auth.: ORS Ch. 520  
Hist: GMI I, f. 1-27-54; GMI I-1979, f. & ef. 1-25-79

**Directional Drilling**

632-10-142 (1) Any well which is drilled or deepened shall be surveyed at reasonably frequent intervals to determine the deviation from the vertical. Deviation from the vertical is

permitted without special permission for short distances, to straighten the holes, sidetrack junk, or correct other mechanical difficulties. For the purposes of this rule an affected operator is an owner in a lease directly or diagonally offsetting any lease upon which the operation is proposed to be conducted.

(2) Except for the purposes of straightening the hole, sidetracking junk, or correcting mechanical difficulties as provided in this rule, no well shall be intentionally deviated from the vertical unless the operator thereof shall first file application and obtain a permit from the State Geologist. If drilling is in progress, the operator must notify the State Geologist immediately of the deviation of the hole or his intention to deviate the hole. When an operator follows this procedure, he must file an application as soon as practicable and obtain a permit as prescribed in subsection (a) of this rule:

(a) The application shall be made in such form as provided below and shall include or have attached to it:

(A) Surface and proposed producing interval locations in terms of distances from lease and section boundaries.

(B) Reason for deviation.

(C) List of affected operators and a showing that each has been furnished a copy of the application by registered mail, or a showing that the applicant is the only affected operator.

(D) Neat and accurate plat of the lease and of all affected leases showing the names of all affected operators and the surface and proposed producing interval locations of the well. The plat shall be drawn to a scale which will permit easy observation of all pertinent data.

(b) Paragraphs (C) and (D) of this subsection shall not be applicable to any well drilled on lands subject to an approved unit unless the proposed subsurface location of such well shall be nearer to any exterior boundary of such unit or to the subsurface location or proposed subsurface location of any producing or drilling well not subject to such unit than the applicable distances required as to oil and gas wells, respectively.

(c) If the applicant is the only affected operator and the State Geologist does not object to the application, the State Geologist may approve it immediately. If there are other affected operators, the State Geologist will hold the application for 30 days unless a letter of non-objection from each affected operator has been filed with the State Geologist. If objection from an operator to the proposed intentional deviation is received within the 30-day period, the application shall be subject to public hearing. If no objection from the affected operators is interposed within the 30-day period, the application shall be approved and permit issued by the State Geologist.

(3) Upon completion a complete directional survey of the well obtained by approved well surveying methods shall be filed with the State Geologist together with other regularly required reports.

(4) If the proposed or final location of the producing interval of the directionally deviated well is not in compliance with the spacing or other rules applicable to the reservoir, proper application shall be made to obtain approval of exceptions to such rules. Such approval shall be granted or denied at the discretion of the State Geologist and shall be accorded the same consideration and treatment as if the well had been drilled vertically to the producing interval.

Stat. Auth.: ORS Ch. 520

Hist: GMI I, f. 1-27-54; GMI I-1979, f. & ef. 1-25-79; GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Report of Result of Shooting, Perforating, or Treating of Well**

632-10-144 Within 60 days after either the shooting or chemical treatment of a well, a report shall be filed with the State Geologist by the owner, giving the condition of the well

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after shooting and other pertinent data.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Vacuum Pumps Prohibited**

632-10-146 The use of vacuum pumps or other devices for the purpose of putting a vacuum on any gas or oil-bearing stratum is prohibited, unless, upon application and hearing, and for good cause shown, the Board shall permit the use of vacuum pumps.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Production Practice**

632-10-148 Naturally flowing wells shall be produced at a continuous uniform rate as far as is practical, in keeping with the current allowable, unless the Board specifically permits stop-cocking to reduce the gas-oil ratio.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Removal Of Casings**

632-10-150 No person shall remove a casing, or any portion thereof, from any well without first giving advance notice and obtaining approval in writing from the State Geologist or his deputy.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Notification of Fire, Breaks, Leaks, or Blow-Outs**

632-10-151 (1) All persons controlling or operating any oil and gas wells, or receiving tanks, storage tanks, or receiving and storage receptacles into which crude oil is produced, received, or stored, shall immediately notify the Board by letter giving full details concerning all fires which occur at such oil or gas wells or tanks or receptacles on their property, and all such persons shall immediately report all tanks or receptacles struck by lightning and any other fire which destroys oil or gas, and shall immediately report any breaks in or from tanks or receptacles and pipe lines from which oil or gas is escaping or has escaped.

In all such reports of fires, breaks, leaks, or escapes, or other accidents of this nature, the location of the well, tank 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 likewise specify what steps have been taken or are in progress to remedy the situation reported and shall detail the quantity of oil or gas lost, destroyed, or permitted to escape.

In case any tank or receptacle is permitted to run over, the escape thus occurring shall be reported as in the case of a leak. The report hereby required as to oil losses shall be necessary only in case such oil loss exceeds five barrels in the aggregate.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Multiple Completion of Wells**

632-10-152 No well shall be permitted to produce either oil or gas from different strata through the same tubing without approval of the State Geologist. The approval of the State Geologist will require evidence of adequate and complete separation as ascertained by pressure or circulated tests conducted at the time the packers are set. Subsequently, if packer leakage is suspected the State Geologist may request the operator to provide proof of adequate and complete separation of the pools involved in the completions or make a packer leakage test. Notification shall be given so that the

State Geologist or his agent may witness the actual operation of multiple completion of a well or witnessing any packer leakage test.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Determining and Naming Pools**

632-10-154 Wells shall be classified as to the pool from which they produce and pools shall be determined and named by the director, provided, that in the event any person is dissatisfied with any such classification, an application may be made to the Board for such classification as the applicant deems proper, and the Board will hear and determine the same.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Spacing Units**

632-10-156 Immediately upon the discovery of any pool or at any time after the effective date of this rule, the Board may prescribe spacing units for each pool and specify the size, shape, and location thereof.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Location and Spacing of Wells**

632-10-158 (1) Spacing Plan:

(a) The minimum spacing for oil wells shall be 40 acres, and the minimum spacing for gas wells shall be 160 acres when the producing zone is less than 7000 feet in depth. The minimum spacing for oil wells shall be 160 acres and the minimum spacing for gas wells shall be 640 acres when the producing zone is equal to or greater than 7000 feet in depth.

(b) In portions of the state covered by federal land survey grid, the spacing for oil wells shall consist of a governmental quarter or quarter quarter section and the spacing for gas wells shall consist of a governmental section or quarter section. In portions of the state not covered by federal land survey grid, the spacing units shall be square in shape and of an area prescribed in subsection (a) for oil and gas wells.

(c) Any existing dry holes shall not affect the spacing for producing wells.

(2) Location of Well: The completion location of each well permitted to be drilled on any spacing unit shall be the location of the well at the top of the producing horizon. For oil wells the completion location of the well shall not be located nearer than 250 feet from the unit boundary, and 500 feet from the nearest producing well from the same pool. For gas wells the completion location of the well shall not be located nearer than 500 feet from the unit boundary, and 1000 feet from the nearest producing well from the same pool. Exceptions may be recognized by the Board after a hearing when reasonably necessary on the basis of geology, productivity, topography, enhancement requirements, or environmental protection.

(3) Exceptions: Whenever a uniform spacing plan has been prescribed for any pool exceptions thereto may be permitted if the Board finds, after notice and hearing, that conditions within such pool are such that reasonably uniform spacing would be impracticable.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54; GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Underground Reservoirs for Natural Gas Storage**

632-10-159 Rules providing for well spacing and proration of gas shall not apply to gas storage wells, injection wells or monitor wells.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 3-1980, f. 2-29-80, ef. 3-1-80

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**Pooling of Small Tracts**

632-10-160 When two or more separately owned tracts of land are embraced within a spacing unit which has been established by the Board, the owners thereof may pool their interests and develop their lands as a unit. Where, however, such owners have not agreed to pool their interests, the Board, for the prevention of waste or to protect correlative rights, may limit the allowable of each such owner to his reasonable prorata share of production from such spacing unit.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Legal Production**

632-10-162 No purchaser, producer, operator, or any other person shall produce any crude oil, natural gas, or waste oil from any spacing unit or pool in this state except in accordance with the rules, regulations, and orders of the Board. Provided that tank splitting shall not be required.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Limitation of Production**

632-10-163 In the absence of unitization, whenever the Board, after notice and hearing, finds that waste as defined in the Act, is occurring or is imminent in any oil or gas field or pool and that the production of oil or gas from such field or pool should be limited to prevent waste, then the Board shall issue an order limiting production from such field or pool and specify rules applicable thereto for the allocation or distribution of allowable production therefrom as provided for in ORS 520.005(1) and 520.015.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Commingle of Production Prohibited**

632-10-164 The production from one pool shall not be commingled with that from another pool in the same field before delivery to a purchaser, unless otherwise ordered by the Board.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Allocation of Gas Pursuant to Special Pool Rules**

632-10-165 Whenever the full production from any pool producing natural gas is in excess of the market demand for gas from that pool, any operator or interest owner in accordance with ORS 520.115 may petition the agency for a hearing and an order establishing a method of determining the market demand from the pool and of distributing that demand among the wells producing therefrom.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Reports by Purchasers and Producers**

632-10-166 (1) Purchasers: Each purchaser or taker of any oil or gas from any well, lease, or pool shall on or before the 25th day of each month succeeding the month in which the purchasing or taking occurs, file with the director on a form furnished by the Board, a verified statement of all oil or gas purchased, or taken from any such well, lease, or pool during the preceding month.

(2) Producers: The producer or operator of each and every well or spacing unit in prorated pools shall each month submit to the director a sworn statement showing the amount of production made by each well and by each such spacing unit upon forms furnished therefor.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Maximum Efficient Rate Hearings**

632-10-167 The Board on its own motion may, or at the request of any interested party shall, call hearings to determine the maximum efficient rate at which any pool in the state can produce oil and gas without waste.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 3-1980, f. 2-29-80, ef. 3-1-80

**Use of Earthen Reservoirs**

632-10-168 Oil shall not be stored or retained in earthen reservoirs or in open receptacles.

Stat. Auth.: ORS Ch. 520  
Hist.: GMI 1, f. 1-27-54

**Natural Gas Policy Act Determination Procedures**

632-10-169 (1) All category determinations under that Natural Gas Policy Act of 1978 will be initiated by the operator by filing with the State Geologist single legible copies of the documentation described below. A co-lessee may make application if the operator refuses to take such action upon written request.

(a) For new onshore reservoirs, an application under section 102(c)(1)(C) will be accompanied by:

(A) Federal Energy Regulatory Commission Form 121.

(B) Application for permit to drill.

(C) Geological information sufficient to support a determination that the reservoir is a new onshore reservoir including all well logs, results of well potential tests, geologic maps and cross-sections showing the extent of the reservoir as known at the time of application, gas analyses, well completion reports, and directional drilling surveys if performed.

(D) Well summary report (completion report).

(E) Monthly production reports, if there has been production.

(F) A statement by the Operator under oath:

(i) that he has made, or has caused to be made pursuant to his instructions, a diligent search of all records (including but not limited to production, State severance tax, and royalty payment records) which are reasonably available and contain information relevant to the determination of eligibility describing the search made, the records reviewed, the location of such records, and a description of any records which he believes may contain information relevant to the determination but which he has determined are not reasonably available to him;

(ii) that on the basis of the results of this search and examination, he has concluded that to the best of his information, knowledge, and belief, the natural gas to be produced and for which he seeks determination is from a new onshore reservoir.

(iii) that he has no knowledge of any other information not described in the application which is inconsistent with his conclusion; and

(b) the applicant, in his statement under oath, shall also answer, to the best of his information, knowledge and belief, and on the basis of the results of his search and examination, the following questions:

(A) Was natural gas produced in commercial quantities from the reservoir prior to April 20, 1977?

(B) Was the reservoir penetrated before April 20, 1977, by an old well from which natural gas or crude oil was produced in commercial quantities from any reservoir?

(C) If the Question in clause (B) is answered in the affirmative, could natural gas have been produced in commercial quantities from the reservoir before April 20, 1977?

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(D) If the natural gas is to be produced through an old well, were suitable facilities for the production and delivery to a pipeline of such natural gas in existence on April 20, 1977?

(c) For new natural gas, an application under section 102(c)(1)(B) will be accompanied by:

(A) Federal Energy Regulatory Commission Form 121.

(B) Application for permit to drill.

(C) A plat map showing the location of all oil and gas wells within 2.5 miles of the subject well at a scale of 1:48,000 or larger.

(D) Well summary reports (completion reports) and logs on the subject well and directional drilling surveys, if performed.

(E) A description of any wells shown in (b)(C) which had production between January 1, 1970, and April 20, 1977.

(F) Monthly production reports, if there has been production.

(G) A statement by the applicant, under oath:

(i) that he has made or has caused to be pursuant to his instructions, a diligent search of all records (including but not limited to production, State severance tax, and royalty payment records) which are reasonably available and contain information relevant to the determination of eligibility; describing the search made, the records reviewed, the location of such records, and a description of any records which he believes may contain information relevant to the determination but which he has determined are not reasonably available to him;

(ii) that on the basis of the results of this search and examination, he has concluded that to the best of his information, knowledge and belief, there is no marker well within 2.5 miles of the well for which he seeks a determination which has a completion location less than 1,000 feet above the completion location of the new well; and

(iii) that he has no knowledge of any other information not described in the application which is inconsistent with his conclusion.

(d) For new onshore production wells an application under section 103 will be accompanied by Federal Energy Regulatory Commission Form 121.

(A) Application for permit to drill.

(B) A plat map showing the location of the subject well. If the subject well is within a spacing unit, the map shall also show the boundaries of the unit and any existing wells in the unit.

(C) Well summary report (completion report) and logs on the subject well and directional surveys, if performed.

(D) A statement by the applicant, under oath:

(i) that the surface drilling of the well for which he seeks a determination was begun on or after February 19, 1977;

(ii) that the well satisfies any applicable federal or state well spacing requirements;

(iii) that, except as provided in paragraph (D) of this section, the well is not within a spacing unit:

(I) Which was in existence at the time the surface drilling of the well began;

(II) What was applicable to the reservoir from which such natural gas is produced; and

(III) Which was applied to any other well which either produced natural gas in commercial quantities or the surface drilling of which was begun before February 19, 1977, and was thereafter capable of producing natural gas in commercial quantities;

(iv) that on the basis of the documents submitted in the application, the applicant has concluded that to the best of his information, knowledge, and belief, the natural gas for which he seeks a determination is produced from a new onshore production well; and

(v) that the applicant has no knowledge of any other information not described in the application which is inconsistent with his conclusion.

(e) If the applicant is seeking a determination with respect to a new well to be drilled into an existing spacing unit, the applicant must file all items required in paragraphs (A) through (D) of this section, except for the portion of the oath statement described in paragraph (D)(iii) and demonstrate by appropriate geological evidence that the new well is necessary to effectively and efficiently drain a portion of the reservoir covered by the spacing unit which cannot be effectively and efficiently drained by any existing well within the spacing unit.

(f) For stripper wells an application under section 108 will be accompanied by:

(A) Federal Energy Regulatory Commission Form 121.

(B) Application for permit to drill.

(C) A plat map showing the location of the subject well.

(D) Well summary report (completion report).

(E) Monthly production reports.

(F) Copies of all lithologic, electric, gamma, and other logs, drill test results and directional surveys, if performed.

(G) Name and address of operator and parties to purchase contracts.

(H) For cases of increased production resulting from enhanced recovery techniques, a description of the processes and equipment used for such recovery and the dates such processes or equipment were installed and used.

(I) For cases of seasonally affected production, a description of the nature of the fluctuations and the data used to determine the seasonal variation.

(J) A statement by the applicant, under oath, that to the best of his information, knowledge and belief, the information supplied and conclusions drawn are true and that the operator has no knowledge of any information not contained or described in the application which is inconsistent with any of his conclusions.

(2) The applicant shall, at the time of filing for a category determination, notify, by certified mail the purchasers and all working interest owners of such filing, and mail a list of the parties as notified to the Board. If more than one category determination is being requested as to a single well, separate applications for each determination must be filed. The application, upon filing, shall be given a filing number and date.

(3) Applications containing logs which are confidential under the provisions of ORS 520.095(2) shall be kept confidential by the State Geologist.

(4) The Board will review uncontested applications at its regularly scheduled meetings.

(5) Any person desiring to protest the granting of a determination shall send, within 15 days after receiving notification from the applicant, a written protest to the Board and applicant by certified mail. The protest must be supported by documentation in the same manner as the documentation submitted by the applicant. Contested applications will be referred to public hearings. The Board will review the record of the hearing and issue a category determination at its regularly scheduled meeting.

(6) The Board shall give written notice of its category determination to the Federal Energy Regulatory Commission, the applicant, parties to the purchase contract, working interest owners and any protestant within 15 days after the meeting date.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 3-1980, f. 2-29-80, cf. 3-1-80

#### Reservoir Surveys

632-10-170 By special order of the Board, periodic surveys may be made of the reservoirs in this state containing oil and

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gas. These surveys will be thorough and complete and shall be made under the supervision of the petroleum and natural gas engineers of the Board. The condition of the reservoirs containing oil and gas and the practices and methods employed by the operators shall be investigated. The volume and source of crude oil and natural gas; the reservoir pressure of the reservoir as an average; the areas of regional or differential pressure; stabilized gas-oil ratios; and the producing characteristics of the field as a whole and the individual wells within the field shall be specifically included.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Operators to Assist in Reservoir Surveys**

632-10-172 All operators of oil wells are required to permit and assist the agents of the Board and the director in making any and all tests including bottom hole pressure and gas-oil ratio determinations that may be required by the Board or director on any or all of their wells.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Measurement of Potential Open-Flow of Gas Wells**

632-10-174 The potential open-flow of a gas well may be ascertained by U.S. Bureau of Mines back pressure method, or by other approved methods.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Supervision of Open-Flow and Pressure Tests**

632-10-176 All tests made in determining the potential flow and shut-in well-head or bottom hole pressure of a gas well and used in calculating the allowable of the spacing unit which the well is located shall be made under the supervision of representatives of the Board.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Duration of Tests**

632-10-178 The tests for open-flow and pressure of completed gas wells shall be made at such intervals and shall continue for such time as may be necessary to effect accurate determination.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Notice of Tests**

632-10-180 Open-flow and pressure tests of gas wells may be witnessed or observed by a representative of any producer in the field, and the owners of the adjoining or offset leases must be notified by the owner of the well on which the test is to be taken, stating the time when such test will commence.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Gas to be Metered**

632-10-182 (1) Meters: All gas when produced or sold shall be metered with an approved meter of sufficient capacity, provided that gas may be metered from a lease or unitized property as a whole if it is shown that ratable taking can be maintained; provided that meters shall not be required for gas produced and used on the lease for development purposes and lease operations.

(2) Meter Charts and Records: Purchasers shall keep meter charts and records on gas purchased in a permanent file, for a

period of at least two years, and such information shall be made available to the Board and director.

(3) By-Passes: By-passes shall not be connected around meters in such manner as to permit the improper taking of gas.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Direct Well Pressure**

632-10-184 The use of direct well pressure to operate any machinery is hereby prohibited.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Gas-Oil Ratio**

632-10-186 No well shall be permitted to produce gas in excess of the maximum ratio determined for a pool unless all gas produced in excess thereof is returned to the pool from which it was produced.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Gas-Oil Ratio Surveys and Reports**

632-10-188 Gas-oil ratios and surveys shall be taken in the manner prescribed by the Board for individual fields where upon gas-oil ratio limits have been fixed and in accordance with the rules prescribed for each individual pool:

(1) Flowing Wells Intermittently (Stop-Cocked) Produced: In computing the operating gas-oil ratio, the total volume of gas and the total barrels of oil that are produced in order to obtain the daily oil allowable must be used regardless of the flowing time in the 24-hour period.

(2) Gas Lift or Jet Wells: The total volume of gas to be used in computing the operating gas-oil ratio is the total out-put volume minus the total input volume.

(3) Pumping Wells: Should gas be withdrawn from the casing in an attempt to maintain a fluid seal, or for any other reason, this volume of gas must be added to the gas produced through tubing in computing the gas-oil ratio.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54

**Gas Utilization**

632-10-190 (1) No gas shall be permitted to escape to the atmosphere except for short periods during testing authorized by the State Geologist or his representative.

(2) Flaring of produced gas shall not be permitted except by special order of the Board.

Stat. Auth.: ORS Ch. 520  
Hist: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Disposal of Brine or Salt Water**

632-10-192 In addition to the requirement of the Act to prevent the escape of oil or gas out of one stratum to another and to prevent the pollution of fresh water supplies by oil, gas, or salt water, and in addition to any regulations of the State Department of Environmental Quality and the State Water Resources Department, the following conditions shall control the disposal of brine or salt water liquids, and any other means or methods of disposal which may be permitted.

(1) Disposal in Pits:

(a) Brine or salt water may be disposed of by evaporation when impounded in excavated earthen pits, which may be used for such purpose only when the pit is lined with impervious material and a Water Pollution Control Facilities permit has been issued by the Department of Environmental Quality.

(b) Impounding of brine or salt water in earthen pits that are porous is hereby prohibited. Earthen pits used for im-

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pounding brine or salt water shall be so constructed and maintained as to prevent the escape of fluid.

(c) The State Geologist shall have authority to condemn any pit which does not properly impound such water and order the disposal of such water into an underground formation, or by other authorized method.

(d) The level of brine or salt water in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have a continuous embankment surrounding them sufficiently above the level of the surface to prevent surface water from running into the pit. Such embankment shall not be used to impound brine or salt water.

(e) At no time shall brine or salt water impounded in earthen pits be allowed to escape over adjacent land or into streams.

(2) Disposal by Injection: Salt water may also be disposed of by injection into the strata from which produced or into other proved salt water bearing strata.

(3) Ocean discharge of salt water may be permitted if water quality is acceptable and if such discharge is approved by the State Department of Environmental Quality through issuance of an National Pollutant Discharge Elimination System waste discharge permit.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Water Injection and Water Flooding of Oil and Gas Properties**

632-10-194 (1) Application and Approval: The owner or operator of any well may inject water under pressure into the formation containing oil or gas for the purpose of obtaining oil or gas from the reservoir, upon application to and approval by the Board.

(2) Casing and Cement: Wells used for the injection of water into the producing formation or repressuring wells shall be cased with sound casing so as not to permit leakage and the casing cemented in such manner that damage will not be caused to oil, gas, or fresh water resources.

(3) Application, Contents, Notice, Objection, Hearing, and Approval:

(a) No water injection or water flooding program shall be instituted until it has been regularly authorized by the Board.

(b) The application therefor shall be verified and filed with the Board, showing:

(A) The location of the intake well.

(B) The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the name of landowners and lessees within one-half mile of the intake well.

(C) The formations from which wells are producing or have produced.

(D) The name, description, and depth of the formations to be flooded.

(E) The depths of each formation into which water is to be injected.

(F) The elevations of the top of the oil or gas bearing formation in the intake well and the wells producing from the same formation within one-half mile radius of the intake well.

(G) Log of the intake well or similar information as is available.

(H) Description of the intake well casing.

(I) Description of the liquid, stating the kind, where obtained, and the estimated amounts to be injected daily.

(J) The names and addresses of the operators.

(K) Such other information as the Board may require to ascertain whether the flooding may be safely and legally made.

(c) Applications may be made to include the use of more than one intake well on the same lease, or on more than one lease.

(d) Applications shall be executed by all operators who are to participate in the proposed water injection or water flooding plan.

(e) No order approving water injection or water flooding of oil properties shall be issued until after notice has been given by the Board to each operator in such pool, and hearing has been had before the Board.

(4) Notice of Commencement and Discontinuance of Water Injection or Water Flooding Operations:

(a) Immediately upon the commencement of water injection or water flooding operations, the applicant shall notify the Board stating the date of commencement.

(b) Within 10 days after the discontinuance of water injection or water flooding operations, the applicant or the one in charge thereof shall notify the Board of the date of such discontinuance and the reasons therefor.

(c) Before any intake well shall be abandoned, notice shall be served on the Board, and the same procedure shall be followed in the plugging of such well as provided for the plugging of oil and gas wells.

(5) Records: The owner or operator of an intake well shall keep an accurate record of:

(a) The amount of water injected into the intake wells,

(b) The total amount of water produced, and

(c) The total amount of oil produced from the area flooded.

Such information shall be made available to the Board or its agents.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54

**Gas Injection of Oil and Gas Properties**

632-10-196 (1) Application and Approval: The owner or operator of any well may inject gas under pressure into the formation containing oil or gas for the purpose of increasing production of oil or gas from the reservoir or for storing pipeline natural gas upon application to and approval by the Board.

(2) Casing and Cement: Wells used for the injection of gas into the producing formation shall be cased with sound casing so as not to permit leakage and the casing cemented in a manner that damage will not be caused to oil, gas, or fresh water resources. All injection of gas shall be through tubing with a casing packer set at the lower end above the zone of injection and the annular space between tubing and casing shall be monitored to be sure the packer is holding.

(3) Application, Contents, Notice, Objection, Hearing, and Approval:

(a) No gas shall be injected into a well for gas injection purposes until approved by the Board pursuant to application and notice as herein required.

(b) The application shall be verified and filed with the Board showing:

(A) The location of the intake well.

(B) The location and depth of all oil and gas wells, including abandoned and drilling wells and dry holes, and the name of landowners and lessees within a two and one-half mile radius of the injection well.

(C) The formations from which wells are producing or have produced.

(D) The name, description, and depth of the formations to be injected.

(E) The depths of each formation into which gas is to be injected.

(F) The elevations of the top of the oil or gas bearing formation in the injection well and the well producing from the same formation within one-half mile of the intake well.

(G) The log of the injection well, or similar information as is available.

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(H) Description of the injection well casing.

(I) Description and chemical analysis of the gas, stating the kind, where obtained, and the estimated amounts to be injected daily.

(J) The names and addresses of the operators.

(K) Such other information as the Board may require to ascertain whether the gas injection plan meets the requirements of law and safety.

(c) Applications may be made to include the use of more than one intake well on the same lease or on more than one lease.

(d) Applications shall be executed by all operators who are to participate in the proposed gas injection plan.

(4) Notice of Commencement and Discontinuance of Gas Injection:

(a) Immediately upon commencement of gas injection operations, the applicant shall notify the State Geologist stating the date of commencement.

(b) Within 10 days after the discontinuance of gas injection operations, the applicant or the one in charge of the operations shall notify the Board of the date of discontinuance and the reasons therefor.

(c) Before any injection well shall be abandoned, notice shall be served on the State Geologist and the same procedure shall be followed in the plugging of such well as provided for the plugging of oil and gas wells.

(d) The above notification requirements shall not apply to a gas storage facility except for the initial injection and filling of the reservoir or for the abandonment of the storage reservoir.

(5) Records: The owner or operator of the gas injection project shall keep an accurate record of:

(a) The amount of gas injected into the injection wells;

(b) The amount of gas produced; and

(c) The amount of oil produced from leases affected by the gas injection;

(d) The well-head injection pressures.

Such information shall be made available to the State Geologist or his agents.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54; GMI 1-1979, f. & ef. 1-25-79

**Abandonment, Unlawful Abandonment, Suspension, Well Plugging**

632-10-198 (1) Oil, Gas, and Water to be Protected: Before any well or any producing horizon encountered therein shall be abandoned, the owner or operator shall use such means, methods, and procedure as may be necessary to prevent water from entering any oil or gas-bearing formation, and to protect any underground or surface water that is suitable for domestic or irrigation purposes from waste, downward drainage, harmful infiltration and addition of deleterious substances.

The operator of any hole drilled for oil and gas which penetrates a usable fresh-water horizon, except those drilled for the purposes of seismic prospecting, shall be required to set casing through this formation and cement such casing from top to bottom, unless special exception is granted by the Board.

(2) Suspension: Removal of Equipment: Application: Extension: The Board may authorize a permittee to suspend operations or remove equipment from a well for the period stated in the Board's written authorization, given upon written application of the permittee and his or its affidavit showing good cause. The period of suspension may be extended by the Board, upon written application made before expiration of the previously authorized suspension, accompanied by affidavit of the permittee showing good cause for the granting of such extension.

(3) Abandonment: Notice of Intention: Presumptions:

(a) Before any work is commenced to abandon any well drilled for oil or gas, the permittee shall give written notice to the Board of his intention to abandon such well. The notice shall be upon forms supplied by the Board and shall contain the permit number of the well and such other information as reasonably may be required by the Board.

(b) After operations on or at a well have been suspended with the approval of the Board pursuant to section (2) of this rule, if operations are not resumed within six months from the date specified in such approval of suspension, an intention to abandon and unlawful abandonment shall be presumed unless the permittee has obtained from the Board an extension of time of such suspension, upon his or its written application and affidavit showing good cause for the granting of such extension.

(c) Whenever operations on or at any well shall have been suspended for a period of six months without compliance with these regulations, the well shall be presumed unlawfully abandoned.

(d) A well shall be deemed unlawfully abandoned if, without notice given to the Board as required by these rules, any drilling or producing equipment is removed.

(e) Any unlawful abandonment under these regulations shall be declared by the Board and such declaration of abandonment shall be entered in the Board minutes and written notice thereof mailed by registered mail both to such permittee at his last known post office address as disclosed by the records of the Board and to the permittee's surety; and the Board may thereafter proceed against the permittee and his or its surety.

(f) All wells abandoned or declared abandoned as herein provided shall be plugged as required by law and by these regulations.

(g) The bond furnished by permittee shall not be released until all procedures required by these regulations shall have been completed and the Board in writing shall have authorized such release.

(4) Plugging Methods and Procedure: The methods and procedure for plugging a well shall be as follows:

(a) The bottom of the hole shall be filled to the top of each producing formation, or a bridge shall be placed at the top of each producing formation, and in either event a cement plug not less than 15 feet in length shall be placed immediately above each producing formation whenever possible.

(b) A cement plug not less than 15 feet in length shall be placed approximately 50 feet below all freshwater bearing strata.

(c) A plug shall be placed at the surface of the ground in each hole plugged in such manner as not to interfere with soil cultivation.

(d) the interval between plugs shall be filled with an approved heavy mud-laden fluid.

(e) The operator shall have the option as to the method of placing cement in the hole by:

(A) Dump bailer;

(B) Pumping through tubing;

(C) Pump and plug; or

(D) Other method approved by the Board.

(5) Affidavit on Completion: Copies: Within 20 days after the plugging of any well has been accomplished, the owner or operator thereof shall file an affidavit with the director setting forth in detail the method used in plugging the well. Such affidavit shall be made on a form supplied by the Board. Copies of well-plugging records and affidavits filed, except those relating to core drilling and seismic or other wells drilled for geological data, will be furnished to anyone requesting them on payment of 50 cents per copy.

(6) Seismic Core and Other Exploratory Holes to be Plugged: Methods: Affidavit: Before abandoning any hole

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drilled for seismic, core, or other exploratory purposes, which hole penetrates a usable fresh-water horizon, it shall be the duty of the owner or driller of such hole to plug the same in such manner as to protect properly all water-bearing formations; and within 60 days after the plugging, an affidavit shall be filed with the Director by the owner or driller, setting forth the location of the holes and the method used in plugging the same to protect water-bearing formations.

**(7) Wells Used for Fresh Water:**

(a) When the drilled well to be plugged may safely be used as a fresh-water well and such use is desired by the land owner, the well need not be filled above the required sealing plug set below fresh water; provided, however, authorization for use of any such well shall be obtained from the State Engineer, in conformance with Chapter 708, Oregon Laws 1955.

(b) Application for leaving the well partially unplugged as a fresh-water well may be made to the Board by the land owner, accompanied by his affidavit as to his need of water and the intended use of the well, together with certified copy of the State Engineer's order or permit, or that officer's statement that no permit is required.

(c) The operator shall leave the fresh-water well in a condition approved by the Board.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54; GMI 3, f. 4-3-56

**Confidential Information**

632-10-200 No information herein required to be furnished to the Board shall be disclosed by any employee of the Board except as expressly authorized by the Board.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1, f. 1-27-54

**Drilling Bond**

632-10-205 (1) Every person who engages in the drilling, deepening, or reworking of any well shall file with the State Geologist on a form provided by the State Geologist a surety bond in the sum of \$10,000 for each well drilled, reworked, or deepened, or a \$50,000 blanket bond for the drilling, deepening, or reworking of one or more wells being conducted at any time. The bond shall be filed with the State Geologist at the time of the filing of the notice of intention to drill, deepen, or rework as required in rule 632-10-010. The bond shall be executed by such person, as principal, and by a surety company authorized to do business in the State of Oregon, as surety, conditioned upon the faithful compliance by the principal with the rules, regulations, and orders of the Department of Geology and Mineral Industries.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1-1979, f. & ef. 1-25-79

**Disposal of Solid and Liquid Wastes**

632-10-210 (1) Stipulations approved by the State Department of Environmental Quality regarding disposal of solid and liquid wastes generated by drilling, deepening, or reworking operations shall be made a part of every permit issued under rule 632-10-010.

(2) Once field development is initiated a separate permit is required from the State Department of Environmental Quality for disposal of liquid and solid wastes.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1-1979, f. & ef. 1-25-79

**Underground Storage Of Natural Gas**

632-10-215 Wells drilled for the purpose of storing natural gas in an underground reservoir shall be drilled in such manner as shall protect the underground reservoir against pollution and

against escape of natural gas in a manner which complies with the orders and rules of this chapter.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 1-1979, f. & ef. 1-25-79

**Measurement of Oil**

632-10-220 The volume of production of oil shall be computed in terms of barrels of clean oil on the basis of properly calibrated meter measurements or tank measurement of oil level differences made and recorded to the nearest quarter inch, using 100 percent tank capacity tables, subject to the following corrections:

(1) **Correction for Impurities:** The percentage of impurities (water, sand, and other foreign substances not constituting a natural component part of oil) shall be determined to the satisfaction of the State Geologist, and the observed gross volume of oil shall be corrected to exclude the entire volume of such impurities.

(2) **Temperature Correction:** The observed volume of oil corrected for impurities shall be further corrected to the standard volume at 60°F. in accordance with A.S.T.M. Standards or any revisions thereof approved by the State Geologist.

(3) **Gravity Determination:** The gravity of oil at 60°F. shall be determined in accordance with A.S.T.M. Standards or any revisions thereof and any supplements thereto or any close approximation thereof approved by the State Geologist.

Stat. Auth.: ORS Ch. 520

Hist.:

GMI 1-1979, f. & ef. 1-25-79

**Special Rules, Mist Gas Field**

**Spacing Plan**

632-10-225 The minimum spacing for gas wells in the Mist Field shall be 160 acres when the top of the producing zone is less than 7,000 feet in vertical depth.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 2-1980, f. 2-29-80, ef. 3-1-80

**Location of Well**

632-10-230 The completion location of each well permitted to be drilled on any spacing unit shall be the location of the well at the top of the producing horizon. For gas wells the completion location of the well shall not be located nearer than 250 feet from the unit boundary and 500 feet from the nearest producing well from the same pool.

Stat. Auth.: ORS Ch. 520

Hist.: GMI 2-1980, f. 2-29-80, ef. 3-1-80

**Exceptions**

632-10-235 (1) The Board may grant exceptions to the above field rules after holding a hearing when necessary on the basis of geology, productivity, topography, enhancement requirements, or environmental protection.

(2) Exceptions granted by the Board to Reichhold and partners:

(a) Variance for the location of Reichhold's Columbia County No. 1 Redrill at the south line of the producing unit defined by boundaries of the NW1/4 of section 11, T. 6N., R. 5W.

(b) Variance for the location of Reichhold's Columbia County No. 6 Redrill No. 2 located in the extreme southwest portion of the producing unit defined by the NE1/4 of section 10, T. 6N., R. 5W.

(c) Variance for the producing unit defined by the NE1/4 of section 10, T. 6N., R. 5W., to contain wells Reichhold's

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Columbia County No. 3 Redrill and Reichhold's Columbia  
County No. 6 Redrill No. 2.  
(d) Variance for the location of Reichhold's Columbia

County No. 12 to be closer to the section boundary than 250  
feet.

Stat. Auth.: ORS Ch. 520

Hist: GMI 2-1980, f. 2-29-80, ef. 3-1-80

## Chapter 520

### 1979 REPLACEMENT PART

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### CROSS REFERENCES

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 Mineral leases on state lands, 273.551  
 State Department of Geology and Mineral Industries, Ch. 516  
 Submerged lands, oil and gas leases, 274.705 to 274.860

## DEFINITIONS

**520.005 Definitions.** As used in this chapter, unless the context requires otherwise:

(1) "And" includes "or" and "or" includes "and."

(2) "Board" means the governing board of the State Department of Geology and Mineral Industries.

(3) "Condensate" means liquid hydrocarbons that were originally in the gaseous phase in the reservoir.

(4) "Field" means the general area underlain by one or more pools.

(5) "Gas" means all natural gas and all other fluid hydrocarbons not defined as oil in subsection (6) of this section, including condensate originally in the gaseous phase in the reservoir.

(6) "Oil" means crude petroleum oil and all other hydrocarbons, regardless of gravity, which are produced in liquid form by ordinary production methods, but does not include liquid hydrocarbons that were originally in a gaseous phase in the reservoir.

(7) "Person" means any natural person, partnership, corporation, association, receiver, trustee, guardian, fiduciary, executor, administrator, representative of any kind, or the State of Oregon and any of its political subdivisions, boards, agencies or commissions.

(8) "Pool" means an underground reservoir containing a common accumulation of oil and natural gas. A zone of a structure which is completely separated from any other zone in the same structure is a pool.

(9) "Owner" means a person who has the right to drill into and to produce from any pool and to appropriate the oil or gas he produces therefrom either for others, for himself or for himself and others.

(10) "Producer" means the owner of one or more wells capable of producing oil or gas or both.

(11) "Protect correlative rights" means that the action or regulation by the board affords a reasonable opportunity to each person entitled thereto to recover or receive the oil or gas in his tract or tracts or the equivalent thereof, without being required to drill unnecessary wells or to incur other unnecessary expense to recover or receive such oil or gas or its equivalent.

(12) "Unit area" means one or more pools or parts thereof under unit operation pursuant

to ORS 520.260 to 520.330 and subsection (2) of 520.230.

(13) "Well" means a well drilled in search of oil or gas, but shall not include core test wells, stratigraphic test wells, seismic test wells or wells drilled for information purposes only as distinguished from wells drilled for the purpose of producing oil or gas if found.

(14) "Underground reservoir" means any subsurface sand, strata, formation, aquifer, cavern or void whether natural or artificially created, suitable for the injection and storage of natural gas therein and the withdrawal of natural gas therefrom, but excluding a "pool."

(15) "Underground storage" means the process of injecting and storing natural gas within and withdrawing natural gas from an underground reservoir.

[1953 c.667 §1; 1961 c.671 §15; 1973 c.276 §1; 1977 c.296 §1]

520.010 [Repealed by 1953 c.667 §21]

**520.015 "Waste" defined.** "Waste" in addition to its ordinary meaning, means "physical waste" as that term is generally understood in the petroleum industry. It includes:

(1) Underground waste and the inefficient, excessive or improper use or dissipation of reservoir energy, including gas energy and water drive, of any pool; and the locating, spacing, drilling, equipping, operating or producing of any oil well or gas well in a manner which results or tends to result in reducing the quantity of oil or gas ultimately recoverable from any pool;

(2) Surface waste and the inefficient storing of oil and the locating, spacing, drilling, equipping, operating or producing of oil wells or gas wells in a manner causing or tending to cause unnecessary or excessive surface loss or destruction of oil or gas.

[1953 c.667 §2]

520.020 [Repealed by 1953 c.667 §21]

## GENERALLY

**520.025 Permit for drilling oil or gas well or using well for gas storage; application form; grounds for granting or denying permit; disposition of fees.** (1) No person proposing to drill any well for oil or gas or proposing to drill or use any well for underground storage of gas in an underground reservoir shall commence the drilling or use until he has applied to the State Geologist upon a form prescribed by the State Geologist

for a permit to operate the well, paid to the board a fee of \$100 for each such well, posted any bond that may be required pursuant to subsection (1) of ORS 520.095 and obtained the permit to drill the well pursuant to subsection (3) of this section.

(2) The State Geologist shall require that the form indicate:

(a) The exact location of the well.

(b) The name and address of the owner, operator, contractor, driller and any other person responsible for the conduct of the drilling operations.

(c) The elevation of the well above sea level.

(d) Such information as is necessary to determine whether the method of drilling and equipment to be used in drilling the well comply with applicable laws and rules.

(e) Such other relevant information as the State Geologist deems reasonably necessary to effectuate the purpose of this chapter.

(3) (a) If upon receipt of the application the State Geologist determines that the method and equipment to be used by the applicant in drilling or using the well comply with applicable laws and rules, the State Geologist shall issue the permit.

(b) The State Geologist may refuse to issue a permit or revoke a permit issued pursuant to this subsection if he determines that methods or equipment to be used or being used in drilling or using the well do not comply with applicable laws or rules.

(4) All moneys paid to the board under this section shall be deposited by the board with the State Treasurer for credit to and the benefit of the Department of Geology and Mineral Industries.

[1953 c.667 §5; 1973 c.276 §2; 1977 c.296 §3]

520.030 [Repealed by 1953 c.667 §21]

**520.035 Waste of oil and gas prohibited.** The waste of oil and gas, as defined in ORS 520.015, hereby is prohibited.

[1953 c.667 §3]

520.040 [Repealed by 1953 c.667 §21]

**520.045 Determination of waste of oil or gas.** The board shall make such inquiries as it may think proper to determine whether or not waste over which it has jurisdiction exists or is imminent. In the exercise of such power the board may:

(1) Collect data.

(2) Make investigations and inspections.

(3) Examine properties, leases, papers, books and records, including drilling records and logs.

(4) Examine, check, test and gauge oil and gas wells and tanks.

(5) Hold hearings.

(6) Provide for the keeping of records and the making of reports.

(7) Take such action as may be reasonably necessary to enforce this chapter.

[1953 c.667 §6]

520.050 [Repealed by 1953 c.667 §21]

**520.055 General jurisdiction and authority of board; tidal lands.** (1) The board has jurisdiction and authority over all persons and property necessary to enforce effectively this chapter and all other laws relating to the conservation of oil and gas.

(2) In addition to and not in lieu of any other powers granted under this chapter, the Department of Geology and Mineral Industries and its governing board may in compliance with ORS 520.105 promulgate reasonable rules, regulations and orders necessary to regulate geological, geophysical and seismic surveys on, and operations to remove oil, gas and sulphur from the tidal submerged and submersible lands of this state under ORS 274.705 to 274.860.

[1953 c.667 §4; subsection (2) enacted as 1961 c.619 §40; 1969 c.594 §67]

520.060 [Repealed by 1953 c.667 §21]

520.065 [1953 c.667 §8; renumbered 520.210]

520.070 [Repealed by 1953 c.667 §21]

520.075 [1953 c.667 §9; 1961 c.671 §16; renumbered 520.220]

520.080 [Repealed by 1953 c.667 §21]

520.085 [1953 c.667 §10; 1961 c.671 §17; renumbered 520.230]

520.090 [Repealed by 1953 c.667 §21]

**520.095 Rules and orders; notice and hearing.** The board may make, in compliance with ORS chapter 183, such reasonable rules and orders as may be necessary in the proper administration and enforcement of this chapter, including rules and orders for the following purposes:

(1) To require the drilling, casing and plugging of wells to be done in such a manner as to prevent the escape of oil or gas out of one stratum to another; to prevent the intrusion of water into oil or gas strata; to prevent the pollution of fresh water supplies by oil, gas or salt water; and to require reasonable bond

conditioned upon compliance with applicable laws and rules and upon the performance of the duty to plug each dry or abandoned well.

(2) To compel the filing of logs, including electrical logs, if any are taken, drilling records, typical drill cuttings or cores, if cores are taken, in the office of the State Geologist within 20 days from the date of completion or abandonment of any well. For a period of two years from the date of abandonment or completion, such logs or other records or drill cuttings or cores shall be kept confidential and shall not be accessible to public inspection.

(3) To prevent wells from being drilled, operated and produced in such a manner as to cause injury to neighboring leases or property.

(4) To prevent the drowning by water of any stratum or part thereof capable of producing oil or gas in paying quantities, and to prevent the premature and irregular encroachment of water which reduces, or tends to reduce, the total ultimate recovery of oil or gas from any pool.

(5) To require the operation of wells with efficient gas-oil ratios, and to fix ratios.

(6) To prevent blowouts, caving and seepage in the same sense that conditions indicated by such terms are generally understood in the oil and gas business.

(7) To prevent fires.

(8) To identify the ownership of all oil and gas wells, producing leases, tanks, plants, structures and all storage equipment and facilities.

(9) To regulate the "shooting" and chemical treatment of wells.

(10) To regulate secondary recovery methods, including the introduction of gas, air, water or other substance into producing formations.

(11) To regulate the spacing of wells.

(12) To require the filing currently of information as to the volume of oil and gas, or either of them, produced and saved from the respective properties.

(13) To require the filing with the State Geologist of a notice of intention to drill stratigraphic test wells, core test wells, seismic test wells or wells drilled only for information purposes, giving the location thereof, and to require the filing with the State Geologist of a plugging report within 60 days after completion of such well. No fee shall be re-

quired in connection with the filing of such notices and reports.

(14) To require the disposal of salt water and oil field waste so as not to damage land or property unnecessarily.

(15) To require that wells drilled for oil or gas be logged adequately enough to identify the geologic formations penetrated by the wells.

(16) To regulate the underground storage of natural gas and the drilling and operation of any wells required therefor.

[1953 c.667 §7; 1961 c.671 §18; 1973 c.276 §3; 1977 c.296 §2]

520.100 [Repealed by 1953 c.667 §21]

#### 520.105 Administrative procedure.

(1) The board shall, in accordance with ORS chapter 183, from time to time prescribe reasonable rules governing practice and procedure before it.

(2) No rule, regulation or order, except in emergency, shall be made by the board without a prior public hearing upon at least 10 days' notice. Such public hearings shall be held at such times and places as may be designated by the board. However, in respect to matters of local interest such hearings shall be held at the county seat of the county wherein the greater part of real or personal property affected is situated. Any interested person shall be entitled to be heard at such hearings.

(3) When an emergency requiring immediate action is found to exist, the board may in compliance with ORS chapter 183 issue an emergency order without notice or hearing, effective upon promulgation. However, no emergency order shall remain effective for more than 15 days.

(4) Notice as required by this chapter shall be given in compliance with ORS chapter 183, except as follows:

(a) In respect to matters of statewide interest, by publication in a newspaper of general circulation in Multnomah, Harney, Jackson and Marion Counties.

(b) In respect to matters of local interest, by publication in a newspaper of general circulation in the county or counties wherein the affected lands are located.

(c) In respect to proceedings before the board where persons are named therein, by personal service upon such persons thereto. Personal service may be made by any agent of the board or by any officer authorized by law

to serve process and shall be made in the manner provided by law for the service of summons in civil actions in the courts of this state. Proof of service by an agent of the board shall be made by such person's affidavit and by an officer authorized by law to serve process by his lawful certificate.

(5) Notice shall issue in the name of the state and shall be signed by the chairman or secretary of the board. It shall specify the style and number of the proceeding, the time and place of hearing and the purpose of the proceeding.

[1953 c.667 §11; 1961 c.671 §19]

520.110 [Repealed by 1953 c.667 §21]

**520.115 Board may act on own motion; filing petition with board; notice; hearing; orders.** The board may act upon its own motion or upon the verified written petition of any interested person. Upon the filing with the board of such a petition, which shall state in substance the matter involved, the reasons for and the nature of the relief requested, concerning any matter within its jurisdiction, the board shall promptly fix a date for a hearing thereon, and shall cause due notice thereof to be given as prescribed by ORS 520.105. Such hearing shall be held without undue delay and the board shall enter its order within 30 days thereafter.

[1953 c.667 §12]

520.120 [Repealed by 1953 c.667 §21]

**520.125 Authority of board to compel the giving of testimony and the production of evidence.** (1) The board may summon witnesses, administer oaths and require the production of records, books and documents for examination at any hearing or investigation conducted before it. No person shall be excused from attending and testifying or from producing books, papers and records before the board or a court or from obedience to the subpoena of the board or a court on the grounds that such testimony or evidence required of him may tend to incriminate him or subject him to any penalty or forfeiture; provided, however, that nothing contained in this section shall be construed as requiring any person to produce any books, papers or records or to testify in response to any inquiry not pertinent to some question lawfully before such board or court for determination. No natural person shall be subjected to criminal prosecution or to any penalty or forfeiture for or on account of any transaction, matter or thing concerning which, in spite of his objection, he may be required to testify or produce

evidence before the board or a court; provided, however, no person so testifying shall be exempted from prosecution and punishment for perjury in so testifying.

(2) In case of failure or refusal on the part of any person to comply with the subpoena issued by the board or in the case of the refusal of any witness to testify as to any matter regarding which he may lawfully be interrogated it shall be the duty of the circuit court of any county or any judge thereof, upon application of the board, to issue an order to show cause why such person should not be held for contempt as in the case of disobedience of the requirements of a subpoena issued from such court or a refusal to testify therein.

(3) The board or any party may, in any matter before the board, cause the depositions of witnesses residing within or without the state to be taken in the manner prescribed by law for like depositions in civil suits in the circuit courts of this state.

[1953 c.667 §13]

520.130 [Repealed by 1953 c.667 §21]

**520.135 Application for rehearing by person adversely affected by order of board.** Any person adversely affected by any rule, regulation or order of the board may within 30 days after its entry apply to the board for a rehearing. Such application shall be acted upon by the board within 30 days from its filing date and if granted such rehearing shall be held without undue delay.

[1953 c.667 §14]

**520.145 Judicial review of board actions.** (1) Any person adversely affected by any rule, regulation or an order entered by the board may obtain judicial review thereof pursuant to ORS chapter 183.

(2) The circuit court having jurisdiction shall, in so far as is practicable, give precedence to proceedings for judicial review under this chapter.

(3) Either party may appeal to the Supreme Court of the State of Oregon in the same manner as provided by the laws for appeals from the circuit court in suits in equity.

[1953 c.667 §15; 1961 c.671 §20]

**520.155 Records, accounts, reports and writings not to be falsified, altered, destroyed or removed from state.** No person shall, for the purpose of evading the provisions of this chapter or any rule, regulation or order of the board, make or cause to be made any false entry or statement in a report

required by this chapter or by any rule, regulation or order of the board or make or cause to be made any false entry in any record, account or other writing required by this chapter or by any rule, regulation or order of the board or omit or cause to be omitted from any such record, account or writing, full, true and correct entries as required by this chapter or any rule, regulation or order of the board or remove from this state, or destroy, mutilate, alter or falsify any such record, account or writing.

[1953 c.667 §16]

**520.165 Aiding or abetting in a violation of chapter prohibited.** No person shall knowingly aid or abet any other person in the violation of any provision of this chapter or of any rule, regulation or order of the board.

[1953 c.667 §17]

**520.175 Injunctions to restrain violation or threatened violation of chapter.** (1) Whenever it appears that any person is violating or threatening to violate any provision of this chapter or any rule, regulation or order of the board, the board shall bring suit against such person in the circuit court of any county where the violation occurs or is threatened, to restrain such person from continuing such violation. Upon the filing of any such suit, summons issued to such person may be directed to the sheriff of any county of this state for service by such sheriff upon such person. In any such suit, the court shall have jurisdiction to grant to the board, without bond or other undertaking, such temporary restraining orders or final prohibitory and mandatory injunctions as the facts may warrant, including any such orders restraining the movement or disposition of oil or gas.

(2) If the board fails to bring suit to enjoin a violation or threatened violation of any provision of this chapter or of any rule, regulation or order of the board, within 15 days after receipt of a written request to do so by any person who is or will be adversely affected by such violation, then the person making such request may bring suit in his own behalf to restrain such violation or threatened violation in any court in which the board might have brought such suit. The board shall be made a party defendant in such suit in addition to the person or persons aforesaid and the action shall proceed and injunctive relief may be granted without bond in the same manner as if suit had been brought by the board.

[1953 c.667 §18]

## SPACING UNITS

**520.210 Establishment of spacing units for a pool; purpose; scope; effect.** (1) When necessary to prevent waste, avoid the drilling of unnecessary wells or protect correlative rights the board shall establish spacing units for a pool. Spacing units when established shall be of uniform size and shape for the entire pool except that when found to be necessary for any of the above purposes the board is authorized to divide any pool into zones and establish spacing units for each zone, which units may differ in size and shape from those established in any other zone.

(2) The size and shape of spacing units shall be such as will result in efficient and economical development of the pool as a whole and the size thereof shall not be smaller than the maximum area that can be efficiently drained by one well.

(3) An order establishing spacing units for a pool shall specify the size and shape of each unit and the location of the permitted well thereon in accordance with a reasonably uniform spacing plan. Upon application and after hearing if the board finds that a well drilled at the prescribed location would not produce in paying quantities or that surface conditions would substantially add to the burden or hazard of drilling such well, then the board is authorized to enter an order permitting the well to be drilled at a location other than that prescribed by such spacing order; provided, however, the board shall include in the order suitable provisions to prevent the production from the spacing unit of more than its just and equitable share of the oil and gas in the pool.

(4) An order establishing units for a pool shall cover all lands determined or believed to be underlain by such pool and may be modified by the board from time to time to include additional areas determined to be underlain by such pool. When found necessary for the prevention of waste or to protect correlative rights an order establishing spacing units in a pool may be modified by the board to increase the size of spacing units in a pool or any zone thereof or to permit the drilling of additional wells on a reasonably uniform plan in such pool or zone.

[Formerly 520.065]

**520.220 Integrating interests or tracts within spacing unit; compulsory unitization.** (1) When two or more separately owned tracts are embraced within a spacing unit or

when there are separately owned interests in all or a part of such spacing unit, then the interested persons may integrate their tracts or interests for the development and operation of the spacing unit.

(2) In the absence of voluntary integration, the board, upon the application of any interested person, shall make an order integrating all tracts or interests in the spacing unit for the development and operation thereof and for the sharing of production therefrom. The board, as a part of the order establishing one or more spacing units, may prescribe the terms and conditions upon which the royalty interests in the units shall, in the absence of voluntary agreement, be deemed to be integrated without the necessity of a subsequent order integrating royalty interests. Each such integration order shall be upon terms and conditions that are just and reasonable.

[Formerly 520.075]

**520.230 Approved agreement for cooperative or unit development of pool not to be construed as violating certain regulatory laws.** (1) An agreement for the unit or cooperative development and operation of a field or pool in connection with the conduct of repressuring or pressure maintenance operations, cycling or recycling operations, including the extraction and separation of liquid hydrocarbons from natural gas in connection therewith, or any other method of operation, including water floods, is authorized and may be performed and shall not be held or construed to violate ORS chapter 59 or any of the statutes of this state relative to trusts, monopolies or contracts and combinations in restraint of trade, if such agreement is approved by the board as being in the public interest, for the protection of correlative rights and reasonably necessary to increase ultimate recovery or prevent waste of oil or gas. The failure to submit such an agreement to the board for approval does not, for that reason, imply or constitute evidence that the agreement or operations conducted pursuant thereto violate ORS chapter 59 or any statute of this state now or hereafter in effect relating to trusts and monopolies.

(2) An agreement for the unit or cooperative development or operation of a field, pool or part thereof may be submitted to the board for approval as being in the public interest or reasonably necessary to prevent waste or protect correlative rights. Approval by the board constitutes a complete defense to any proceeding charging violation of ORS chapter

59 or of any statute of this state now or hereafter in effect relating to trusts and monopolies on account thereof or on account of operations conducted pursuant thereto. The failure to submit such an agreement to the board for approval does not, for that reason, imply or constitute evidence that the agreement or operations conducted pursuant thereto violate ORS chapter 59 or any statute of this state now or hereafter in effect relating to trusts and monopolies.

[Formerly 520.085; subsection (2) enacted as 1961 c.671 §13; 1963 c.69 §1]

**520.240 Voluntary unitization of operations by lessees of tidal or submersible lands; Division of State Lands' function.**

(1) For the purpose of properly conserving the natural resources of any single oil or gas pool or field, lessees under ORS 274.705 to 274.860 and their representatives may unite with each other jointly or separately, or jointly or separately with others owning or operating lands not belonging to the state, in collectively adopting and operating under a cooperative or unit plan of development or operation of the pool or field, whenever it is determined by the Division of State Lands to be necessary or advisable in the public interest.

(2) The Division of State Lands may, with the consent of the holders of the leases involved, establish, alter, change and revoke any drilling and production requirements of such leases, and make such regulations with reference to such leases, with like consent on the part of the lessees, in connection with the institution and operation of any such cooperative or unit plan, as the Division of State Lands deems necessary or proper to secure the proper protection of the interests of the state.

[1961 c.619 §33]

**520.260 Hearing to determine need for unitization of operations; required findings; order.**

(1) The board as defined in ORS 520.005, upon its own motion may, and upon the application of any interested person shall, hold a hearing to consider the need for the operation as a unit of one or more pools or parts thereof in a field.

(2) The board shall make an order providing for the unit operation of a pool or part thereof if it finds that:

(a) Unit operation is reasonably necessary to effectively carry on pressure control, pressure maintenance or repressuring operations, cycling operations, water flooding operations, injection operations, or any combination thereof, or any other method of recovery

designed to substantially increase the ultimate recovery of oil from the pool or pools; and

(b) The value of the estimated additional recovery of oil or gas exceeds the estimated additional cost incident to conducting unit operations.

[1961 c.671 §2]

### UNIT OPERATIONS

**520.270 Plan for unit operations.** An order issued pursuant to ORS 520.260 shall be upon terms and conditions that are just and reasonable, and shall prescribe a plan for unit operations that includes the following:

(1) A description of the pool or pools or parts thereof to be so operated.

(2) A statement of the nature of the operations contemplated.

(3) An allocation to the separately owned tracts in the unit area of all the oil and gas that is produced from the unit area and is saved, being the production that is not used in the conduct of operations on the unit area or not unavoidably lost.

(4) A provision for the credits and charges to be made in the adjustment among the owners in the unit area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operations.

(5) A provision stating how the costs of unit operations, including capital investments, shall be determined and charged to the separately owned tracts and how these costs shall be paid, including a provision stating when, how and by whom the unit production allocated to an owner who does not pay the share of the cost of unit operations charged to such owner, or the interest of such owner, may be sold and the proceeds applied to the payment of such costs.

(6) A provision, if necessary, for carrying or otherwise financing any person who elects to be carried or otherwise financed, allowing a reasonable interest charge for such service payable out of that person's share of the production.

(7) A provision for the supervision and conduct of the unit operations, in respect to which each person shall have a vote with a value corresponding to the percentage of the costs of unit operations chargeable against the interest of that person.

(8) The time when the unit operations shall commence, and the manner in which, and the circumstances under which, the unit operations shall terminate.

(9) Additional provisions that are found appropriate for carrying on the unit operations, and for the protection of correlative rights.

[1961 c.671 §3]

**520.280 Allocation of production under plan; ownership.** (1) The allocation described in subsection (3) of ORS 520.270 shall be in accord with the agreement, if any, of the interested parties. If there is no such agreement, the board shall determine the relative value, from evidence introduced at the hearing, of the separately owned tracts in the unit area, exclusive of physical equipment, for development of oil and gas by unit operations. The production allocated to each tract shall be the proportion that the relative value of each tract so determined bears to the relative value of all tracts in the unit area.

(2) That portion of the unit production allocated to any tract, and the proceeds from the sale thereof, are the property and income of the several persons to whom, or to whose credit, they are allocated or payable under the order providing for unit operations.

[1961 c.671 §§4, 10]

**520.290 When unitization order to become effective; supplemental hearings.**

(1) No order of the board providing for unit operations is effective until:

(a) The plan for unit operations prescribed by the board under ORS 520.270 has been approved in writing by (A) those owners who, under the board's order, will be required to pay at least 75 percent of the costs of the unit operation, and (B) those persons who, at the time of the order of the board, owned of record legal title to 75 percent of royalty and overriding royalty payable with respect to oil and gas produced from the pool or part thereof over the entire unit area; and

(b) The board has made a finding, either in the order providing for unit operations or in a supplemental order, that the plan for unit operations has been so approved.

(2) If the plan for unit operations has not been approved pursuant to subsection (1) of this section at the time the order providing for unit operations is made, the board shall upon application and notice hold such supplemental hearings as are required to determine if and when the plan for unit operations has been approved. If the persons owning the percent-

age of interest in the unit area required by subsection (1) of this section do not approve the plan for unit operations within a period of six months after the date on which the order providing for unit operations is made, the order is ineffective and shall be revoked by the board unless the board, for good cause shown, extends the time for approval.

[1961 c.671 §5]

#### **520.300 Amending unitization order.**

An order providing for unit operations may be amended by an order made by the board, as defined in ORS 520.005, in the same manner and subject to the same conditions as an original order providing for unit operations. However:

(1) If the amendment affects only the rights and interests of the owners, the approval of the amendment by the royalty owners is not required.

(2) The order of amendment may not change the percentage for the allocation of:

(a) Oil and gas as established for any separately owned tract by the original order, except with the consent of all persons owning oil and gas rights in the tract; or

(b) Cost as established for any separately owned tract by the original order, except with the consent of all owners in the tract.

[1961 c.671 §6]

**520.310 Unitization of area including area previously unitized; partial unitization of pool.** (1) The board, as defined in ORS 520.005, by order may provide for the unit operation of a pool or pools or parts thereof that embrace a unit area established by a previous order of the board. The order, in providing for the allocation of unit production, shall first treat as a single tract the unit area previously established, and the portion of the unit production so allocated thereto shall then be allocated among the separately owned tracts included in the previously established unit area in the same proportions as those specified in the previous order.

(2) An order may provide for unit operations on less than the whole of a pool where the unit area is of such size and shape as may reasonably be required for that purpose, and the conduct thereof will have no adverse effect upon other portions of the pool.

[1961 c.671 §§7, 8]

**520.320 Unitization order does not terminate prior agreements or affect oil and gas rights; acquisition of property during unit operations.** (1) No division

order or other contract relating to the sale or purchase of production from a separately owned tract may be terminated by the order providing for unit operations, but remains in force and applies to oil and gas allocated to that tract until terminated in accordance with the provisions thereof.

(2) Except to the extent that the parties affected so agree, no order providing for unit operations results in a transfer of all or any part of the title of any person to the oil and gas rights in any tract in the unit area.

(3) All property, whether real or personal, that may be acquired in the conduct of unit operations under ORS 520.260 to 520.330 and subsection (2) of 520.230 shall be acquired for the account of the owners within the unit area, and is the property of such owners in the proportion that the expenses of unit operations are charged.

[1961 c.671 §§11, 12]

**520.330 Effect of operations in unit area.** All operations, including but not limited to the commencement, drilling or operation of a well, upon any portion of the unit area, are considered for all purposes the conduct of such operations upon each separately owned tract in the unit area by the several owners thereof. The portion of the unit production allocated to a separately owned tract in a unit area, when produced, is considered for all purposes to have been actually produced from that tract by a well drilled thereon. Operations conducted pursuant to an order of the board, as defined in ORS 520.005, providing for unit operations constitute a fulfillment of all the express or implied obligations of each lease or contract covering lands in the unit area to the extent that compliance with such obligations cannot be had because of the order of the board.

[1961 c.671 §9]

## **UNDERGROUND RESERVOIRS**

**520.340 Legislative findings.** The underground storage of natural gas in Oregon is found by the Legislative Assembly to be in the public interest in that the establishment of underground reservoirs of natural gas will help insure the continued, uninterrupted availability of natural gas supplies to residential, commercial and industrial consumers in Oregon during periods of peak demand and

during interruptions in the normal flow of natural gas supplies.

[1977 c.296 §6]

**520.350 Property rights in underground reservoirs for natural gas storage.**

(1) All natural gas in an underground reservoir utilized for underground storage, whether acquired by eminent domain or otherwise, shall at all times be the property of the natural gas company utilizing said underground storage, its heirs, successors, or assigns. In no event shall such gas be subject to the rights of the owner of the surface of the land under which said underground reservoir lies or of the owner of any mineral interest therein or of any person other than said natural gas company, its heirs, successors and assigns to release, produce, take, reduce to possessions, or otherwise interfere with or exercise any control thereof.

(2) Any right of condemnation granted for the purposes of ORS 520.340, 772.610 to 772.625 and this section shall be without prejudice to the rights of the owner of the condemned lands or of the rights and interest therein to drill or bore through the under-

ground reservoir in such a manner as shall protect the underground reservoir against pollution and against the escape of natural gas in a manner which complies with the orders and rules of the State Department of Geology and Mineral Industries. Such condemnation shall be without prejudice to the owners of such lands or other rights or interests therein as to all other uses thereof. The additional costs of complying with rules or orders to protect the underground shall be paid by the condemnor.

[1977 c.296 §6]

**PENALTIES**

**520.990** [Repealed by 1953 c.667 §21]

**520.991 Penalties.** Violation of any provision of this chapter or any rule, regulation or order of the board is punishable, upon conviction, by a fine not exceeding \$2,500 or imprisonment in the county jail for a term not exceeding six months, or both.

[1953 c.667 §19]

**CERTIFICATE OF LEGISLATIVE COUNSEL**

Pursuant to ORS 173.170, I, Thomas G. Clifford, Legislative Counsel, do hereby certify that I have compared each section printed in this chapter with the original section in the enrolled bill, and that the sections in this chapter are correct copies of the enrolled sections, with the exception of the changes in form permitted by ORS 173.160 and other changes specifically authorized by law.

Done at Salem, Oregon,  
October 1, 1977.

Thomas G. Clifford  
Legislative Counsel

**CHAPTER 521**

[Reserved for expansion]

STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 State Office Building  
Portland, Oregon 97201



LAWS AND ADMINISTRATIVE RULES  
RELATING TO GEOTHERMAL EXPLORATION  
AND DEVELOPMENT IN OREGON

MISCELLANEOUS PAPER No. 4

PART 2

REVISED 1979

**GEOHERMAL  
OREGON ADMINISTRATIVE RULES  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
CHAPTER 632  
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**DIVISION 20**

**GEOTHERMAL REGULATIONS**

**Jurisdiction and Authority**

**632-20-005** (1) The 1971 Geothermal Resources Act authorized the Department of Geology and Mineral Industries to control the drilling, redrilling, and deepening of wells for the discovery and production of geothermal resources so that such wells will be constructed, operated, maintained, and abandoned in the manner necessary to safeguard the life, health, property, and welfare of the people of this state and to encourage the maximum economic recovery of geothermal resources therefrom.

(2) The Governing Board of the Department shall:

(a) Administer and enforce the provisions of the Geothermal Resources Act; and

(b) In accordance with the applicable provisions of ORS Chapter 183, adopt rules and regulations and issue orders that it may deem necessary in carrying out the provisions of the Geothermal Resources Act.

(3) The permittee shall in addition to complying with the 1971 Geothermal Act and these regulations comply with applicable laws and regulations of the State Engineer, Department of Environmental Quality, and any other agency having jurisdiction and control in the field of natural resources within the State of Oregon.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**Definitions**

**632-20-010** (1) "Board" means governing board of the State Department of Geology and Mineral Industries.

(2) "By Products" means all minerals obtained from naturally produced or artificially injected fluid, brine, or associated gas and steam in any form whatsoever, but excluding oil, hydrocarbon gas, and other hydrocarbon substances.

(3) "Department" means the State Department of Geology and Mineral Industries.

(4) "Geothermal Area" means any parcel of land that is, or reasonably appears to be underlain by Geothermal Resources.

(5) "Geothermal Resources" means the natural underground reservoirs of heat that may be exploited for the production of heat energy, including, but not limited to, all minerals obtained from naturally produced or artificially injected fluid, brine, or associated gas and steam in any form whatsoever, but excluding oil, hydrocarbon gas, and other hydrocarbon substances and hot waters of less than 250° F. bottom hole temperature.

(6) "Operator" means any person who, duly authorized, is in charge of the development of a lease or the operation of a producing well.

(7) "Owner" means the person who has the right to drill into and produce from a geothermal resources field or reservoir, or to appropriate the production therefrom, or both, either for himself or for himself and others.

(8) "Person" means any individual, corporation, company, association of individuals, joint venture, partnership, receiver, trustee, guardian, executor, administrator, or personal representative that is the subject of legal rights and duties under these regulations.

(9) "Pollution" means any damage or injury resulting from the loss, escape, or unauthorized disposal of any substances at any well subject to the provisions of the Geothermal Resources Act and these regulations.

(10) "Prospect well" means a geophysical test well, temperature gradient test well, or other test well drilled solely

for informational purposes in the exploration of and search for geothermal resources.

(11) "Waste" means any physical waste, deleterious effects on surface and groundwater, 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 resource well or prospect well in such manner that reduces or tends to reduce the ultimate economic recovery of the geothermal resources within a reservoir; and surface waste resulting from the location, spacing, drilling, equipping, operation, or production of a geothermal resource well or prospect well in such a manner that causes or tends to cause the unnecessary or excessive surface loss or destruction of geothermal resources released from the reservoir.

(12) "Supervisor" means the State Geologist.

(13) "Well" means any excavation made for the discovery or production of geothermal resources in a geothermal area or any special facility, converted producing facility, or reactivated or converted abandoned facility used for the reinjection of geothermal resources or the residue thereof underground.

(14) "Blow-Out" means a sudden or violent uncontrolled escape of fluids, as from a drilling well when high formation pressure is encountered.

(15) "Permittee" means "owner".

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**Inspection and Supervision**

**632-20-015** The Supervisor or his deputy shall inspect and supervise geothermal operations for the purpose of enforcing compliance with the rules, regulations, and orders promulgated by the Board.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**General Rules**

**632-20-020** General rules shall be statewide in application unless otherwise specifically stated and applicable to all lands within the jurisdiction of the State of Oregon.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**Supremacy of Special Rules**

**632-20-025** Special rules will be issued when required and shall prevail as against general rules if in conflict therewith.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

**Application and Permit to Drill, Redrill, or Deepen**

**632-20-030** (1) The owner or operator of any well or prospect well before commencing the drilling, redrilling, or deepening of any well or prospect well shall file with the Supervisor or his authorized deputy a written notice of intention to commence such drilling, redrilling, or deepening accompanied by a fee of \$25 prescribed by this section, except no fee is required for the filing of such a notice for a prospect well. The notice will contain the following:

(a) The location and ground elevation of the proposed drill-site. The location shall include the township, range, section, and quarter-quarter section together with the distance and bearing to a section or quarter section corner.

(b) The number or other designation, approved by the Supervisor, by which the well shall be known.

(c) The owner's or operator's estimate of the depths between which production will be attempted.

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(d) Such other pertinent data as the Board may require on the printed forms to be supplied by the Department or on other forms acceptable to the Supervisor.

(2) the Supervisor shall notify the State Game Commission, the State Fish Commission, State Water Resources Board, the State Department of Environmental Quality, and the State Engineer prior to the issuance of a permit under the provisions of the Geothermal Resources Act and these regulations.

(3) Upon receipt of the application, the fee and the bond required under rule 632-20-035, the Board will make its determination and issue such person a permit to drill, unless the drilling of the well or prospect well is contrary to law, or to rule, regulation, or order of the Board. The drilling, redrilling, or deepening of a well or prospect well for geothermal resources is prohibited until a permit is obtained. If the permit is disallowed, the Board will immediately notify the person in writing the reasons therefor.

(4) Drilling, redrilling, or deepening operations must commence within 90 days from the date of issuance of the permit or such permit shall become void unless the Board grants an extension.

(5) After completion of any well, the provisions of this section shall also apply, where applicable, to the deepening or redrilling of the well, to any operation involving the plugging of the well and to any operations permanently altering in any manner the casing of the well.

(6) The number or designation specified for any well or prospect well in a notice filed as required by this section, shall not be changed without first obtaining the written consent of the Supervisor.

Stat. Auth.: ORS Ch.

Hist.: GMI 4, f. 7-20-72, cf. 8-1-72

#### **Drilling Bond**

632-20-035 (1) Every person who engages in the drilling, redrilling, or deepening of any well for geothermal resources shall file with the Board an indemnity bond in the sum of \$5,000 for each well drilled, redrilled, or deepened, or a \$25,000 blanket bond for the drilling, redrilling, or deepening of one or more wells being conducted at any time. The Bond shall be filed with the Supervisor at the time of the filing of the notice of intention to drill, redrill, or deepen as required in section 632-20-035 of this chapter. The bond shall be executed by such person, as principal, and by a surety company authorized to do business in the State of Oregon, as surety, conditioned upon the faithful compliance by the principal with the rules, regulations, and orders under this chapter and shall secure the state against all losses, charges, and expenses incurred by it in obtaining such compliance by the principal of the bond.

(2) The condition of each bond required by section (1) of this rule shall be stated in substantially the following language: "If said \_\_\_\_\_ (naming the principal) shall well and truly comply with all the provisions of ORS 522 and shall obey all lawful orders of the Supervisor or his deputy and not appeal as provided in ORS 522 or, if appealed, upon affirmance thereof by the Board and shall pay all charges, costs, and expenses incurred by the Supervisor or his deputy with respect to such well, wells, or property of said principals or assessed against such well, wells, or property of such principals in pursuance of the provisions of ORS 522 and the regulation made thereunder, in the event said well, or wells cease to produce geothermal resources in commercial quantities or do not produce geothermal resources in commercial quantities, then this obligation shall be void; otherwise, it shall remain in full force and effect, or until another valid bond for such well or wells has been substituted therefor and approved by the Board".

Stat. Auth.: ORS Ch.

Hist.: GMI 4, f. 7-20-72, cf. 8-1-72

(8-1-79)

#### **Assignment, Transfers of Ownership**

632-20-040 (1) The owner or operator of a well shall notify the Supervisor in writing in such form as the Supervisor may direct, of the sale, assignment, transfer, conveyance, or exchange by him of such well and of the sale, assignment, transfer, conveyance, or exchange of the land upon which such well is situated within five days thereof. Each such notice shall contain the following:

(a) The name and address of the person to whom such well or land was sold, assigned, transferred, conveyed, or exchanged.

(b) The name and location of such well.

(c) The date of such sale, assignment, transfer, conveyance, or exchange.

(d) The date when possession of such well or land was relinquished by such owner or operator.

(e) A description of the land upon which the well is situated.

Stat. Auth.: ORS Ch.

Hist.: GMI 4, f. 7-20-72, cf. 8-1-72

#### **Notice of Change in Ownership**

632-20-040 Every person who acquires the ownership or the right of operation of a well or land as described by section 632-20-040 of this Act shall, within five days after acquiring such well or land, notify the Supervisor or his authorized deputy, in writing of his newly acquired ownership or right of operation. Each such notice shall contain the following:

(a) The name and address of the person from whom the well or land was acquired.

(b) The name and location of such well.

(c) The date of such acquisition.

(d) The date when possession of such well or land was acquired by him.

(e) A description of the land upon which such well is situated.

Stat. Auth.: ORS Ch.

Hist.: GMI 4, f. 7-20-72, cf. 8-1-72

#### **Cancellation of Bond**

632-20-050 Any bond submitted as required by rule 632-20-035 of these regulations may with the consent of the Board, be terminated and canceled and the surety be relieved of all obligations thereunder. However, the Board shall not consent to the termination and cancellation of any bond until the well described by such bond has been properly completed or abandoned or another valid bond for such well has been submitted therefor and approved by the Board. No bond shall be released until the Board in writing shall have authorized such release.

Stat. Auth.: ORS Ch.

Hist.: GMI 4, f. 7-20-72, cf. 8-1-72

#### **Proper Completion and Abandonment**

632-20-055 (1) A well is properly completed for the purposes of this chapter when it has been completed and is producing geothermal resources and the person engaged in drilling, redrilling, or deepening such well has shown to the satisfaction of the Board that both the manner of drilling, redrilling, or deepening of the well and the manner of producing geothermal resources therefrom are satisfactory. A well shall be considered completed 30 days after such well has begun to produce geothermal resources unless drilling operations are resumed on such well before the end of such 30-day period.

(2) A well shall be considered properly abandoned, for the purpose of this chapter, when the drilling, redrilling, or deepening has ceased before the completion and production of

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geothermal resources therefrom or when the well no longer produces economic quantities of geothermal resources when the conditions of the Geothermal Act and these regulations are fulfilled and the person drilling, redrilling, or deepening such well has shown to the satisfaction of the Board that all proper steps have been taken to protect underground and surface water used for irrigation or domestic purposes from pollution resulting from the infiltration or addition of any detrimental substance and to prevent the escape of all fluids to the surface.

(3) Proper completion and abandonment shall be also conditioned upon adequate procedures to implement protection of the environment and of aesthetic qualities of the surface in the area of operation.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Well Records

**632-20-060** (1) The owner or operator of any well shall keep, or cause to be kept, a careful and accurate log, core record, representative samples of drill cuttings and cores, if cores are taken, and history of the drilling of the well. In the case of prospect wells, a log shall be kept describing the type of rock penetrated and depths of water-bearing formation. Copies of prospect well logs shall be made available to the State Engineer but subject to confidential restrictions of rule 632-20-075 as far as release to the public.

(2) The log referred to in section (1) of this rule for geothermal wells shall show the character and depth of each formation encountered in the drilling of the well; the amount, size, and weight of casing used; the size, type, and depths of perforations; and the location, depth, and temperature of water-bearing strata, including the temperature, chemical composition, and other chemical and physical characteristics of fluid encountered from time to time.

(3) The core referred to in section (1) of this rule for geothermal wells shall show the depth, character, and fluid content of cores obtained, so far as determined from the study and analysis thereof.

(4) The history referred to in section (1) of this rule for geothermal wells shall show the location and amount of sidetracked casings, tools, or other material; type and depth of bore hole, surveys made; the depth and quantity of cement in cement plugs; the shots of dynamite or other explosives used; the results of production and other tests during drilling operations and completion data.

(5) The log referred to in sections (1) and (2) of this rule for geothermal wells and prospect wells shall be kept at the drill-site or local office of the owner or operator and, together with the tour reports of the owner or operator, shall be subject, during business hours, to inspection by the Board, the Supervisor, or his authorized deputy.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Sundry Notices and Reports

**632-20-065** (1) Any written notice of intention to do work or to change plans previously approved must be filed with the Supervisor unless otherwise directed, and must be approved by him before work is begun. If, in case of emergency, any notice is given orally or by wire, an approval is obtained, the transaction shall be confirmed in writing. A subsequent report of the work performed must also be filed with the Supervisor.

(2) Notice shall be given in advance to the Supervisor or his representative of the date and time when the operator or owner expects to make a casing test. Later, by agreement, the exact time shall be fixed. In the event of casing failure during the test, the casing must be repaired or replaced or recemented as required by the Supervisor or his representative. The results of the test must be reported within thirty (30) days after making

a casing test. The report must describe the test completely and state the amount of mud and cement used, the lapse of time between running and cementing the casing and making the test, and the method of testing.

(3) Before the repairing or conditioning of a well, a notice setting forth in detail the plan of work must be filed with, and approved by, the Supervisor. A detailed report of the work accomplished and the methods employed, including all dates, and the results of such work must be filed within thirty (30) days after completion of the repair work.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Well Designations

**632-20-070** Every person drilling any well for geothermal resources or operating, owning, or controlling or in possession of any well drilled for geothermal resources, shall paint or stencil and post and keep posted in a conspicuous place near the well, the name of the person drilling, operating, owning, or controlling the well, the name of the lease, the number of the well, and the number of the permit for the well, together with the Section, Township, and Range.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Filing of Records Confidential Period

**632-20-075** (1) Upon the completion or abandonment of any well or upon suspension of operations conducted with respect to any well for a period of at least six months, copies of the lithologic log, core record, borehole surveys, representative samples or drill cuttings and cores, if any cores are taken, and history, prepared in such form as the Board may direct, shall be filed with the supervisor within 20 days after such completion, abandonment or six-month suspension for geothermal wells and within 60 days for prospect holes. Records of subsequent work shall be filed upon the recomple- tion of any well.

(2) For a period of two years from the date of completion, abandonment, or six-month suspension, the Supervisor shall keep such logs and records confidential and shall not permit public inspection of such records.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Inspection of Records

**632-20-080** Each owner or operator of any well or his designated agent shall file with the Supervisor a copy of the lithologic log, bore hole surveys, history and core record, or any portion thereof, or the driller's log in the case of a prospect well, at any time after the commencement of the work of drilling any well or prospect well upon the written request of the Supervisor or his authorized deputy. The request shall be signed by the Supervisor or the deputy and served such owner, operator or agent either personally or by mailing a copy of the request by registered mail to the last-known post-office address of such owner, operator, or agent.

Stat. Auth.: ORS Ch.  
Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Blow-Out Prevention

**632-20-085** Any person engaged in operating a well wherein high pressures are known to exist and any person drilling for geothermal resources in any geothermal area wherein the pressures are unknown shall equip such well with casings of sufficient strength seated in competent rock formation and cemented in place and with such other safety devices as may be necessary, in accordance with methods approved by the Supervisor, and shall use every reasonable

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effort to prevent blow-outs, explosions, and fires from such well operation.

Stat. Auth.: ORS Ch.

Hist: GM14, f. 7-20-72, ef. 8-1-72

#### Noise Abatement

**632-20-090** The lessee shall minimize noise when conducting air drilling operations or when the well is allowed to produce while drilling or drilling is conducted. 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 Supervisor and shall comply with the regulations and standards pertaining thereto adopted by the Oregon Department of Environmental Quality.

Stat. Auth.: ORS Ch.

Hist: GM14, f. 7-20-72, ef. 8-1-72

#### Casing Requirements

**632-20-095 (1)** The owner or operator of any well on lands producing or reasonably presumed to contain geothermal resources shall properly case such well with adequate grade casing and cement such casing where necessary with methods approved by the Supervisor or his authorized deputy.

(2) The owner or operator of any such well shall also use every reasonable effort to shut out detrimental substances from strata containing water used for irrigation or domestic purposes and from surface water used for such purposes and to prevent the infiltration of detrimental substances into such strata or into such surface water. The operator of any well drilled for geothermal resources which penetrates a usable fresh water horizon shall be required to set casing through this formation and cement such casing from top to bottom unless the Supervisor approves a different program.

(3) Casing and casing seals used for prospect wells, where the temperature of groundwater does not exceed 250°F., shall comply with the general standards for the construction and maintenance of water wells set by the State Engineer.

(4) Each fluid bearing zone above the producing horizon in a geothermal resources well shall be cased and sealed off to prevent effectively the migration of formation fluids to other areas. Such casing and sealing off shall be effected and tested in such manner and by such methods and means as may be prescribed by the Supervisor.

Stat. Auth.: ORS Ch.

Hist: GM14, f. 7-20-72, ef. 8-1-72

#### Removal of Casings

**632-20-100** No person shall remove a casing, or any portion thereof, from any well or prospect well without first giving advance notice and obtaining approval in writing from the Supervisor or his deputy.

Stat. Auth.: ORS Ch.

Hist: GM14, f. 7-20-72, ef. 8-1-72

#### Directional Drilling

**632-20-105 (1)** The maximum point at which a well penetrates the producing formation shall not unreasonably vary from the vertical drawn from the center of the hole at the surface. Deviation is permitted without special permission for short distances to straighten the hole, sidetrack junk or correct other mechanical difficulties.

(2) Permission to directionally drill a well shall be obtained from the Supervisor.

Stat. Auth.: ORS Ch.

Hist: GM14, f. 7-20-72, ef. 8-1-72

#### Servicing Orders

**632-20-110** Whenever the Supervisor or his authorized deputy makes or gives any written direction concerning the drilling, testing, or other operations conducted with respect to any well or prospect well drilled, in the process of being drilled, redrilled, deepened, or in the process of being abandoned and the operator, owner, or designated agent of either, serves written notice, either personally or by mail, addressed to the Supervisor or deputy, requesting that a definite order be made upon such subject, the Supervisor or his deputy shall, within five days after receipt of the notice, deliver a final written order on the subject matter. Any such final written order of the Supervisor may be appealed in the manner provided in ORS Chapter 183 for appeals from final orders in contested cases.

Stat. Auth.: ORS Ch.

Hist: GM14, f. 7-20-72, ef. 8-1-72

#### Measurement of Geothermal Resources

**632-20-115** The lessee shall measure or gauge all production in accordance with methods approved by the Supervisor or may arrange with the Supervisor 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.

Stat. Auth.: ORS Ch.

Hist: GM14, f. 7-20-72, ef. 8-1-72

#### Production Reports

**632-20-120** The owner or operator of any well producing geothermal resources shall file with the Supervisor on or before the 10th day of each month a statement of the geothermal resources production from such well during the preceding calendar month. Such report shall be submitted on such forms and in such manner as may be prescribed by the Supervisor.

Stat. Auth.: ORS Ch.

Hist: GM14, f. 7-20-72, ef. 8-1-72

#### Abandonment

**632-20-125 (1)** Notice of Intention. Protection of water and geothermal resources:

(a) Before any operation is commenced to abandon any well drilled for geothermal resources, the owner or operator of such well shall give written notice to the Supervisor or deputy of his intention to abandon the well and the date upon which the work of abandonment will begin.

(b) The notice referred to in subsection (a) of this section shall be given at least 24 hours before the proposed date for the commencement of abandonment operations, and it shall show the condition of the well and the proposed method of such abandonment operation.

(c) The owner or operator of such well shall furnish the Supervisor or deputy any additional information that may be requested regarding the condition of the well and the proposed method of abandonment, at any time between the filing of the notice of intention to abandon the well and the completion of abandonment operation.

(2) Geothermal resource, environment, and water resources to be protected:

(a) Before any well or any producing horizon encountered therein shall be abandoned, the owner or operator shall use such means, methods, and procedure as may be necessary to prevent water from entering any geothermal resources bearing formation, and to protect any underground or surface water that is suitable for domestic or irrigation purposes from waste, downward drainage, harmful infiltration, and addition of deleterious substances.

(b) Prior to granting approval for final abandonment of any well drilled for geothermal resources, the Supervisor shall determine that the site be restored to as near its original state as possible.

(3) Suspension, Unlawful Abandonment, Removal of Equipment:

(a) The Board may authorize a permittee to suspend operations or remove equipment from a well for the period stated in the Board's written authorization, given upon written application of the permittee and his or its affidavit showing good cause. The period of suspension may be extended by the Board, upon written application made before expiration of the previously authorized suspension, accompanied by affidavit of the permittee showing good cause for granting of such extension.

(b) After operations on or at a well have been suspended with the approval of the Board pursuant to subsection (a) of this section, if operations are not resumed within six months from the date specified in such approval of suspension, an intention to abandon and unlawful abandonment shall be presumed unless the permittee has obtained from the Board an extension of time of such suspension, upon his or its written application and affidavit showing good cause for the granting of such extension.

(c) Whenever operations on or at any well shall have been suspended for a period of six months without compliance with these regulations, the well shall be presumed unlawfully abandoned.

(d) A well shall be deemed unlawfully abandoned if, without notice given to the Board as required by these rules, any drilling or producing equipment is removed.

(e) Any unlawful abandonment under these regulations shall be declared by the Board and such declaration of abandonment shall be entered in the Board minutes and written notice thereof delivered by registered mail both to such permittee at his last known post office address as disclosed by the records of the Board and to the permittee's surety; and the Board may thereafter proceed against the permittee and his or its surety.

(f) All wells abandoned or declared abandoned as herein provided shall be plugged as required by law and by these regulations.

(4) Plugging Methods and Procedure, Geothermal Wells:

(a) The hole shall be filled with an approved mud-laden fluid from bottom to top of the hole. At the top of each producing formation a cement plug shall be placed which extends either from the bottom of the hole or from a point twenty-five (25) feet below the top of each producing formation upward to a point at least fifty (50) feet above each producing formation.

(b) A cement plug not less than fifty (50) feet in length shall be placed below all fresh water bearing strata.

(c) A twenty (20) foot cement plug shall be placed at the top of the casing in each hole plugged in such a manner as not to interfere with soil cultivation and a steel plate welded over the casing stub.

(d) The interval between plugs shall be filled with an approved heavy mud-laden fluid. Approved heavy mud-laden fluid is defined as mud weighing approximately 9.0 pounds per gallon of not less than thirty-six (36) viscosity (API Full Funnel Method).

(e) If the surface string of casing is set below the deepest fresh water-bearing formation, a cement plug shall be placed in the hole extending from a point at least twenty-five (25) feet below the base of a surface string and twenty-five (25) feet into the bottom of the casing. The hole shall also be capped as provided in subsection (c) above.

(f) The operator shall have the option as to method of placing cement in the hole:

- (A) by the dump bailer;
  - (B) pumping through tubing;
  - (C) pump and plug displacement; or
  - (D) other method approved by the Supervisor.
- (5) Affidavit on Completion. Copies:

Within 20 days after the plugging of a geothermal well and 60 days after the plugging of prospect wells has been accomplished, the owner or operator thereof shall file an affidavit with the director setting forth in detail the method used in plugging the well. Such affidavit shall be made on a form supplied by the Board.

(6) Plugging Methods and Procedure, Prospect Wells. Before abandoning any prospect well which well penetrates a useable fresh-water horizon, it shall be the duty of the owner or operator of such prospect well to plug the same in such manner as to protect properly all water-bearing formations; and within sixty (60) days after the plugging, an affidavit shall be filed with the Supervisor by the owner or operator, setting forth the location of the prospect well and the method used in plugging the same to protect water-bearing formations. Plugging shall consist of the following procedures unless a different method is approved by the Supervisor:

(a) In wells where water is not encountered, the hole shall be filled with approved heavy mud-laden fluid and a twenty (20) foot cement plug placed at the top of the hole in such a manner as not to interfere with soil cultivation. Approved heavy mud-laden fluid is defined as mud weighing approximately 9.0 pounds per gallon of not less than thirty-six (36) viscosity (API Full Funnel Method).

(b) In wells where water is encountered but is not under artesian pressure, the hole shall be filled with cement through the water zone to a point at least fifty (50) feet above the water zone, or if the top of the zone is less than fifty (50) feet from the ground surface, the cement shall extend to the ground surface. If a well penetrates below a fresh-water zone, a cement plug shall extend from twenty-five (25) feet below the bottom of the water bearing zone to at least fifty (50) feet above the water zone.

(c) In wells where artesian water is encountered, the hole shall be plugged with cement as required under subsection (b). If the plug does not seal off the flow of water, the hole shall be re-plugged or pressure-grouted with cement until the flow is stopped.

(7) Wells Used for Fresh Water:

(a) When the drilled well to be plugged may safely be used as a fresh-water well and such use is desired by the land owner, the well need not be filled above the required sealing plug set below fresh water; provided, however, authorization for use of any such well shall be obtained from the State Engineer.

(b) Application for leaving the well partially unplugged as a fresh water well may be made to the Board by the land owner, accompanied by his affidavit as to his need of water and the intended use of the well, together with certified copy of the State Engineer's order or permit authorizing such use.

(c) The operator shall leave the fresh water well in a condition approved by the Supervisor.

Stat. Auth.: ORS Ch.

Hist.: GMI 4, f. 7-20-72, ef. 8-1-72

#### Subsequent Abandonment Report

632-20-139 (1) Within five days after the completion of abandonment of any well, the owner or operator of such well shall make, in such form as the Supervisor or deputy may direct, a written report, in duplicate, of all work done with respect to the abandonment. The Supervisor or deputy shall, within 10 days after the receipt of a written report of completion, furnish the owner or operator with a written final approval of abandonment, or a written disapproval of abandon-

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ment, setting forth the conditions upon which the disapproval is based.

(2) Failure to abandon in accordance with the approved method of abandonment, failure to submit to the Supervisor or his deputy any notice or report required by these regulations or failure to furnish the Supervisor or deputy, at his request, with any information regarding the condition of the well, shall constitute sufficient grounds for disapproval of the abandonment of such well.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Well Spacing

**632-20-135** The Board shall approve proposed well-spacing programs or prescribe such modifications to the programs as it determines necessary for proper development, giving consideration to such factors as:

- (1) topographic characteristics of the area;
- (2) hydrologic and geologic conditions in the reservoir;
- (3) minimum number of wells required for adequate development; and
- (4) protection of the environment.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Commingle Production

**632-20-140** The Supervisor may authorize the lessee to commingle the production from different wells and/or leases with the production of other operators subject to such conditions as he may prescribe.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Pits or Sumps

**632-20-145** Materials and fluids or any fluid necessary to the drilling, production, or other operations by the permittee may be discharged or placed in pits and sumps if approval to do so is obtained from the Supervisor and the State Department of Environmental Quality. The operator shall provide pits and sumps of adequate capacity and design to retain all materials. In no event shall the contents of a pit or sump be allowed to:

- (1) Contaminate streams, artificial canals or waterways, groundwaters, lakes, or rivers;
- (2) Adversely affect the environment, persons, plants, fish, and wildlife and their populations; or
- (3) Damage the aesthetic values of the property or adjacent properties.

When no longer needed, pits and sumps are to be filled and covered and the premises restored to a near natural state.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Disposal of Solid and Liquid Wastes

**632-20-150** In addition to any permit issued under these regulations, a permit is also required from the State Department of Environmental Quality for disposal of liquid wastes such as drilling muds, equipment oils, produced wastes including geothermal waters and solid wastes resulting from geothermal operations.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Re-Injection of Fluids into Reservoir

**632-20-155** (1) The Board may authorize re-injection into the reservoir of fluids produced with geothermal resources providing it is established that such practice will be done in the

best possible manner with respect to the environment and to economic considerations and that such re-injection will not be contrary to any law, rule, or regulation of another agency.

(2) Applications for permission to re-inject fluids into the reservoir shall contain such information as the Board deems necessary to make its determination.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Appeals From Board Actions

**632-20-160** Application for rehearing by person adversely affected by order of Board. Any person adversely affected by any rule, regulation, or order of the Board may within 30 days after its entry apply to the Board for a rehearing. Such application shall be acted upon by the Board within 30 days from its filing date, and if granted, such rehearing shall be held without undue delay.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Judicial Review of Board Actions

**632-20-165** (1) Any person adversely affected by any rule, regulation, or an order entered by the Board may obtain judicial review thereof pursuant to ORS Chapter 183.

(2) The circuit court having jurisdiction shall, in so far as is practicable, give precedence to proceedings for judicial review under this chapter.

(3) Either party may appeal to the Supreme Court of the State of Oregon in the same manner as provided by the laws for appeals from the circuit court in suits in equity.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Environmental Protection

**632-20-170** In the absence of coverage by any other section of these regulations, the permittee shall conduct operations under this chapter so as not to pollute land, water or air, pollute streams, damage the surface or pollute the underground water. The operator must comply with Federal and State air and water quality standards. 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 Supervisor before action is taken under them.

Stat. Auth.: ORS Ch.

Hist: GMI 4, f. 7-20-72, ef. 8-1-72

#### Geothermal Blow-Out Prevention

##### Blow-Out Prevention Rules for Geothermal Wells

**632-20-175** (1) Cementing of Casing. The conductor and surface casing strings shall be cemented with a quantity of cement sufficient to fill the annular space back to the surface. The intermediate casing string shall likewise be cemented back to the surface or to the top of the lap if a liner is used as an intermediate string. Production casing shall be cemented with a high temperature resistant admix, unless waived by the Supervisor and shall be cemented in a manner necessary to exclude, isolate, or segregate overlying formation fluids from the geothermal resources zone and to prevent the movement of fluids into possible fresh water zones. Production casing shall be cemented back to the surface or, if lapped, to the top of the lap. A temperature or cement bond log may be required by the Supervisor after setting and cementing the production casing and after all primary cementing operations if an unsatisfactory cementing job is indicated. Proposed well cementing tech-

niques differing from the requirements of this paragraph will be considered by the Supervisor on an individual well basis.

(2) Pressure Testing. Prior to drilling out the casing shoe after cementing, all casing strings set to a depth of 500 feet or greater, except for conductor casing, shall be pressure tested to a minimum pressure of 1,000 psi or 0.2 psi/ft whichever is greater. All casing strings set at a depth less than 500 feet, except for conductor casing, shall be pressure tested to a minimum pressure of 500 psi. Exceptions to these minimum pressures may be allowed with the specific prior permission of the State Geologist. Such test shall not exceed the rated working pressure of the casing or the blow-out preventer stack assembly, whichever is lesser.

In the event of casing failure during the test, the casing must be repaired or recemented until a satisfactory test is obtained. A pressure decline of 10 percent or less in 30 minutes shall be considered satisfactory.

Casing test results shall be recorded on the driller's log and reported to the Supervisor within 30 days after the completion of such test. Advance notice of all casing and lap tests shall be given in sufficient time to enable the State Geologist or his representative to be present to witness such tests. The casing and lap test reports shall give a detailed description of the test; including mud and cement volumes, lapse of time between running and cementing casing and testing, method of testing and test results.

(3) Blow-Out Prevention Equipment and Procedures. All necessary precautions shall be taken to keep all wells under control at all times, utilize trained and competent personnel, and utilize properly maintained equipment and materials. Blow-out preventers and related well control equipment shall be installed, tested immediately thereafter and maintained ready for use until drilling operations are completed. Certain components, such as packing elements and ram rubbers, shall be of high temperature resistant material as necessary. All kill lines, blowdown lines, manifolds and fittings shall be steel and shall have a temperature derated minimum working pressure rating equivalent to the maximum anticipated wellhead surface pressure. Subject to subsections (a) and (b) of this section, blow-out prevention equipment shall have manually operated gates and hydraulic actuating systems and accumulators of sufficient capacity to close all of the hydraulically operated equipment and have a minimum pressure of 1,000 psi remaining on the accumulator. Dual control stations shall be installed with a high pressure backup system. One control panel shall be located on the ground at least 50 feet away from the wellhead or rotary table. Air or other gaseous fluid drilling systems shall have blow-out prevention assemblies. Such assemblies may include, but are not limited to, a rotating head, a double ram blow-out preventer or equivalent, a banjo-box or an approved substitute therefor and a blind ram blow-out preventer or gate valve, respectively. Exceptions to the requirements of this paragraph will be considered by the State Geologist only for certain geologic and well conditions such as stable surface areas with known low subsurface formation pressures and temperatures:

(a) Conductor Casing. In certain instances a remotely controlled hydraulically operated expansion type preventer or an acceptable alternative, approved by the Supervisor, including a drilling spool with side outlets or equivalent may be required by the Supervisor in areas where shallow thermal zones are indicated.

(b) Surface, Intermediate, and Production Casing. Unless otherwise approved by the Supervisor, before drilling below any of these strings, the blow-out prevention equipment shall include a minimum of:

(A) One expansion-type preventer and accumulator or rotating head;

(B) A manual and remotely controlled hydraulically operated double ram blow-out preventer or equivalent having a temperature derated minimum working pressure rating which exceeds the maximum anticipated surface pressure at the anticipated reservoir fluid temperature;

(C) A drilling spool with side outlets or equivalent;

(D) A fillup line;

(E) A kill line equipped with at least one valve; and

(F) A blowdown line equipped with at least two valves and securely anchored at all bends and at the end.

(c) Testing and Maintenance. Ram type blow-out preventers and auxiliary equipment shall be tested to a minimum of 1,000 psi or to the working pressure of the casing or assembly, whichever is the lesser. Expansion type blow-out preventers shall be tested to 70 percent of the above pressure testing requirements. The blow-out prevention equipment shall be pressure tested:

(A) when installed;

(B) prior to drilling out plugs and/or casing shoes;

(C) not less than once each week, alternating the control stations; and

(D) following repairs that require disconnecting a pressure seal in the assembly.

During drilling operations, blow-out prevention equipment shall be actuated to test proper functioning as follows: once each trip for blind and pipe rams but not less than once each day for pipe rams; and at least once each week on the drill pipe for expansion type preventers.

All flange bolts shall be inspected at least weekly and retightened as necessary during drilling operations. The auxiliary control systems shall be inspected daily to check the mechanical condition and effectiveness and to insure personnel acquaintance with the method of operation. Blow-out prevention and auxiliary control equipment shall be cleaned, inspected, and repaired, if necessary, prior to installation to assure proper functioning. Blow-out prevention controls shall be plainly labeled, and all crew members shall be instructed on the function and operation of such equipment. A blow-out prevention drill shall be conducted weekly for each drilling crew. All blow-out prevention tests and crew drills shall be recorded on the driller's log.

(4) Related Well Control Equipment. A full opening drill string safety valve in the open position shall be maintained on the rig floor at all times while drilling operations are being conducted. A kelly clock shall be installed between the kelly and the swivel.

(5) Drilling Fluid. The properties, use, and testing of drilling fluids and the conduct of related drilling procedures shall be such as are necessary to prevent the blow out of any well. Sufficient drilling fluid materials to ensure well control shall be maintained in the field area readily accessible for use at all times.

(6) Drilling Fluid Control. Before pulling drill pipe, the drilling fluid shall be properly conditioned or displaced. The hole shall be kept reasonably full at all times, however, in no event shall the annular mud level be deeper than 100 feet from the rotary table when coming out of the hole with drill pipe. Mud cooling techniques shall be utilized when necessary to maintain mud characteristics for proper well control and hole conditioning.

(7) Drilling Fluid Testing. Mud testing and treatment consistent with good operating practice shall be performed daily or more frequently as conditions warrant. Mud testing equipment shall be maintained on the drilling rig at all times.

The following drilling fluid system monitoring or recording devices shall be installed and operated continuously during drilling operations, with mud, occurring below the shoe of the conductor casing. No exceptions to these requirements will be

allowed without the specific prior permission of the Supervisor:

- (a) a high-low level mud pit indicator including a visual and audio-warning device;
- (b) degassers, desilters, and desanders;
- (c) a mechanical, electrical, or manual surface drilling fluid temperature monitoring device. The temperature of the drilling fluid going into and coming out of the hole shall be monitored, read, and recorded on the driller's or mud log for a minimum of every 30 feet of hole drilled below the conductor casing; and
- (d) a hydrogen sulfide indicator and alarm shall be installed in areas suspected or known to contain hydrogen sulfide gas which may reach levels considered to be dangerous to the health and safety of personnel in the area.

(8) Well-head Equipment and Testing:

(a) Completions. All wellhead connections shall be fluid pressure tested to the API or ASA working pressure rating. Cold water is recommended as the testing fluid. Welding of wellhead connections shall be performed by a certified welder using materials in conformance with ASTM specifications.

(b) Well-head Equipment. All completed wells shall be equipped with a minimum of one casinghead with side outlets, one master valve and one production valve, unless otherwise authorized by the Supervisor. All casingheads, Christmas trees, fittings, and connections shall have a temperature derated working pressure equal to or greater than the surface shut-in pressure of the well at reservoir temperature. Packing, sealing mediums, and lubricants shall consist of materials or substances that function effectively at, and are resistant to, high temperatures. Wellhead equipment, valves, flanges, and fittings shall meet minimum ASA standards or minimum API Standard 6A specifications. Casinghead connections shall be made such that fluid can be pumped between casing strings.

(9) Supervision. From the time drilling operations are initiated and until the well is completed or abandoned, a member of the drilling crew or the toolpusher shall monitor the rig floor at all times for surveillance purposes, unless the well is secured with blow-out preventers or cement plugs.

Stat. Auth.: ORS Ch. 522

Hist.: GM18, f. & ef. 11-17-76

**Blow-Out Prevention Rules for Geothermal Prospect Wells**

632.20-180 The following stipulations shall apply to the drilling of shallow prospect holes for measurement of temperature gradients or heat flow:

(1) If the conditions outlined in (3), (4), or (5) below are encountered, the State Geologist shall be notified immediately.

No exceptions to the stipulations of (3), (4), or (5) will be allowed without the specific prior permission of the State Geologist.

(2) Holes for measuring temperature gradients shall be limited to a depth of 500 feet.

(3) Return-line temperatures shall be taken at no less than 30 foot intervals during drilling operations on shallow holes drilled with mud. If return-line mud temperature should reach 52°C. (125°F.), drilling ahead shall cease immediately and the hole will be either:

(a) completed as an observation hole by running steel tubing as deep as possible, filling the annulus with drilling mud from total depth to 10 feet below the surface and with cement from 10 feet to the surface;

(b) abandoned by filling the hole with drilling mud from total depth to 10 feet below the surface and cement to the surface thereafter; or

(c) equipped with mud cooling and wellhead control devices to maintain well control and mud returns temperature at or below 52°C. (125°F.).

(4) If hot water or flowing steam at 65°C. (150°F.) or greater is encountered, further drilling shall stop immediately and the hole will be either:

(a) completed as an observation hole using steel tubing cemented from total depth to surface; or

(b) abandoned by plugging with cement from total depth to surface.

(5) If cold flowing artesian water is encountered, the hole will be completed as in (4) hereinabove, except that plastic tubing may be used.

(6) Locations proposed in natural thermal areas within a 1,000 foot radius of hot springs, fumaroles, or other surface geothermal indicia, or in areas of known artesian water flow, will require a detailed drilling program for each hole, approved by the State Geologist. The State Geologist may require special drilling and completion techniques for such holes (such as cemented surface casing and simple expansion type blow-out preventers) to safely control formations containing geothermal or other resources which may be penetrated.

(7) A supply of mud and lost circulation material shall be kept on hand while drilling to control abnormal pressure if rotary equipment is used.

Stat. Auth.: ORS Ch. 522

Hist.: GM18, f. & ef. 11-17-76

# Chapter 522

## 1979 REPLACEMENT PART

### Geothermal Resources

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### CROSS REFERENCES

Air and water pollution control permit for geothermal well drillings and operation, 468.350	Exploration, mining and processing of geothermal resources in areas zoned for farm use, 215.213
Assessment of lands subject to geothermal resource exploration leases for ad valorem taxation, 808.370	Geothermal resource rights on state lands, 273.780

GENERAL PROVISIONS

**522.005 Definitions.** As used in this chapter, unless the context requires otherwise:

(1) "Board" means the governing board of the State Department of Geology and Mineral Industries.

(2) "Byproduct" means any mineral or minerals, exclusive of helium or of oil, hydrocarbon gas or other hydrocarbon substances, which are found in solution or in association with geothermal resources and which have a value of less than 75 percent of the value of the geothermal resource or are not, because of quantity, quality, or technical difficulties in extraction and production, of sufficient value to warrant extraction and production by themselves.

(3) "Department" means the State Department of Geology and Mineral Industries.

(4) "Drilling" includes drilling, redrilling and deepening of a geothermal well.

(5) "Geothermal area" means any parcel of land that is, or reasonably appears to be, underlain by geothermal resources.

(6) "Geothermal well" includes any excavation made for producing geothermal resources and any geothermal reinjection well as defined in subsection (10) of this section.

(7) "Geothermal resources" means the natural heat of the earth, the energy, in whatever form, below the surface of the earth present in, resulting from, or created by, or which may be extracted from, the natural heat, and all minerals in solution or other products obtained from naturally heated fluids, brines, associated gases, and steam, in whatever form, found below the surface of the earth, exclusive of helium or of oil, hydrocarbon gas or other hydrocarbon substances, but including, specifically:

(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, gas, or other fluids artificially introduced into geothermal formations;

(c) Heat or other associated energy found in geothermal formations; and

(d) Any byproduct derived from them.

(8) "Operator" means the person:

(a) Who possesses the legal right to drill a geothermal well;

(b) Who has obtained a drilling permit pursuant to ORS 522.135; or

(c) Who possesses the legal right to operate a completed geothermal well as described by ORS 522.185.

(9) "Prospect well" includes any well drilled as a geophysical test well, seismic shot hole, mineral exploration drilling, core drilling or temperature gradient test well, less than 2,000 feet in depth, and drilled in prospecting for geothermal resources. "Prospect well" does not include a geothermal well as defined in subsection (6) of this section.

(10) "Geothermal reinjection well" means any well or converted well constructed to dispose of geothermal fluids derived from geothermal resources into an underground reservoir.

(11) "Reservoir" means an aquifer or combination of aquifers or zones containing a common geothermal or groundwater resource.

(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 resource 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 of geothermal resources and the location, spacing, drilling, equipping, operation or production of a geothermal resource well in such a manner that causes or tends to cause the unnecessary or excessive surface loss or destruction of geothermal resources released from a reservoir. [1975 c.552 §3; 1979 c.163 §1]

**522.010** [1971 c.776 §2; 1973 c.388 §1; repealed by 1975 c.552 §55]

**522.015 Policy.** (1) The Legislative Assembly hereby finds and declares that:

(a) The people of the State of Oregon have a direct and primary interest in the development of geothermal resources situated in this state.

(b) The State of Oregon, through the State Department of Geology and Mineral Industries, shall control the drilling, redrilling and deepening of wells for the discovery and production of geothermal resources so that such wells will be constructed, operated, maintained and abandoned in the manner necessary to safeguard the life, health, property

and welfare of the people of this state, to safeguard the air, water and other natural resources of this state, and to encourage the maximum economic recovery of geothermal resources therefrom.

(2) It is the policy of the Legislative Assembly that this chapter be administered:

(a) To prevent damage to and waste of geothermal resources;

(b) To prevent interference with or damage to waters used or to be used for beneficial purposes that may result from improper drilling, operation, maintenance or abandonment of geothermal or prospect wells; and

(c) To supervise the drilling, operation, maintenance and abandonment of geothermal or prospect wells in a manner permitting the operator to utilize all methods known to the industry for the purpose of increasing the ultimate economic recovery of geothermal resources, that are suitable, and consistent with protection of the air, water and other natural resources of the state. [Formerly 522.050]

**522.019 Injection of geothermal fluids; department rules; water pollution control facilities permit.** (1) (a) In order to accomplish the policy of ORS 522.015 all geothermal fluids derived from geothermal resources shall be reinjected into the same reservoir from which withdrawn unless it is determined by the department that these policies and the public interest require other disposal of the fluids.

(b) Subject to the determination in paragraph (a) of this subsection, injection into other reservoirs or disposal by other means may be allowed by the department in specific instances where it is shown that such action is consistent with the policies cited in this section. Disposal by other means may include any secondary use of geothermal fluid after the primary use of such fluid for electrical power generation or for other direct application of the heat or other associated energy contained in such fluids or for by-product extraction. Secondary uses may include, but shall not be limited to, use of condensate resulting from electrical power plant operations for plant-cooling purposes, or use of such geothermal fluid for agricultural, commercial or industrial purposes.

(2) The State Department of Geology and Mineral Industries shall adopt rules which govern the disposal by reinjection or other means of geothermal fluids derived from

geothermal resources from wells of 250 or more degrees Fahrenheit bottom hole temperature or wells 2,000 or more feet deep. The rules shall include standards whereby contamination may be determined, construction standards for reinjection wells, testing procedures for identifying aquifers, standards and procedures for determining whether adjacent aquifers are being degraded by the reinjection process, guidelines for conservation of the resource, criteria for evaluating reservoirs or zones for geothermal fluid disposal and requirements for prior approval of all geothermal fluid reinjection proposals.

(3) A water pollution control facilities permit shall be obtained from the Department of Environmental Quality under ORS 468.740 before reinjection is commenced. The Department of Environmental Quality may, by agreement with the State Department of Geology and Mineral Industries, waive this requirement for reinjection into the reservoir from which the fluid came where adequate standards and tests have been adopted to insure the fluid and its residues are uncontaminated. [1979 c.163 §4; 1979 c.547 §1]

**522.020** [1971 c.776 §32; repealed by 1975 c.552 §55]

**522.025 Application.** The provisions of this chapter relating to the location and drilling of any well for the production of geothermal resources do not apply to any wells producing geothermal resources on July 1, 1975, or wells, other than prospect wells, drilled to a depth no greater than 2,000 feet where:

(1) The geothermal fluids produced are of less than 250 degrees Fahrenheit bottom hole temperature; or

(2) Such fluids have been appropriated pursuant to ORS 537.505 to 537.795. [1975 c.552 §4]

**522.035 Ownership rights.** Ownership rights to geothermal resources shall be in the owner of the surface property underlain by the geothermal resources unless such rights have been otherwise reserved or conveyed. However, nothing in this section shall divest the people or the state of any rights, title or interest they may have in geothermal resources. [1975 c.552 §21]

**522.045 Abandoned well; jurisdiction.** Any well drilled under authority of this chapter from which usable geothermal resources cannot be derived, or the owner or operator has no intention of deriving usable geothermal resources, shall be plugged and aban-

done as provided in this chapter or, upon the operator's written application to the department and with the concurrence and approval of the Water Resources Director, jurisdiction over the well may be transferred to the Water Resources Director and, in such case, the well shall no longer be subject to the provisions of this chapter but shall be subject to any applicable laws and rules relating to wells drilled for appropriation and use of ground waters. If an application is made to transfer jurisdiction, a copy of all logs, records, histories and descriptions shall be provided to the Water Resources Director by the applicant. [1975 c.552 §4e]

522.060 [1971 c.776 §1; 1975 c.552 §1; renumbered 522.015]

### PROSPECT WELLS

**522.055 Permit; application; fee.** (1) No person shall engage in drilling a prospect well without first obtaining a permit issued under the authority of the State Geologist and without complying with the conditions of such permit.

(2) An application to drill prospect wells shall contain such information as the department may require, and shall be accompanied by a fee set by the department but not to exceed \$200 to cover all prospect wells included within the application. [1975 c.552 §4a]

522.060 [1971 c.776 §34; repealed by 1975 c.552 §55]

**522.065 Circulation of application to state agencies; suggested conditions to permit; time limit for permit action.** (1) Upon receipt of an application to drill prospect wells, the State Geologist shall circulate copies of the application to the Water Resources Director, the Director of the Department of Environmental Quality, the Director of the Department of Land Conservation and Development, and the Director of the Division of State Lands.

(2) Any public agency desiring to suggest conditions under which a permit should be granted shall provide such information to the department within 15 days of receipt of the copy of the application.

(3) Except as provided in ORS 522.075, within 30 days of receipt of an application to drill prospect wells, the State Geologist shall grant a permit to drill, subject to such conditions as he may impose. Included among the

conditions shall be provision for the proper and safe abandonment of each prospect well.

[1975 c.552 §4b]

522.070 [1971 c.776 §7; repealed by 1975 c.552 §55]

**522.075 Bond or security; execution; cancellation; waiver.** (1) No permit for prospect wells shall be granted until the applicant has filed with the department a bond or security deposit in the sum of not less than \$5,000 for each hole to be drilled or a blanket bond in the amount of \$25,000 for all prospect wells which are included within the application and to be drilled by the applicant.

(2) The bond or deposit shall be conditioned upon compliance with the requirements of this chapter, rules adopted and orders issued pursuant thereto, which shall secure the state against all losses, charges and expenses incurred by it in obtaining such compliance.

(3) The bond provided for in subsection (1) of this section shall be executed by the applicant, as principal, and shall meet such conditions as the board by rule may establish.

(4) With the consent of the board, any bond submitted as required by this section may be terminated and canceled and the surety be relieved of all obligations thereunder. However, the board shall not consent to the termination and cancellation of any bond until the prospect wells described by such bond have been properly and safely abandoned pursuant to the abandonment plan required by the permit or another valid bond for the prospect wells has been submitted and approved by the board.

(5) For those applications concerning prospect wells on federal lands, the board may waive the requirements of subsections (1) to (4) of this section upon receipt of suitable proof of compliance by the applicant with federal bond requirements which would, in the opinion of the board, be unnecessarily duplicated by the requirements of this section. [1975 c.552 §4c; 1977 c.87 §1; 1979 c.163 §2]

**522.085 Report certifying completion of abandonment plan.** Upon completion of all drilling and testing undertaken pursuant to an application to drill prospect wells, the applicant shall file with the State Geologist a report certifying the completion of the abandonment plan required by the permit. [1975 c.552 §4d]

522.110 [1971 c.776 §11; 1973 c.388 §2; repealed by 1975 c.552 §55]

**GEOHERMAL WELLS**

**522.115 Permit; application; fee.** (1) No person shall engage in the drilling or operating of any geothermal well without first obtaining a permit issued under the authority of the State Geologist, and without complying with the conditions of such permit.

(2) An application for a permit shall contain:

(a) The location and elevation of the floor of the proposed derrick.

(b) The number or other designation approved by the department by which the well shall be known.

(c) The applicant's estimate of the depths to be drilled.

(d) The nature and character of the geothermal resource sought.

(e) Such other information as the board by rule may require.

(3) An application shall be accompanied by a nonrefundable fee of \$100.

(4) All fees collected by the department under this section shall be deposited with the State Treasurer and are continuously appropriated to the department for the administration of chapter 552, Oregon Laws 1975. [1975 c.552 §5; 1977 c.87 §2]

Note: The Legislative Counsel has not, pursuant to 173.160, undertaken to substitute specific ORS references for the words "this Act" in 522.115 or 522.135. Chapter 552, Oregon Laws 1975, enacted into law and amended the ORS sections which may be found by referring to the 1975 Comparative Section Table located in volume 6A of Oregon Revised Statutes.

**522.120** [1971 c.776 §§12, 13; 1973 c.388 §3; repealed by 1975 c.552 §55]

**522.125 Circulation of application to state agencies; suggested conditions to permit.** (1) Upon receipt of an application for a permit to drill or operate a geothermal well, the department shall circulate copies of the application to the Water Resources Director, the State Fish and Wildlife Director, the State Forester, the Director of the Department of Environmental Quality, the administrative officer of the State Soil and Water Conservation Commission, the Administrator of the Parks and Recreation Division, the Water Policy Review Board, the State Highway Engineer, the Director of the Department of Land Conservation and Development, the Director of the Division of State Lands and the governing body of the county or counties in which the well or wells will be located.

(2) Any public agency desiring to suggest conditions under which a permit should be granted shall provide such information to the department within 30 days of receipt of the copy of the application. [1975 c.552 §6]

**522.130** [1971 c.776 §14; repealed by 1975 c.552 §55]

**522.135 Permit; time limit for action; grounds for issuance; conditions; construction of permit.** (1) Within 45 days after receipt of the application, the State Geologist shall by order issue, deny, suspend, modify, revoke or not renew a permit pursuant to this chapter and ORS 183.310 to 183.500 except that appeal of any order issued pursuant to this section shall be made to the governing board of the State Department of Geology and Mineral Industries before any appeal under ORS 183.480 is allowed.

(2) The State Geologist may issue the permit if, after receipt of comments from the agencies referred to in ORS 522.125, he determines that issuance thereof would be consistent with the purposes set forth in ORS 468.280, 468.710 and 537.525, rules adopted pursuant to ORS 468.725, and the purposes of this chapter.

(3) If the State Geologist issues a permit pursuant to this section, he shall impose such conditions as he considers necessary to carry out the purposes set forth in ORS 468.280, 468.710 and 537.525, rules adopted pursuant to ORS 468.725, and the purposes of this chapter. He shall include in the permit a statement that issuance thereof does not relieve any person from any obligation to obtain a permit under ORS 468.725 or 468.730.

(4) The State Geologist shall incorporate into the permit requirements:

(a) Any conditions made by the Water Resources Director necessary to comply with the purposes set forth in ORS 537.525; and

(b) Any conditions made by the Department of Environmental Quality necessary to comply with the purposes set forth in ORS 468.280 and 468.710.

(5) Nothing in chapter 552, Oregon Laws 1975, shall be construed to excuse an operator of a geothermal well from complying with the provisions of the Federal Water Pollution Control Act amendments of 1972 (Public Law 92-500) or ORS 468.730 or to dilute the authority of the Department of Environmental Quality to issue National Pollution Discharge Elimination Systems Permits. [1975 c.552 §7]

Note: See note under 522.115.

522.140 [1971 c.776 §6; 1973 c.388 §4; repealed by 1975 c.552 §55]

**522.145 Bond or security; execution; cancellation; waiver.** (1) Except as waived by rule of the board, no permit shall be granted until:

(a) The applicant has filed with the department a bond or security deposit in the sum of \$10,000 for each well to be drilled; or

(b) The applicant to drill more than one geothermal well has filed with the department a bond or security deposit in the sum of \$25,000 for all wells to be drilled.

(2) The bond or deposit shall be conditioned upon compliance with the requirements of this chapter, rules adopted and orders issued pursuant thereto, which shall secure the state against all losses, charges and expenses incurred by it in obtaining such compliance.

(3) The bonds provided for in subsection (1) of this section shall be executed by the applicant, as principal, and shall meet such conditions as the board by rule may establish.

(4) With the consent of the board, any bond submitted as required by this section may be terminated and canceled and the surety be relieved of all obligations thereunder. However, the board shall not consent to the termination and cancellation of any bond until the geothermal well described by such bond has been properly completed or lawfully abandoned or another valid bond for the well has been submitted and approved by the board.

(5) For those applications concerning geothermal wells on federal lands, the board may waive the requirements of subsections (1) to (4) of this section upon receipt of suitable proof of compliance by the applicant with federal bond requirements which would, in the opinion of the board, be unnecessarily duplicated by the requirements of this section. [1975 c.552 §8; 1977 c.87 §3]

522.150 [1971 c.776 §8; repealed by 1975 c.552 §55]

**522.155 Liability for failure to protect ground water; standards for protection of ground and surface water.** (1) In addition to any other liability of the operator of a geothermal well, the operator shall be liable to any person or public agency that sustains damages from failure of the operator to comply with a condition in a permit requiring him to provide for the protection of ground water in the area affected by the well.

(2) The board shall adopt by rule standards for blowout prevention, equipment and casing design and removal, and any other procedures necessary to shut out detrimental substances from strata containing ground or surface water usable for beneficial purposes. [1975 c.552 §9]

522.160 [1971 c.776 §18; repealed by 1975 c.552 §55]

**522.165 Location, number or designation change; alteration of casing.** (1) The location, number or designation specified for any geothermal well in a permit issued pursuant to ORS 522.135 shall not be changed without first obtaining written consent from the department.

(2) No operator shall alter in any manner the casing of a geothermal well without notifying the department and obtaining its approval. [1975 c.552 §10]

522.170 [1971 c.776 §5; repealed by 1975 c.552 §55]

**522.175 Abandonment; proceedings against operator for unlawful abandonment.** (1) No person shall abandon a geothermal well without first obtaining approval of the department.

(2) A geothermal well shall be considered lawfully abandoned when the operator has conformed to ORS 522.245 and to rules adopted by the board designed to:

(a) Protect underground and surface water usable for beneficial purposes from pollution resulting from infiltration or addition of any deleterious substance;

(b) Prevent the escape of all fluids to the surface;

(c) Close the surface aperture of the well; and

(d) Remove all surface equipment except that necessary to maintain permanent closure of the well.

(3) When the operator has violated subsection (1) or (2) of this section or ORS 522.225, or when the department has issued a written disapproval of abandonment, the board may proceed against the operator and his surety as provided for in ORS 522.145 or 522.185, and may bring suit pursuant to ORS 522.810. [1975 c.552 §11]

522.180 [1971 c.776 §19; repealed by 1975 c.552 §55]

**522.185 Production and abandonment bond; cancellation; completed well.** (1) Upon completing a geothermal well, as described by subsection (3) of this section, the

operator of the well shall file with the department a production and abandonment bond in addition to the bond required by ORS 552.145, to insure compliance with the requirements of this chapter and rules adopted and orders issued pursuant thereto, and the sealing of the well when production has ceased. The board by rule shall establish the sum and terms of the production and abandonment bond required.

(2) The production and abandonment bond shall not be terminated and canceled by the board until the geothermal well described by the bond has ceased production and is lawfully abandoned, or another valid bond for the well has been submitted and approved by the board.

(3) A geothermal well is completed for purposes of subsection (1) of this section when it is producing geothermal resources and the operator of the well has received written assurance from the department that the manner of drilling of the well and the manner of producing geothermal resources therefrom are satisfactory. [1975 c.552 §13]

522.190 [1971 c.776 §20; repealed by 1975 c.552 §55]

**522.195 Monthly production statement.** Except as excluded by rule adopted by the board, the operator of any completed geothermal well shall file with the department a monthly statement of the geothermal resources production from such well during the preceding calendar month. [1975 c.552 §14]

522.200 [1971 c.776 §28; repealed by 1975 c.552 §55]

**522.205 Transfer or purchase of well; notice; application; fee; notice by landowner of transfer or purchase.** (1) Except as excluded from the provisions of this section by rule of the board, any prospective operator of a geothermal well shall notify the department in such form as the department may direct of the purchase, assignment, transfer, conveyance or exchange of such well within 15 days of the purchase and shall accompany such notice with an application for transfer of the permit for the particular well. The fee for transfer of a permit is \$25.

(2) Any buyer of land on which a geothermal well is located shall notify the department of the purchase, assignment, transfer, conveyance or exchange of the land upon which such well is situated within 15 days of such purchase. [1975 c.552 §15]

522.210 [1971 c.776 §31; repealed by 1975 c.552 §55]

**522.215 Suspension of drilling or operation; application; terms; extension; presumption of abandonment; unlawful abandonment; notice; proceedings against operator.** (1) No operator shall suspend drilling or operation of a geothermal well without obtaining permission from the department.

(2) The department may authorize an operator to suspend for a specific period operations or remove equipment from an uncompleted geothermal well upon such terms as the department may specify, upon written application of the operator and his affidavit showing good cause therefor.

(3) Within a period of six months from the ending date specified for such suspension, the operator may make written application for an extension of suspension, and file it with his affidavit showing good cause for such an extension. Upon a finding that the extension is merited, the board may extend the suspension for an additional specific period.

(4) If, after suspension, operations are not resumed by the operator within six months from the ending date specified for the suspension or extension thereof, an intention to abandon and unlawful abandonment shall be presumed.

(5) Whenever an operator whose operations have been suspended fails to comply with such terms as the department may specify in its authorization, the geothermal well shall be presumed unlawfully abandoned. A well shall also be deemed unlawfully abandoned, if, without notice to the department, any drilling or producing equipment is removed.

(6) An unlawful abandonment shall be declared by order of the board, and written notice thereof shall be mailed by registered mail both to such operator at his last-known post-office address, to his registered agent if any, and to the operator's sureties.

(7) After declaration of unlawful abandonment, the board may proceed against the operator and his surety as provided for in ORS 522.145 or 522.185, and may bring suit pursuant to ORS 522.810. [1975 c.552 §16]

522.220 [1971 c.776 §21; repealed by 1975 c.552 §55]

**522.225 Notice of intent to abandon.**

(1) Before commencing any operation to abandon a geothermal well, the operator shall give notice to the department of his intention to abandon the well and the date upon which the work of abandonment will begin.

(2) Such notice shall be given at least 24 hours before the commencement of abandonment operations and shall indicate:

- (a) The condition of the well;
- (b) The proposed method of the abandonment operation; and
- (c) Any additional information that may be required by the department. [1975 c.552 §17]

522.230 [1971 c.776 §23; repealed by 1975 c.552 §55]

**522.235 Conditions precedent to abandonment.** Before the proposed date upon which the work of abandonment will begin, the department shall furnish the operator with:

- (1) Approval to commence the abandonment operation;
- (2) Conditional approval to commence the abandonment operation, stating what specific work or tests will be necessary before approval of the abandonment operation will be given; or

(3) A report stating what specific information is required to be furnished by the operator to the department before the department may take action upon the proposed abandonment operation. [1975 c.552 §18]

522.240 [1971 c.776 §9; repealed by 1975 c.552 §55]

**522.245 Department approval of abandonment; report by operator; effect of failure to comply; proceedings against operator.** (1) A representative of the department shall be present during any abandonment operation. If he determines that the abandonment is satisfactory, he shall approve the abandonment of the well.

(2) Within 30 days after the completion of abandonment of any geothermal well, the operator of the well shall make a written report of all work done with respect to the abandonment. Within 10 days after the receipt of such report, the department shall furnish the operator with a written final approval of abandonment, or a written disapproval of abandonment setting forth the conditions upon which the disapproval is based.

(3) Failure to abandon in accordance with the approved method of abandonment, failure to submit to the department any notice or report required by this chapter, or failure to furnish the department with any required information shall constitute sufficient grounds for disapproval of the abandonment of such well.

(4) When the department has issued a written disapproval of abandonment, the board may proceed against the operator and his surety as provided for in ORS 522.145 or 522.185, or may bring suit pursuant to ORS 522.810. [1975 c.552 §19]

522.250 [1971 c.776 §10; repealed by 1975 c.552 §55]

522.260 [1971 c.776 §30; repealed by 1975 c.552 §55]

## ADMINISTRATION

**522.275 Administration by State Geologist.** Subject to policy direction by the board, the State Geologist shall administer this chapter, the rules and orders made pursuant thereto, and supervise the department in carrying out the provisions of this chapter. [1975 c.552 §23]

**522.305 Rules.** In accordance with applicable provisions of ORS 183.310 to 183.500, the board may make reasonable rules necessary for the administration of this chapter. [1975 c.552 §22]

522.310 [1971 c.776 §24; repealed by 1975 c.552 §55]

**522.315 Final order of department; delivery to operator.** Whenever the department gives any written direction concerning any geothermal well and the operator requests in writing that a final order for purposes of ORS 183.310 to 183.500 be made, the department shall, within 15 days after receipt of the notice, deliver such final written order to the operator. [1975 c.552 §24]

522.320 [1971 c.776 §§25, 26; repealed by 1975 c.552 §55]

**522.325 Compliance with final order; appeal.** (1) The operator of any geothermal well shall within 15 days from the date of the service of any order, either comply with the order or file with the department a written statement that the order is not acceptable, and the reasons therefor, and the statement shall constitute an appeal from such order to the board.

(2) Any final written order of the board may be appealed in the manner provided in ORS 183.310 to 183.500 for appeals from final orders in contested cases. [1975 c.552 §25]

522.330 [1971 c.776 §27; repealed by 1975 c.552 §55]

**WELL RECORDS**

**522.355 Records of well; contents; drill cutting and core samples.** (1) The operator of any geothermal well shall keep, or cause to be kept, a careful and accurate log, core record and history of the drilling of the well.

(2) The log referred to in subsection (1) of this section shall show the character and depth of each formation encountered in the drilling of the well; the amount, size and weight of casing used; and the location, depth and temperature of water-bearing strata, including the temperature, chemical composition and other chemical and physical characteristics of fluid encountered from time to time, so far as determined.

(3) The core record referred to in subsection (1) of this section shall show the depth, character and fluid content of cores obtained, so far as determined from the study and analysis thereof.

(4) The history referred to in subsection (1) of this section shall show the location and amount of sidetracked casings, tools or other material; the depth and quantity of cement in cement plugs; the shots of dynamite or other explosives used; the results of production and other tests during drilling operations; and completion data.

(5) The log referred to in subsections (1) and (2) of this section shall be kept in the local office of the operator and, together with the tour reports of the operator, shall be subject, during business hours, to inspection by the board, or department.

(6) The operator of any geothermal well shall, in addition to furnishing the log, records, and tests required by this section, collect representative drill cuttings. The operator shall additionally, in the event cores are taken, collect representative core samples. The drill cuttings and core samples shall be filed with the department promptly upon completion or upon its written request, and upon the abandonment or upon suspension of operations for a period of at least six months. [1975 c.552 §26; 1977 c.87 §4]

**522.365 Filing record with department; exemption from disclosure.** (1) Each operator of any geothermal well or his designated agent shall file with the department a copy of the log, history and core record, or any portion thereof, promptly upon completion, or upon the written request of the department at

any time after the commencement of the work of drilling any geothermal well, and upon the abandonment or upon suspension of operations for a period of at least six months.

(2) For a period of four years after the receipt of any log, history, core record, or any portion thereof, such record shall be exempt from disclosure as a trade secret pursuant to subsection (1) of ORS 192.500 unless the operator gives approval to release the data. [1975 c.552 §27]

**522.410** [1971 c.776 §3; repealed by 1975 c.552 §55]

**522.420** [1971 c.776 §35; repealed by 1975 c.552 §55]

**522.430** [1971 c.776 §36; repealed by 1973 c.388 §8]

**522.440** [1971 c.776 §38; repealed by 1973 c.388 §8]

**522.450** [1971 c.776 §37; repealed by 1973 c.388 §8]

**522.460** [1971 c.776 §4; repealed by 1975 c.552 §55]

**522.470** [1971 c.776 §22; 1973 c.388 §5; repealed by 1975 c.552 §55]

**522.480** [1971 c.776 §33; 1973 c.388 §6; repealed by 1975 c.552 §55]

**522.510** [1971 c.776 §15; 1973 c.794 §24; repealed by 1975 c.552 §55]

**522.520** [1971 c.776 §17; 1973 c.794 §25; repealed by 1975 c.552 §55]

**522.530** [1971 c.776 §16; repealed by 1973 c.794 §34]

**522.540** [1971 c.776 §29; repealed by 1973 c.794 §34]

**ENFORCEMENT**

**522.810 Suits to enjoin violations.** Whenever it appears that any person is violating or threatening to violate any provision of this chapter or any rule or order of the board made thereunder, or is threatening to or committing waste, the board may bring suit against such person in the circuit court of any county where the violation or waste occurs or is threatened, to restrain such person from continuing such violation or waste. In any such suit, the court shall have jurisdiction to grant to the board, without bond or other undertaking, such temporary restraining orders or final prohibitory and mandatory injunctions as the facts may warrant, including any such orders restraining the movement, disposition or waste of geothermal resources. [1971 c.776 §41; 1973 c.388 §7; 1975 c.552 §29]

**522.815 Orders by board; scope; notice; hearing.** (1) When necessary to conserve geothermal resources or other natural resources, or to protect the environment, the

correlative rights of any person having an ownership interest in the affected land or resource, or beneficial uses of water, or to accomplish the efficient and economical development of a geothermal reservoir, the board may, upon the request of any interested party or upon its own motion, after hearing, enter an order. The order shall include a description of the geothermal reservoir and the overlying land and may also include provisions for the following:

(a) Division of a geothermal reservoir into zones;

(b) Establishment of spacing units including a description of the location, size and shape of such spacing units;

(c) The integration of separately owned tracts or interests within a spacing unit for the development and operation of the spacing unit and the sharing of production therefrom;

(d) Unit operation of one or more reservoirs within a field and a statement of the terms, conditions and procedures for such unit operation including the allocation of production, royalties and costs. Such allocation shall be in accordance with any agreement of the parties, or if there is no such agreement, then such allocation shall be fair, just and equitable;

(e) The protection of existing and future beneficial uses of water;

(f) Maintaining the renewability of geothermal resources and any other natural resources; and

(g) Any additional provisions the board deems necessary for carrying out the provisions of chapter 552, Oregon Laws 1975 or for protecting the public health, safety and welfare.

(2) Any order entered under this section may in the board's discretion supersede any right or privilege previously granted by or previously entered by the board with respect to such reservoir and may after hearing be amended or supplemented as appears necessary to the board to accomplish the purposes of chapter 552, Oregon Laws 1975.

(3) Any proceeding under this section shall be conducted as a contested case in accordance with ORS 183.310 to 183.500. In addition to the notice requirements of that chapter, notice shall be given to the following persons:

(a) Any operator who has a drilling permit issued pursuant to ORS 522.135 or has a legal

right to operate a geothermal well pursuant to ORS 522.185 in the geothermal reservoir;

(b) Any person who has an ownership interest in the geothermal reservoir; and

(c) Any person who has an ownership interest in land within one mile of the boundaries of the geothermal reservoir. [1975 c.552 §43]

Note: The Legislative Counsel has not, pursuant to 178.160, undertaken to substitute specific ORS references for the words "this Act" in 522.815, Chapter 552, Oregon Laws 1975, enacted into law and amended the ORS sections which may be found by referring to the 1975 Comparative Section Table located in volume 6A of Oregon Revised Statutes.

## PROHIBITED ACTS

**522.910 Aiding in violations prohibited.** No person shall knowingly aid or abet any other person in the violation of any provision of this chapter or of any rule or order of the board made thereunder. [1971 c.776 §40; 1975 c.552 §30]

**522.915 False entries, omissions, destruction, or removal of records or reports.** No person shall:

(1) Make or cause to be made any false entry or statement in a report, record, log, account or other writing required by this chapter or any rule adopted pursuant thereto;

(2) Omit or cause to be omitted from any such report, record, log, account or writing, full, true and correct entries as required by this chapter or any rule or order adopted pursuant thereto;

(3) Destroy, mutilate, alter or falsify any such report, record, log, account or writing; or

(4) Remove from this state the original copy of any such report, record, log, account or writing before an abandonment has been approved pursuant to subsection (2) of ORS 522.245. [1975 c.552 §28]

**522.920** [1971 c.776 §39; repealed by 1975 c.552 §55]

## PENALTIES

**522.990 Penalties.** Violation of any provision of this chapter or of any rule or order of the board made thereunder is punishable, upon conviction, by a fine of not more than \$2,500 or by imprisonment in the county jail for not more than six months, or both. [1971 c.776 §42; 1975 c.552 §31]

## **MINERAL RESOURCES**

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### **CERTIFICATE OF LEGISLATIVE COUNSEL**

Pursuant to ORS 173.170, I, Thomas G. Clifford, Legislative Counsel, do hereby certify that I have compared each section printed in this chapter with the original section in the enrolled bill, and that the sections in this chapter are correct copies of the enrolled sections, with the exception of the changes in form permitted by ORS 173.160 and other changes specifically authorized by law.

Done at Salem, Oregon,  
October 1, 1979.

Thomas G. Clifford  
Legislative Counsel

STATE OF OREGON  
DEPARTMENT OF GEOLOGY and MINERAL INDUSTRIES  
1069 State Office Building  
Portland 1, Oregon

RULES and REGULATIONS  
for the  
CONSERVATION of OIL and NATURAL GAS  
and  
LAWS RELATING to DEVELOPMENT of OIL and GAS MINERALS

March 1, 1962

MISCELLANEOUS PAPER NO. 4  
(Second Revision)

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## OREGON ADMINISTRATIVE RULES

### GENERAL

#### Authority for Publication:

ORS 183.360 (1)

#### Contents:

Text of administrative rules or reference thereto for all agencies coming within the purview of ORS 183.310-183.510.

#### Replacement Pages:

Additions, amendments or repeals will be published in loose-leaf form and distributed as new or replacement pages with directions for inclusion in the compilation.

#### Record of Past Rules:

Replaced rules should be retained in a separate file for future reference to the prior wording of the amended or repealed rules.

### HOW TO CITE

Cite all material in this compilation by the chapter and section number. Example: Oregon Administrative Rules, Chapter 274, Section 10-110. (Short form: OAR 274-10-110)

### INDEX AND TABLE OF CONTENTS

An index and table of contents will be published with each chapter. Consideration will be given to the publication of a master index and table of contents upon completion of the compilation.

OREGON ADMINISTRATIVE RULES

CHAPTER 632

DEPARTMENT OF GEOLOGY AND MINERAL  
INDUSTRIES

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[ED. NOTE: Unless otherwise specified, sections 10-002 through 10-200 of this chapter of the Oregon Administrative Rules Compilation were adopted by the Department of Geology and Mineral Industries January 14, 1954 and filed with the Secretary of State January 27, 1954 as Administrative Order GMI 1.]

Statutory Authority: ORS 520.095

(ORS citations indicate the statutory reference concerning the matter regulated.)

10-002 GENERAL RULES. General rules shall be state-wide in application unless otherwise specifically stated and applicable to all lands within the jurisdiction of the State of Oregon.

10-004 SUPREMACY OF SPECIAL RULES. Special rules will be issued when required and shall prevail as against general rules if in conflict therewith.

#### 10-006 SECRETARY TO THE BOARD.

The director of the State Department of Geology and Mineral Industries shall act as secretary to the Board.

10-008 DEFINITIONS. As used in sections 10-010 to 10-200, unless otherwise required by context:

(1) "Allowable" shall mean the quantity of natural gas or oil allowed by order of the Board to be produced within a stated period.

(2) "Atmospheric Pressure" shall mean the pressure of air at sea level, equivalent to about 14.7 pounds to the square inch.

(3) "Barometric Pressure" shall mean the pressure or weight of air determined by the use of a barometer at a given point.

(4) "Barrel" shall mean 42 U. S. gallons equaling approximately 231 cubic inches to the gallon.

(5) "Blow-Out" shall mean a sudden or violent escape of oil or natural gas, as from a drilling well, when high formational pressure is encountered.

4-1-61

(6) "Blow-Out Preventer" shall mean a heavy casing-head control filled with special gates or rams which may be closed around the drill pipe, or which completely closes the top of the casing.

(7) "Bottom Hole Pressure" shall mean the pressure in pounds per square inch at or near the bottom of an oil or gas well determined at the face of the producing horizon by means of a pressure recording instrument, adopted and recognized by the oil and gas industry, and corrected to the predetermined plane.

(8) "Casing Pressure" shall mean the pressure built up between the casing and tubing when the casing and tubing are packed off at the top of the well.

(9) "Casing-Head Gas" shall mean any gas or vapor, or both gas and vapor, indigenous to an oil stratum and produced from such stratum with oil.

(10) "Combination Well" shall mean well productive of both oil and gas in commercial quantities from the same common source of supply and which has sufficient natural pressure to cause gas to enter a pipe line carrying more than atmospheric pressure.

(11) "Common Source of Supply" is -  
Synonymous with pool.

(12) "Condensate" shall mean hydrocarbons existing in the gaseous state in the reservoir, by condensing to a liquid at pressures or temperatures below those of the reservoir. For the purpose of brevity, the use herein of the word "oil" shall include condensate as defined herein, unless otherwise provided. For instance, oil well shall mean not only an oil well but also a condensate well.

(13) "Connate Water" shall mean the water which was present with the deposition of solid sediments in an oil or gas reservoir and which has not, during the oil accumulation, been displaced.

(14) "Correlative Rights" as used in these regulations shall mean that each owner or producer in a pool is privileged to produce therefrom only in such manner or amount as not to injure the reservoir to the detriment of others or to take an undue proportion of the oil or gas obtainable therefrom, or to cause net drainage between developed units.

(15) "Cubic Foot of Gas" shall mean

the volume of gas expressed in cubic feet computed at standard pressure base of 14.65 pounds per square inch absolute and a standard temperature base of 60 degree F.

(16) "Day" shall mean a period of twenty-four consecutive hours from 7 a.m. one day to 7 a.m. the following day.

(17) "Development" shall mean any work which actively looks toward bringing in production, such as erecting rigs, building tanks, drilling wells, etc.

(18) "Developed Area or Developed Unit" shall mean a proration unit having a well completed thereon which is capable of producing oil or gas in paying quantities; however, in the event it be shown, and the Board finds, that a part of any unit is nonproductive, then the developed area of the unit shall include only that part so found to be productive.

(19) "Differential Pressure" shall mean in the case of wellhead measurement the difference between the tubing pressure and the casing pressure; in the case of an orifice meter, the pressure difference between the up-stream and the down-stream sides of the orifice, a pressure difference measured with a differential gauge or with a manometer (U tube).

(20) "Director" shall mean the director of the State Department of Geology and Mineral Industries.

(21) "Edge Water" shall mean water that holds the oil or gas, or both oil and gas, in a higher structural position usually encroaching on a pool as the oil or gas is recovered.

(22) "Field" shall mean the general area underlaid by one or more pools.

(23) "Gas" shall mean all natural gas, including casinghead gas and other hydrocarbons not defined as oil in subsection (5) of this section.

(24) "Gas Allowable" shall mean the amount of natural gas authorized to be produced by order of the Board.

(25) "Gas-Oil Ratio" shall mean the relation of the gas in cubic feet to the production of oil in barrels as accepted by pipe lines.

(26) "Gas Repressuring" shall mean the introduction of gaseous substances into a pool by artificial means in order to

replenish, replace, or increase the reservoir energy.

(27) "Gas, Sour" shall mean gas which contains hydrogen-sulphide, sulphur, or other deleterious substances, in sufficient quantities to render it unfit for domestic light and fuel.

(28) "Gas Well" shall mean (a) a well which produces natural gas only; (b) that part of a well where the gas producing stratum has been successfully cased off from the oil, the gas and oil being produced through separate casing or tubing; (c) any well capable of producing gas in commercial quantities; or (d) a well producing from a reservoir containing no liquid hydrocarbons.

(29) "Illegal Gas" shall mean gas which has been produced within the State from any well or wells in excess of the amount allowed by any rule, regulation, or order of the Board, as distinguished from gas produced within the State not in excess of the amount of allowed production by any such rule, regulation, or order which is legal gas.

(30) "Illegal Oil" shall mean oil which has been produced within the State from any well or wells in excess of the amount allowed by any rule, regulation, or order of the Board, as distinguished from oil produced within the State not in excess of the amount so allowed by any such rule, regulation, or order which is legal oil.

(31) "Illegal Product" shall mean any product of oil or gas, any part of which was processed or derived, in whole or in part, from illegal oil or illegal gas or from any product thereof, as distinguished from legal product, which is a product processed or derived to no extent from illegal gas or illegal oil.

(32) "Indices of Productive Value" shall mean the factors to be considered in ascertaining the productivity of all property in a pool for the purpose of fixing the allowable production. These indices can mean, at the discretion of the Board, potential acreage, gas-oil ratios, static reservoir pressures, flowing pressures, fluid level draw-downs, the well or wells, or any other pertinent factors.

(33) "Mud-laden Fluid" shall mean

any approved mixture of water and clay or other material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

(34) "Net Drainage" shall mean the drainage or migration of oil or gas within the reservoir which is not equalized by counter-drainage.

(35) "Nomination" shall mean the statement made by a purchaser as to the amount of oil or gas he is willing to purchase for a given period.

(36) "Oil" shall mean crude petroleum oil and any other hydrocarbons, regardless of gravity, which are produced at the well head in liquid form and from gas by ordinary production methods.

(37) "Oil Allowable" shall mean the amount of oil authorized to be produced by order of the Board.

(38) "Oil Well" for the purpose of the rules, shall mean any well not a gas well capable of producing oil or condensate in paying quantities.

(39) "Operator" shall mean any person who, duly authorized, is in charge of the development of a lease or the operation of a producing well.

(40) "Overage, Overproduction" shall mean the oil or gas produced in excess of the allowable fixed by the Board.

(41) "Owner" shall mean the person who has the right to drill into and produce from a field or pool, or to appropriate the production therefrom, or both, either for himself or for himself and others."

Hist: Filed 6-20-55 as GMI 2.

(42) "Period Allowable" shall mean the period as designated in which an allowable may be produced.

(43) "Person" shall mean any natural person, partnership, corporation, association, receiver, trustee, guardian, fiduciary, executor, administrator, representative of any kind, or the State of Oregon and its political subdivisions.

(44) "Pipe Line Oil" shall mean oil free from water and basic sediment to the degree that it is acceptable for pipe line transportation and refinery use.

(45) "Pool" shall mean an underground

reservoir containing or appearing to contain a common accumulation of oil and natural gas. A zone of a structure which is completely separated from any other zone in the same structure is a pool.

(46) "Potential" shall mean the computed daily ability of a well to produce oil as determined by a test made in conformity with rules prescribed by the Board.

(47) "Pressure Maintenance" shall mean (a) the reintroduction (in the early stages of field development) of gas or fluid produced from an oil or gas well to maintain the pressure of the reservoir; (b) the introduction of gas or fluid for the same purpose but obtained from an outside source.

(48) "Producer" or "owner" shall mean a person who has the right to drill into and to produce from any pool and to appropriate the oil or gas he produces therefrom either for others, for himself or for himself and others.

(49) "Product" shall mean any commodity made from oil or gas, and shall include refined crude oil, crude tops, topped crude, processed crude petroleum, residue from crude petroleum, cracking stock, uncracked fuel oil, fuel oil, treated crude oil, residuum, gas oil, casing-head gasoline, natural gas, gasoline, kerosene, benzene, wash oil, waste oil, blended gasoline, lubricating oil, blends or mixtures of oil with one or more liquid products or by-products derived from oil or gas, and blends or mixtures of two or more liquid products or by-products from oil or gas.

(50) "Proved Oil or Gas Land" shall mean the area which has been shown by development or geological information to be such that additional wells drilled thereon are reasonably certain to be commercially productive of oil or gas, or both.

(51) "Purchaser" shall mean any person who directly or indirectly purchases, transports, takes or otherwise removes production to his account from a well, wells, or pool.

(52) "Recycle" - See Pressure Maintenance.

(53) "Repressure" - See Pressure Maintenance.

(54) "Run" shall mean oil or gas piped from one place to another.

(55) "Separator" shall mean an apparatus for separating oil, gas, water, etc., with efficiency as it is produced.

(56) "Share, Fair" shall mean that part of the authorized production for the pool which is substantially in the proportion that the quantity of recoverable oil and gas in the developed area of a tract in the pool bears to the recoverable oil and gas in the total developed area of the pool, insofar as these amounts can be practically ascertained.

(57) "Shortage of Underage" shall mean the amount of production less than the allowable.

(58) "Spacing Unit" shall mean the maximum area in a pool which may be efficiently and economically drained by one well.

(59) "Storage" shall mean produced oil, gas, or both confined in tanks, reservoirs, or containers.

(60) "Storage, Underground" shall mean underground cavities either natural or artificial or both which are suitable for storage of natural gas, produced petroleum, and petroleum products. The term may also mean the produced petroleum and petroleum products confined in underground cavities.

(61) "Survey" shall mean all tests made for the purpose of obtaining information concerning the productive possibility of any geological formation and shall include electrical and directional surveys.

(62) "Waste" in addition to its ordinary meaning, shall mean "physical waste" as that term is generally understood in the petroleum industry. It includes:

(a) Underground waste and the inefficient, excessive or improper use or dissipation of reservoir energy, including gas energy and water drive, of any pool; and the locating, spacing, drilling, equipping, operating or producing of any oil well or gas well in a manner which results or tends to result in reducing the quantity of oil or gas ultimately recoverable from any pool;

(b) Surface waste and the inefficient storing of oil and the locating, spacing, drilling, equipping, operating or produc-

ing of oil wells or gas wells in a manner causing or tending to cause unnecessary or excessive surface loss or destruction of oil or gas. [1953 c 667, section 2.]

(63) "Well" shall mean a well drilled in search of oil or gas, but shall not include core test wells, stratigraphic test wells or wells drilled for information purposes only as distinguished from wells drilled for the purpose of producing oil or gas if found. [1953 c. 667 section 1]

(64) "Well Log" shall mean the written record progressively describing the strata, water, oil or gas encountered in drilling a well with such additional information as to give volumes, pressure, rate of fill-up, water depths, caving strata, casing record, etc., as is usually recorded in normal procedure of drilling, also to include electrical survey or logging.

(65) "Wildcat Well" shall mean a drilling or producing well in an unproved area.

(66) Additional definitions may be found in ORS 520.005 and 520.015.

10-010 APPLICATION AND PERMIT TO DRILL. "Before any person shall spud in and begin the actual drilling of any well in search of oil or gas, such person shall file with the Board his application, in such form as the Board shall require for a permit to drill said well. The application shall be accompanied by the sum of \$25.00, which sum is fixed as a fee for granting of a permit. When satisfied that the application and the bond are in conformance with law, the Board, shall issue a permit to the applicant, in such form as it may have established by its rules and regulations; and the number appearing upon such permit shall at all times be conspicuously displayed on the derrick used in drilling such well.

"As a further condition precedent to the granting of a permit for drilling any oil or gas well, the operator shall furnish a bond in the sum of \$4,000, conditioned as provided by law and on a form supplied by the Board. The surety on the bond shall be a corporate surety

authorized to do business in the State of Oregon." (See ORS 520.025).

Hist: Filed 6-20-55 as GMI 2.

**10-012 CHANGES OF LOCATION OR OWNERSHIP.** (1) If, prior to the drilling of a well, the person to whom the permit was issued desires to change the location, he shall submit a letter so stating and another application properly filled out showing the new location. No additional fee is necessary, but drilling shall not be started until the transfer has been approved and the new permit posted at the new location.

(2) If, while a well is drilling or after it has been completed, the person to whom the permit was issued disposes of his interest in the well, he shall submit a written statement to the director setting forth the facts.

(3) Before the transfer of any well, the person who is to acquire it must obtain a permit and post a bond as required by section 10-010.

Hist: Filed 6-20-55 as GMI 2.

**10-014 DRILLING PRACTICES.** (1) **Pits for Drill Cuttings:** There shall be provided at every well before the actual drilling has been started, one or more pits of adequate and approved size for holding the drill cuttings removed from such well.

(2) **Casing and Sealing Off Formations:** Each oil, gas, brine, or fresh-water stratum above the producing horizon shall be cased and sealed off to prevent effectively the migration of oil, gas, brine, or fresh water to other areas. Such casing and sealing off shall be effected and tested in such manner and by such methods and means as may be prescribed by the director.

(3) **Mud-laden Fluid to be Applied:** No gas sand or stratum upon being penetrated shall be drilled or left open more than two days without the application of mud-laden fluid to prevent the escape of gas during further drilling in or through such sand stratum.

(4) **Well-Head Equipment:** No well shall be drilled into any formation where oil or

gas under high pressure is expected to be found until the innermost string of casing shall have been equipped with an adequate high-pressure master gate valve and blow-out preventer securely anchored.

(5) **Well Records (Logs):** During the drilling or deepening of every well, exclusive of stratigraphic test wells and/or holes drilled solely for the purpose of seismograph operations, the owner, operator, contractor, driller, or other person responsible for the conduct of drilling operations, shall keep at the well a detailed and accurate record of the well, reduced to writing from day to day, which shall be accessible to the director upon order of the Board at all reasonable times. A copy of the records shall be furnished to the director within 20 days after the completion or abandonment of any well, but shall be kept confidential for a period of two years from the date of filing with the director.

(6) **Deepening:** Every person, owner, or producer who desires to deepen a well to a depth below that to which it was originally drilled shall file a written notice of intention to deepen. The notice shall set forth in detail the new proposed total depth, the plan for sealing off any oil, gas, brine, or fresh-water strata to be found or expected to be found in the deepening. If the method set forth is satisfactory and the person, owner, or producer is not in violation of the law or the rules of the Board, the director shall issue a deepening permit. The actual deepening shall not be started until the deepening permit has been posted at the well location.

#### **10-016 IDENTIFICATION OF WELLS.**

Hereafter, every person drilling for oil or gas or operating, owning, or controlling or in possession of any well drilled for oil or gas, shall paint or stencil and post and keep posted in a conspicuous place near the well, the name of the person drilling, operating, owning, or controlling the well, the name of the lease, the number of the well, and the number of the permit for the well, together with the Section, Township, and Range.

**10-018 ORGANIZATION REPORTS.** Every person acting as principal or agent for another or independently engaged in drilling for oil or gas or in the production, storage, reclaiming, treating, or processing of crude oil or natural gas produced in Oregon shall immediately file with the Board in the form of an affidavit: the name under which such business is being conducted or operated; the name and postoffice address of such person, the business or businesses in which he is engaged; the plan of organization and, in case of a corporation, the law under which it is chartered and the name and postoffice address of any person acting as a trustee, together with the name of the manager, agent, attorney-in-fact, or principal executive thereof, and the name and postoffice address of each officer thereof. In each case where such business is conducted under an assumed name, such report shall show the names and postoffice addresses of all owners in addition to the other information required and also the name of the county in which the certificate of assumed name is filed. Immediately after any change occurs as to the facts stated in the report filed, a supplementary report under oath shall be immediately filed with the Board with respect to such change.

Hist: Filed 6-20-55 as GMI 2.

**10-020 SURFACE EQUIPMENT.** Meter fittings of adequate size to measure the gas efficiency for the purpose of obtaining gas-oil ratios shall be installed on the gas vent-line of every separator. Well-head equipment shall be installed and maintained in first-class condition so that static bottom hole pressure may be obtained at any time by the duly authorized agents of the Board or the director. Valves shall be installed so that pressures can be readily obtained on both casing and tubing.

**10-122 BLOW-OUT PREVENTION.** In drilling in areas where high pressures are likely to exist, all proper and necessary precautions shall be taken for keeping the well under control, including the

use of blow-out preventers and high-pressure fittings attached to casing strings properly anchored and cemented.

**10-124 DRILLING FLUID.** At any time of drilling any well by rotary method, the operator shall continuously maintain in the hole, from top to bottom, good mud-laden fluid in accordance with recognized safe practice.

**10-126 CLEANING WELLS.** All wells shall be cleaned into a pit not less than one hundred fifty (150) feet from the derrick floor and one hundred fifty (150) feet from any fire hazard.

**10-128 BOILER OR LIGHT PLANT.** No boiler or electric lighting generator shall be placed nearer than 100 feet to any producing well or oil tank.

**10-130 RUBBISH OR DEBRIS.** Any rubbish or debris that might constitute a fire hazard shall be removed to a distance of at least 150 feet from the vicinity of wells, tanks, and pump stations. All waste shall be burned or disposed of in such manner as to avoid creating a fire hazard or polluting streams and fresh-water strata.

**10-132 TUBING.** All wells shall be equipped with, and produce through, tubing of not more than three inches in diameter. The bottom of tubing on flowing wells shall not be higher than 100 feet above the top of the producing sand. If the tubing is perforated, the perforations shall not extend above the top of the producing horizon. Tubing shall be free from obstructions, and have orange-peel weld or bar on the bottom in order to permit the free entrance of bottom hole instruments.

**10-134 CHOKES.** All flowing wells shall be equipped with chokes or beans adequate to control the flow thereof.

**10-136 SEPARATORS.** All flowing wells must be produced through an approved oil and gas separator.

**10-138 FIRE WALLS.** Every permanent

oil tank, or battery of tanks, must be surrounded by a dike or fire wall with a capacity of one and one-half times that of the tank or battery of tanks.

10-140 SLUSH PITS TO BE FILLED IN. Slush pits at producing oil wells must be filled in within a reasonable time after the completion of the well.

10-142 DEVIATION. Except by special permission of the Board the maximum point at which a well penetrates the producing formation shall not vary more than 60 feet from the vertical drawn from the center of the hole at the surface for each 1,000 feet of depth.

10-144 REPORT OF RESULT OF SHOOTING, PERFORATING OR TREATING OF WELL. Within 30 days after either the shooting or chemical treatment of a well, a report shall be filed with the director by the owner, giving the condition of the well after shooting, perforating, or treating, the size and depth of the shot or amount of chemical used, the daily production of oil, gas, and water after shooting or chemical treatment, the name of the person rendering such service, and any other pertinent information. Such report shall be signed and sworn to.

10-146 VACUUM PUMPS PROHIBITED.

The use of vacuum pumps or other devices for the purpose of putting a vacuum on any gas or oil-bearing stratum is prohibited, unless, upon application and hearing, and for good cause shown, the Board shall permit the use of vacuum pumps.

10-148 PRODUCTION PRACTICE. Naturally flowing wells shall be produced at a continuous uniform rate as far as is practical, in keeping with the current allowable, unless the Board specifically permits stop-cocking to reduce the gas-oil ratio.

10-150 PULLING OUTSIDE STRINGS OF CASING. In pulling outside strings of casing from any oil or gas well, the space outside the casing left in the hole

shall immediately be filled, and shall at all times be kept full of mud-laden fluid of adequate specific gravity to seal off all fresh and salt water strata and any strata bearing oil or gas which is not producing.

10-151 NOTIFICATION OF FIRE, BREAKS, LEAKS, OR BLOW-OUTS. (1) All persons controlling or operating any oil and gas wells, or receiving tanks, storage tanks, or receiving and storage receptacles into which crude oil is produced, received, or stored, shall immediately notify the Board by letter giving full details concerning all fires which occur at such oil or gas wells or tanks or receptacles on their property, and all such persons shall immediately report all tanks or receptacles struck by lightning and any other fire which destroys oil or gas, and shall immediately report any breaks in or from tanks or receptacles and pipe lines from which oil or gas is escaping or has escaped.

In all such reports of fires, breaks, leaks, or escapes, or other accidents of this nature, the location of the well, tank 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 likewise specify what steps have been taken or are in progress to remedy the situation reported and shall detail the quantity of oil or gas lost, destroyed, or permitted to escape.

In case any tank or receptacle is permitted to run over, the escape thus occurring shall be reported as in the case of a leak. The report hereby required as to oil losses shall be necessary only in case such oil loss exceeds five barrels in the aggregate.

10-152 PRODUCING FROM DIFFERENT STRATA THROUGH THE SAME CASING STRING. No well shall be permitted to produce either oil or gas from different strata through the same string of casing without first applying for a hearing before the Board. The operator requesting such permission must present to the Board full and complete facts relative

to the operation and the reasons for requesting such permission. If a stratum should be encountered bearing either oil or gas and it is desired to drill deeper, the stratum first penetrated and likewise each and every formation in turn shall be closed and sealed off to prevent waste, either surface or underground.

**10-154 DETERMINING AND NAMING POOLS.** Wells shall be classified as to the pool from which they produce and pools shall be determined and named by the director, provided, that in the event any person is dissatisfied with any such classification, an application may be made to the Board for such classification as the applicant deems proper, and the Board will hear and determine the same.

**10-156 SPACING UNITS.** Immediately upon the discovery of any pool or at any time after the effective date of this rule, the Board may prescribe spacing units for each pool and specify the size, shape, and location thereof.

**10-158 LOCATION AND SPACING OF WELLS.** (1) Spacing Plan: Unless a different well-spacing plan is adopted the director will, simultaneously with the establishment of spacing units for each pool, prescribe well-spacing plans therefor, the boundaries of which shall coincide, if possible, with the boundaries of such spacing units, which plan shall require a minimum of a 40 acre spacing unless a different spacing shall be required or approved by the Board.

(2) Location of Well: Each well permitted to be drilled upon any spacing unit shall be drilled approximately in the center thereof with such exceptions as may be reasonably necessary where it is shown, after notice and upon hearing, and the Board finds, that the unit as established is partly outside the pool, where it is partly nonproductive, or, that for some other reason, a well approximately in the center of the unit would be nonproductive, or topographical conditions are such as to make the drilling in the center of the unit unduly burdensome.

(3) Exceptions: Whenever a uniform spacing plan has been prescribed for any pool exceptions thereto may be permitted if the Board finds, after notice and hearing, that conditions within such pool are such that reasonably uniform spacing would be impracticable.

#### **10-160 POOLING OF SMALL TRACTS.**

When two or more separately owned tracts of land are embraced within a spacing unit which has been established by the Board, the owners thereof may pool their interests and develop their lands as a unit. Where, however, such owners have not agreed to pool their interests, the Board, for the prevention of waste or to protect correlative rights, may limit the allowable of each such owner to his reasonable prorata share of production from such spacing unit.

#### **10-162 ILLEGAL PRODUCTION.**

No purchaser, producer, operator or any other person shall produce any crude oil, natural gas, or waste oil from any spacing unit or pool in this State except in accordance with the rules, regulations and orders of the Board: Provided that tank splitting shall not be required.

**10-164 COMMINGLING OF PRODUCTION PROHIBITED.** The production from one pool shall not be commingled with that from another pool in the same field before delivery to a purchaser, unless otherwise ordered by the Board.

**10-166 REPORTS BY PURCHASERS AND PRODUCERS.** (1) Purchasers: Each purchaser or taker of any oil or gas from any well, lease, or pool shall on or before the 25th day of each month succeeding the month in which the purchasing or taking occurs, file with the director on a form furnished by the Board, a verified statement of all oil or gas purchased, or taken from any such well, lease, or pool during the preceding month.

(2) Producers: The producer or operator of each and every well or spacing unit in prorated pools shall each month submit to the director a sworn statement showing the amount of production made by each well and by each such spacing

unit upon forms furnished therefor.

**10-168 USE OF EARTHEN RESERVOIRS.** Oil shall not be stored or retained in earthen reservoirs or in open receptacles.

**10-170 RESERVOIR SURVEYS.** By special order of the Board, periodic surveys may be made of the reservoirs in this State containing oil and gas. These surveys will be thorough and complete and shall be made under the supervision of the petroleum and natural gas engineers of the Board. The condition of the reservoirs containing oil and gas and the practices and methods employed by the operators shall be investigated. The volume and source of crude oil and natural gas; the reservoir pressure of the reservoir as an average; the areas of regional or differential pressure; stabilized gas-oil ratios; and the producing characteristics of the field as a whole and the individual wells within the field shall be specifically included.

**10-172 OPERATORS TO ASSIST IN RESERVOIR SURVEYS.** All operators of oil wells are required to permit and assist the agents of the Board and the director in making any and all tests including bottom hole pressure and gas-oil ratio determinations that may be required by the Board or director on any or all of their wells.

**10-174 MEASUREMENT OF POTENTIAL OPEN-FLOW OF GAS WELLS.**

The potential open-flow of a gas well may be ascertained by U.S. Bureau of Mines back pressure method, or by other approved methods.

**10-176 SUPERVISION OF OPEN-FLOW AND PRESSURE TESTS.** All tests made in determining the potential flow and shut-in well-head or bottom hole pressure of a gas well and used in calculating the allowable of the spacing unit which the well is located shall be made under the supervision of representatives of the Board.

**10-178 DURATION OF TESTS.** The tests for open-flow and pressure of gas wells

shall be made at such intervals and shall continue for such time as may be necessary to effect accurate determination, and in the case of pressure tests the shut-in period shall be not less than 24 hours.

**10-180 NOTICE OF TESTS.** Open-flow and pressure tests of gas wells may be witnessed or observed by a representative of any producer in the field, and the owners of the adjoining or offset leases must be notified by the owner of the well on which the test is to be taken, stating the time when such test will commence.

**10-182 GAS TO BE METERED.** (1) Meters: All gas when produced or sold shall be metered with an approved meter of sufficient capacity, provided that gas may be metered from a lease or unitized property as a whole if it is shown that ratable taking can be maintained; provided that meters shall not be required for gas produced and used on the lease for development purposes and lease operations.

(2) Meter Charts and Records: Purchasers shall keep meter charts and records on gas purchased in a permanent file, for a period of at least two years, and such information shall be made available to the Board and director.

(3) By-Passes: By-passes shall not be connected around meters in such manner as to permit the improper taking of gas.

**10-184 DIRECT WELL PRESSURE.** The use of direct well pressure to operate any machinery is hereby prohibited.

**10-186 GAS-OIL RATIO.** No well shall be permitted to produce gas in excess of the maximum ratio determined for a pool unless all gas produced in excess thereof is returned to the pool from which it was produced.

**10-188 GAS-OIL RATIO SURVEYS AND REPORTS.** Gas-oil ratios and surveys shall be taken in the manner prescribed by the Board for individual fields where upon gas-oil ratio limits have been fixed and in accordance with the rules prescribed for each individual pool.

(1) Flowing Wells Intermittently (Stop-

cocked) Produced: In computing the operating gas-oil ratio the total volume of gas and the total barrels of oil that are produced in order to obtain the daily oil allowable must be used regardless of the flowing time in the 24-hour period.

(2) Gas Lift or Jet Wells: The total volume of gas to be used in computing the operating gas-oil ratio is the total output volume minus the total input volume.

(3) Pumping Wells: Should gas be withdrawn from the casing in an attempt to maintain a fluid seal, or for any other reason, this volume of gas must be added to the gas produced through tubing in computing the gas-oil ratio.

10-190 GAS UTILIZATION. After the expiration of two days from the time of encountering gas in a gas well, no gas from such well shall be permitted to escape into the air, and no gas produced therefrom shall be utilized except for domestic or commercial purposes.

10-192 DISPOSAL OF BRINE OR SALT WATER. In addition to the requirement of the Act to prevent the escape of oil or gas out of one stratum to another and to prevent the pollution of fresh water supplies by oil, gas, or salt water, and in addition to any regulations of the State Sanitary Authority, the following conditions shall control the disposal of brine or salt water liquids, and any other means or methods of disposal, except re-injection into the formation, are hereby prohibited: (1) Disposal in Earthen Pits: Brine or salt water may be disposed of by evaporation when impounded in excavated earthen pits, which may be used for such purpose only when the pit is underlaid by tight soil such as heavy clay or hardpan.

Impounding of brine or salt water in earthen pits that are porous and closely underlaid by a gravel or sand stratum hereby is prohibited. Earthen pits used for impounding brine or salt water shall be so constructed and maintained as to prevent the escape of fluid.

The Board shall have authority to condemn any pit which does not properly impound such water and order the disposal of such water into an under-

ground formation, as herein provided.

The level of brine or salt water in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have a continuous embankment surrounding them sufficiently above the level of the surface to prevent surface water from running into the pit. Such embankment shall not be used to impound brine or salt water.

At no time shall brine or salt water impounded in earthen pits be allowed to escape over adjacent or into streams.

(2) Disposal by Injection: Salt water may also be disposed of by injection into the strata from which produced or other proved salt water bearing strata.

10-194 WATER INJECTION AND WATER FLOODING OF OIL AND GAS PROPERTIES. (1) Application and Approval: The owner or operator of any well may inject water under pressure into the formation containing oil or gas for the purpose of obtaining oil or gas from the reservoir, upon application to and approval by the Board.

(2) Casing and Cement: Wells used for the injection of water into the producing formation or repressuring wells shall be cased with sound casing so as not to permit leakage and the casing cemented in such manner that damage will not be caused to oil, gas, or fresh water resources.

(3) Application, Contents, Notice, Objection, Hearing, and Approval: (a) No water injection or water flooding program shall be instituted until it has been regularly authorized by the Board.

(b) The application therefor shall be verified and filed with the Board, showing:

(A) The location of the intake well.

(B) The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the name of landowners and lessees within one-half mile of the intake well.

(C) The formations from which wells are producing or have produced.

(D) The name, description, and depth of the formations to be flooded.

(E) The depths of each formation into

which water is to be injected.

(F) The elevations of the top of the oil or gas bearing formation in the intake well and the wells producing from the same formation within one-half mile radius of the intake well.

(G) Log of the intake well or similar information as is available.

(H) Description of the intake well casing.

(I) Description of the liquid, stating the kind, where obtained, and the estimated amounts to be injected daily.

(J) The names and addresses of the operators.

(K) Such other information as the Board may require to ascertain whether the flooding may be safely and legally made.

(c) Applications may be made to include the use of more than one intake well on the same lease, or on more than one lease.

(d) Applications shall be executed by all operators who are to participate in the proposed water injection or water flooding plan.

(e) No order approving water injection or water flooding of oil properties shall be issued until after notice has been given by the Board to each operator in such pool, and hearing has been had before the Board.

(4) Notice of Commencement and Discontinuance of Water Injection or Water Flooding Operations:

(a) Immediately upon the commencement of water injection or water flooding operations, the applicant shall notify the Board stating the date of commencement.

(b) Within 10 days after the discontinuance of water injection or water flooding operations the applicant or the one in charge thereof shall notify the Board of the date of such discontinuance and the reasons therefor.

(c) Before any intake well shall be abandoned, notice shall be served on the Board, and the same procedure shall be followed in the plugging of such well as provided for the plugging of oil and gas wells.

(5) Records: The owner or operator of an intake well shall keep an accurate record of (a) the amount of water injected into the intake wells, (b) the total amount

of water produced, and (c) the total amount of oil produced from the area flooded. Such information shall be made available to the Board or its agents.

10-196 GAS INJECTION OF OIL AND GAS PROPERTIES. (1) Application and Approval: The owner or operator of any well may inject gas under pressure into the formation containing oil or gas for the purpose of obtaining oil or gas from the reservoir, upon application to and approval by the Board.

(2) Casing and Cement: Wells used for the injection of gas into the producing formation shall be cased with sound casing so as not to permit leakage and the casing cemented in a manner that damage will not be caused to oil, gas, or fresh water resources.

(3) Application, Contents, Notice, Objection, Hearing and Approval: (a) No gas shall be injected into a well for gas injection purposes until so ordered by the Board pursuant to application and notice as herein required.

(b) The application shall be verified and filed with the Board showing:

(A) The location of the intake well.

(B) The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the name of landowners and lessees within one-half mile of the intake well.

(C) The formations from which wells are producing or have produced.

(D) The name, description, and depth of the formations to be injected.

(E) The depths of each formation into which gas is to be injected.

(F) The elevations of the top of the oil or gas bearing formation in the intake well and the wells producing from the same formation within one-half mile of the intake well.

(G) The log of the intake well, or similar information as is available.

(H) Description of the intake well casing.

(I) Description of the gas, stating the kind, where obtained, and the estimated amounts to be injected daily.

(J) The names and addresses of the operators.

(K) Such other information as the Board

may require to ascertain whether the gas injection plan meets the requirements of the law and safety.

(c) Applications may be made to include the use of more than one intake well on the same lease or on more than one lease.

(d) Applications shall be executed by all operators who are to participate in the proposed gas injection plan.

(4) Notice of Commencement and Discontinuance of Gas Injection: (a) Immediately upon commencement of gas injection operations, the applicant shall notify the Board stating the date of commencement.

(b) Within 10 days after the discontinuance of gas injection operations, the applicant or the one in charge of the operations shall notify the Board of the date of discontinuance and the reasons therefor.

(c) Before any intake well shall be abandoned, notice shall be served on the Board and the same procedure shall be followed in the plugging of such well as provided for the plugging of oil and gas wells.

(5) Records: The owner or operator of the gas injection project shall keep an accurate record of (a) the amount of gas injected into the intake wells, (b) the amount of gas produced and (c) the amount of oil produced from leases affected by the gas injection. Such information shall be made available to the Board or its agents.

10-198 ABANDONMENT, UNLAWFUL ABANDONMENT, SUSPENSION, WELL PLUGGING. (1) Oil, Gas, and Water to be Protected: Before any well or any producing horizon encountered therein shall be abandoned, the owner or operator shall use such means, methods, and procedure as may be necessary to prevent water from entering any oil or gas-bearing formation, and to protect any underground or surface water that is suitable for domestic or irrigation purposes from waste, downward drainage, harmful infiltration and addition of deleterious substances.

The operator of any hole drilled for oil and gas which penetrates a usable fresh-water horizon, except those drilled for the purposes of seismic prospecting,

shall be required to set casing through this formation and cement such casing from top to bottom, unless special exception is granted by the Board.

(2) Suspension: Removal of Equipment: Application: Extension: The Board may authorize a permittee to suspend operations or remove equipment from a well for the period stated in the Board's written authorization, given upon written application of the permittee and his or its affidavit showing good cause. The period of suspension may be extended by the Board, upon written application made before expiration of the previously authorized suspension, accompanied by affidavit of the permittee showing good cause for the granting of such extension.

(3) Abandonment: Notice of Intention: Presumptions: (a) Before any work is commenced to abandon any well drilled for oil or gas, the permittee shall give written notice to the Board of his intention to abandon such well. The notice shall be upon forms supplied by the Board and shall contain the permit number of the well and such other information as reasonably may be required by the Board.

(b) After operations on or at a well have been suspended with the approval of the Board pursuant to subsection (2) of this rule, if operations are not resumed within six months from the date specified in such approval of suspension, an intention to abandon and unlawful abandonment shall be presumed unless the permittee has obtained from the Board an extension of time of such suspension, upon his or its written application and affidavit showing good cause for the granting of such extension.

(c) Whenever operations on or at any well shall have been suspended for a period of six months without compliance with these regulations, the well shall be presumed unlawfully abandoned.

(d) A well shall be deemed unlawfully abandoned if, without notice given to the Board as required by these rules, any drilling or producing equipment is removed.

(e) Any unlawful abandonment under these regulations shall be declared by the Board and such declaration of abandonment shall be entered in the Board

minutes and written notice thereof mailed by registered mail both to such permittee at his last known post office address as disclosed by the records of the Board and to the permittee's surety; and the Board may thereafter proceed against the permittee and his or its surety.

(f) All wells abandoned or declared abandoned as herein provided shall be plugged as required by law and by these regulations.

(g) The bond furnished by permittee shall not be released until all procedures required by these regulations shall have been completed and the Board in writing shall have authorized such release.

(4) Plugging Methods and Procedure: The methods and procedure for plugging a well shall be as follows: (a) The bottom of the hole shall be filled to the top of each producing formation, or a bridge shall be placed at the top of each producing formation, and in either event a cement plug not less than 15 feet in length shall be placed immediately above each producing formation whenever possible.

(b) A cement plug not less than 15 feet in length shall be placed approximately 50 feet below all freshwater bearing strata.

(c) A plug shall be placed at the surface of the ground in each hole plugged in such manner as not to interfere with soil cultivation.

(d) The interval between plugs shall be filled with an approved heavy mud-laden fluid.

(e) The operator shall have the option as to the method of placing cement in the hole by (A) dump bailer, (B) pumping through tubing, (C) pump and plug, or (D) other method approved by the Board.

(5) Affidavit on Completion: Copies: Within 20 days after the plugging of any well has been accomplished, the owner or operator thereof shall file an affidavit with the director setting forth in detail the method used in plugging the well. Such affidavit shall be made on a form supplied by the Board. Copies of well-

plugging records and affidavits filed, except those relating to core drilling and seismic or other wells drilled for geological data, will be furnished to anyone requesting them on payment of 50 cents per copy.

(6) Seismic Core and Other Exploratory Holes to be Plugged: Methods: Affidavit: Before abandoning any hole drilled for seismic, core, or other exploratory purposes, which hole penetrates a usable fresh-water horizon, it shall be the duty of the owner or driller of such hole to plug the same in such manner as to protect properly all water-bearing formations; and within 60 days after the plugging, an affidavit shall be filed with the Director by the owner or driller, setting forth the location of the holes and the method used in plugging the same to protect water-bearing formations.

(7) Wells Used for Fresh Water: (a) When the drilled well to be plugged may safely be used as a fresh-water well and such use is desired by the land owner, the well need not be filled above the required sealing plug set below freshwater; provided, however, authorization for use of any such well shall be obtained from the State Engineer, in conformance with chapter 708, Oregon Laws 1955.

(b) Application for leaving the well partially unplugged as a fresh-water well may be made to the Board by the land owner, accompanied by his affidavit as to his need of water and the intended use of the well, together with certified copy of the State Engineer's order or permit, or that officer's statement that no permit is required.

(c) The operator shall leave the fresh-water well in a condition approved by the Board.

Hist: Filed 4-3-56 as GMI 3.

10-200 CONFIDENTIAL INFORMATION. No information herein required to be furnished to the Board shall be disclosed by any employee of the Board except as expressly authorized by the Board.

Oregon Laws Affecting Exploration and Development of Oil and Gas Minerals

Chapter 520, Oregon Laws 1961

520.005. General definitions. As used in this chapter, unless the context requires otherwise:

- (1) "And" includes "or" and "or" includes "and."
  - (2) "Board" means the governing board of the State Department of Geology and Mineral Industries.
  - (3) "Condensate" means liquid hydrocarbons that were originally in the gaseous phase in the reservoir.
  - (4) "Field" means the general area underlaid by one or more pools.
  - (5) "Gas" means all natural gas and all other fluid hydrocarbons not defined as oil in subsection (6) of this section, including condensate originally in the gaseous phase in the reservoir.
  - (6) "Oil" means crude petroleum oil and all other hydrocarbons, regardless of gravity, which are produced in liquid form by ordinary production methods, but does not include liquid hydrocarbons that were originally in a gaseous phase in the reservoir.
  - (7) "Person" means any natural person, partnership, corporation, association, receiver, trustee, guardian, fiduciary, executor, administrator, representative of any kind, or the State of Oregon and any of its political subdivisions, boards, agencies or commissions.
  - (8) "Pool" means an underground reservoir containing a common accumulation of oil and natural gas. A zone of a structure which is completely separated from any other zone in the same structure is a pool.
  - (9) "Owner" means a person who has the right to drill into and to produce from any pool and to appropriate the oil or gas he produces therefrom either for others, for himself or for himself and others.
  - (10) "Producer" means the owner of one or more wells capable of producing oil or gas or both.
  - (11) "Protect correlative rights" means that the action or regulation by the board affords a reasonable opportunity to each person entitled thereto to recover or receive the oil or gas in his tract or tracts or the equivalent thereof, without being required to drill unnecessary wells or to incur other unnecessary expense to recover or receive such oil or gas or its equivalent.
  - (12) "Unit area" means one or more pools or parts thereof under unit operation pursuant to ORS 520.260 to 520.330 and subsection (2) or ORS 520.230.
  - (13) "Well" means a well drilled in search of oil or gas, but shall not include core test wells, stratigraphic test wells or wells drilled for information purposes only as distinguished from wells drilled for the purpose of producing oil or gas if found.
- (1953 c.667 #1; 1961 c.671 #15)

520.010 (Repealed by 1953 c.667 #21)

520.015 "Waste" defined. "Waste" in addition to its ordinary meaning, means "physical waste" as that term is generally understood in the petroleum industry. It includes:

- (1) Underground waste and the inefficient, excessive or improper use or dissipation of reservoir energy, including gas energy and water drive, of any pool; and the locating, spacing, drilling, equipping, operating or producing of any oil well or gas well in a manner which results or tends to result in reducing the quantity of oil or gas ultimately recoverable from any pool;

(2) Surface waste and the inefficient storing of oil and the locating, spacing, drilling, equipping, operating or producing of oil wells or gas wells in a manner causing or tending to cause unnecessary or excessive surface loss or destruction of oil or gas. (1953 c.667 #2)

520.020 (Repealed by 1953 c.667 #21)

520.025 Director to be notified and fee paid before drilling oil or gas well; contents of notice; disposition of moneys from fees. (1) No person proposing to drill any well for oil or gas shall commence the drilling until he has notified the director of the State Department of Geology and Mineral Industries, upon a form prescribed by the director, and paid to the board a fee of \$25 for each such well.

(2) The director shall require that the form indicate:

(a) The exact location of the well.

(b) The name and address of the owner, operator, contractor, driller and any other person responsible for the conduct of the drilling operations.

(c) The elevation of the well above sea level.

(d) Such other relevant information as the director deems reasonably necessary to effectuate the purpose of this chapter.

(3) All moneys paid to the board under this section shall be deposited by the board with the State Treasurer for credit to and the benefit of the Department of Geology and Mineral Industries.

(1953 c.667 #5)

520.030 (Repealed by 1953 c.667 #21)

520.035 Waste of oil and gas prohibited. The waste of oil and gas, as defined in ORS 520.015, hereby is prohibited.

(1953 c.667 #3)

520.040 (Repealed by 1953 c.667 #21)

520.045 Board to determine whether waste of oil or gas exists or is imminent. The board shall make such inquiries as it may think proper to determine whether or not waste over which it has jurisdiction exists or is imminent. In the exercise of such power the board may:

(1) Collect data.

(2) Make investigations and inspections.

(3) Examine properties, leases, papers, books and records, including drilling records and logs.

(4) Examine, check, test and gauge oil and gas wells and tanks.

(5) Hold hearings.

(6) Provide for the keeping of records and the making of reports.

(7) Take such action as may be reasonably necessary to enforce this chapter.

(1953 c.667 #6)

520.050 (Repealed by 1953 c.667 #21)

520.055 General jurisdiction and authority of board; tide and submerged lands. (1) The board has jurisdiction and authority over all persons and property necessary to enforce effectively this chapter and all other laws relating to the conservation of oil and gas.

(2) In addition to and not in lieu of any other powers granted under this chapter, the

Department of Geology and Mineral Industries and its governing board may in compliance with ORS 520.105 promulgate reasonable rules, regulations and orders necessary to regulate geological, geophysical and seismic surveys on, and operations to remove oil, gas and sulphur from the tide and submerged lands of this state under ORS 274.705 to 274.865.  
(1953 c.667 #4; subsection (2) enacted as 1961 c.619 #40)

520.060 (Repealed by 1953 c.667 #21)  
520.065 (1953 c.667 #3; renumbered 520.210)  
520.070 (Repealed by 1953 c.667 #21)  
520.075 (1953 c.667 #9; 1961 c.671 #16; renumbered 520.220)  
520.080 (Repealed by 1953 c.667 #21)  
520.085 (1953 c.667 #10; 1961 c.671 #17; renumbered 520.230)  
520.090 (Repealed by 1953 c.667 #21)

520.095 Authority of board to make rules, regulations and orders, notice and hearing. The board may make, in compliance with ORS chapter 183, such reasonable rules, regulations and orders as may be necessary in the proper administration and enforcement of this chapter, including rules, regulations and orders for the following purposes:

(1) To require the drilling, casing and plugging of wells to be done in such a manner as to prevent the escape of oil or gas out of one stratum to another; to prevent the intrusion of water into oil or gas strata; to prevent the pollution of fresh water supplies by oil, gas or salt water; and to require reasonable bond conditioned for the performance of the duty to plug each dry or abandoned well.

(2) To compel the filing of logs, including electrical logs, if any are taken, drilling records, typical drill cuttings or cores, if cores are taken, in the office of the director of the State Department of Geology and Mineral Industries within 20 days from the date of completion or abandonment of any well. For a period of two years from the date of abandonment or completion, such logs or other records or drill cuttings or cores shall be kept confidential and shall not be accessible to public inspection.

(3) To prevent wells from being drilled, operated and produced in such manner as to cause injury to neighboring leases or property.

(4) To prevent the crowning by water of any stratum or part thereof capable of producing oil or gas in paying quantities, and to prevent the premature and irregular encroachment of water which reduces, or tends to reduce, the total ultimate recovery of oil or gas from any pool.

(5) To require the operation of wells with efficient gas-oil ratios, and to fix ratios.

(6) To prevent blowouts, caving and seepage in the same sense that conditions indicated by such terms are generally understood in the oil and gas business.

(7) To prevent fires.

(8) To identify the ownership of all oil and gas wells, producing leases, tanks, plants, structures and all storage equipment and facilities.

(9) To regulate the "shooting" and chemical treatment of wells.

(10) To regulate secondary recovery methods, including the introduction of gas, air, water or other substance into producing formations.

(11) To regulate the spacing of wells.

(12) To require the filing currently of information as to the volume of oil and gas, or either of them, produced and saved from the respective properties.

(13) To require the filing with the Director of the State Department of Geology and Mineral Industries of a notice of intention to drill stratigraphic test wells, giving the location thereof, and to require the filing with the director of a plugging report within 60 days after

completion of such well. No fee shall be required in connection with the filing of such notices and reports.

(14) To require the disposal of salt water and oil field waste so as not to damage land or property unnecessarily.  
(1953 c.667 #7; 1961 c.671 #18)

520.100 (Repealed by 1953 c.667 #21)

520.105 Rules governing practice before board; necessity for notice and hearing before making any regulation or order; manner of giving notice. (1) The board shall, in accordance with ORS chapter 183, from time to time prescribe reasonable rules governing practice and procedure before it.

(2) No rule, regulation or order, except in emergency, shall be made by the board without a prior public hearing upon at least 10 days' notice. Such public hearings shall be held at such times and places as may be designated by the board. However, in respect to matters of local interest such hearings shall be held at the county seat of the county wherein the greater part of real or personal property affected is situated. Any interested person shall be entitled to be heard at such hearings.

(3) When an emergency requiring immediate action is found to exist, the board may in compliance with ORS chapter 183 issue an emergency order without notice or hearing, effective upon promulgation. However, no emergency order shall remain effective for more than 15 days.

(4) Notice as required by this chapter shall be given in compliance with ORS chapter 183, except as follows:

(a) In respect to matters of statewide interest, by publication in a newspaper of general circulation in Multnomah, Horney, Jackson and Marion Counties.

(b) In respect to matters of local interest, by publication in a newspaper of general circulation in the county or counties wherein the affected lands are located.

(c) In respect to proceedings before the board where persons are named therein, by personal service upon such persons thereto. Personal service may be made by any agent of the board or by any officer authorized by law to serve process and shall be made in the manner provided by law for the service of summons in civil actions in the courts of this state. Proof of service by an agent of the board shall be made by such person's affidavit and by an officer authorized by law to serve process by his lawful certificate.

(5) Notice shall issue in the name of the state and shall be signed by the chairman or secretary of the board. It shall specify the style and number of the proceeding, the time and place of hearing and the purpose of the proceeding.

(1953 c.667 #11; 1961 c.671 #19)

520.110 (Repealed by 1953 c.667 #21)

520.115 Board may act on own motion; filing petition with board; notice; hearing; orders. The board may act upon its own motion or upon the verified written petition of any interested person. Upon the filing with the board of such a petition, which shall state in substance the matter involved, the reasons for and the nature of the relief requested, concerning any matter within its jurisdiction, the board shall promptly fix a date for a hearing thereon, and shall cause due notice thereof to be given as prescribed by ORS 520.105. Such hearing shall be held without undue delay and the board shall enter its order within 30 days thereafter.  
(1953 c.667 #12)

520.120 (Repealed by 1953 c.667 #21)

520.125 Authority of board to compel the giving of testimony and the production of evidence. (1) The board may summon witnesses, administer oaths and require the production of records, books and documents for examination at any hearing or investigation conducted before it. No person shall be excused from attending and testifying or from producing books, papers and records before the board or a court or from obedience to the subpoena of the board or a court on the grounds that such testimony or evidence required of him may tend to incriminate him or subject him to any penalty or forfeiture; provided, however, that nothing contained in this section shall be construed as requiring any person to produce any books, papers or records or to testify in response to any inquiry not pertinent to some question lawfully before such board or court for determination. No natural person shall be subjected to criminal prosecution or to any penalty or forfeiture for or on account of any transaction, matter of thing concerning which, in spite of his objection, he may be required to testify or produce evidence before the board or a court; provided, however, no person so testifying shall be exempted from prosecution and punishment for perjury in so testifying.

(2) In case of failure or refusal on the part of any person to comply with the subpoena issued by the board or in the case of the refusal of any witness to testify as to any matter regarding which he may lawfully be interrogated it shall be the duty of the circuit court of any county or any judge thereof, upon application of the board, to issue an order to show cause why such person should not be held for contempt as in the case of disobedience of the requirements of a subpoena issued from such court or a refusal to testify therein.

(3) The board or any party may, in any matter before the board, cause the depositions of witnesses residing within or without the state to be taken in the manner prescribed by law for like depositions in civil suits in the circuit courts of this state.

(1953 c.667 #13)

520.130 (Repealed by 1953 c.667 #21)

520.135 Application for rehearing by person adversely affected by order of board. Any person adversely affected by any rule, regulation or order of the board may within 30 days after its entry apply to the board for a rehearing. Such application shall be acted upon by the board within 30 days from its filing date and if granted such rehearing shall be held without undue delay.

(1953 c.667 #14)

520.145 Judicial review of board actions. (1) Any person adversely affected by any rule, regulation or an order entered by the board may obtain judicial review thereof pursuant to ORS chapter 183.

(2) The circuit court having jurisdiction shall, in so far as is practicable, give precedence to proceedings for judicial review under this chapter.

(3) Either party may appeal to the Supreme Court of the State of Oregon in the same manner as provided by the laws for appeals from the circuit court in suits in equity.

(1953 c.667 #15; 1961 c.671 #20)

520.155 Records, accounts, reports and writings not to be falsified, altered, destroyed or removed from state. No person shall, for the purpose of evading the provisions of this chapter or any rule, regulation or order of the board, make or cause to be made any false entry or statement in a report required by this chapter or by any rule, regulation or order of the board or make or cause to be made any false entry in any record, account or other writing required by this chapter or by any rule, regulation or order of the board or omit or cause to be omitted from any such record, account or writing, full, true and correct entries

as required by this chapter or any rule, regulation or order of the board or remove from this state, or destroy, mutilate, alter or falsify any such record, account or writing.  
(1953 c.667 #16)

520.165 Aiding or abetting in a violation of chapter prohibited. No person shall knowingly aid or abet any other person in the violation of any provision of this chapter or of any rule, regulation or order of the board.  
(1953 c.667 #17)

520.175 Injunctions to restrain violation or threatened violation of chapter. (1) Whenever it appears that any person is violating or threatening to violate any provision of this chapter or any rule, regulation or order of the board, the board shall bring suit against such person in the circuit court of any county where the violation occurs or is threatened, to restrain such person from continuing such violation. Upon the filing of any such suit, summons issued to such person may be directed to the sheriff of any county of this state for service by such sheriff upon such person. In any such suit, the court shall have jurisdiction to grant to the board, without bond or other undertaking, such temporary restraining orders or final prohibitory and mandatory injunctions as the facts may warrant, including any such orders restraining the movement or disposition of oil or gas.

(2) If the board fails to bring suit to enjoin a violation or threatened violation of any provision of this chapter or of any rule, regulation or order of the board, within 15 days after receipt of a written request to do so by any person who is or will be adversely affected by such violation, then the person making such request may bring suit in his own behalf to restrain such violation or threatened violation in any court in which the board might have brought such suit. The board shall be made a party defendant in such suit in addition to the person or persons aforesaid and the action shall proceed and injunctive relief may be granted without bond in the same manner as if suit had been brought by the board.  
(1953 c.667 #18)

520.180 to 520.200 (Reserved for expansion)

520.210 Establishment of spacing units for a pool; purpose; scope; effect. (1) When necessary to prevent waste, avoid the drilling of unnecessary wells or protect correlative rights the board shall establish spacing units for a pool. Spacing units when established shall be of uniform size and shape for the entire pool except that when found to be necessary for any of the above purposes the board is authorized to divide any pool into zones and establish spacing units for each zone, which units may differ in size and shape from those established in any other zone.

(2) The size and shape of spacing units shall be such as will result in efficient and economical development of the pool as a whole and the size thereof shall not be smaller than the maximum area that can be efficiently drained by one well.

(3) An order establishing spacing units for a pool shall specify the size and shape of each unit and the location of the permitted well thereon in accordance with a reasonably uniform spacing plan. Upon application and after hearing if the board finds that a well drilled at the prescribed location would not produce in paying quantities or that surface conditions would substantially add to the burden or hazard of drilling such well, then the board is authorized to enter an order permitting the well to be drilled at a location other than that prescribed by such spacing order; provided, however, the board shall include in the order suitable provisions to prevent the production from the spacing unit of more than its just and equitable share of the oil and gas in the pool.

(4) An order establishing units for a pool shall cover all lands determined or believed to

be underlaid by such pool and may be modified by the board from time to time to include additional areas determined to be underlaid by such pool. When found necessary for the prevention of waste or to protect correlative rights on order establishing spacing units in a pool may be modified by the board to increase the size of spacing units in a pool or any zone thereof or to permit the drilling of additional wells on a reasonably uniform plan in such pool or zone.

(Formerly 520.210)

520.220 Integrating interests or tracts within spacing unit; compulsory unitization. (1) When two or more separately owned tracts are embraced within a spacing unit or when there are separately owned interests in all or a part of such spacing unit, then the interested persons may integrate their tracts or interests for the development and operation of the spacing unit.

(2) In the absence of voluntary integration, the board, upon the application of any interested person, shall make an order integrating all tracts or interests in the spacing unit for the development and operation thereof and for the sharing of production therefrom. The board, as a part of the order establishing one or more spacing units, may prescribe the terms and conditions upon which the royalty interests in the units shall, in the absence of voluntary agreement, be deemed to be integrated without the necessity of a subsequent order integrating royalty interests. Each such integration order shall be upon terms and conditions that are just and reasonable.

(Formerly 520.075)

520.230 Approved agreement for cooperative or unit development of pool not to be construed as violating certain regulatory laws. (1) An agreement for the unit or cooperative development and operation of a field or pool in connection with the conduct or repressuring or pressure maintenance operations, cycling or recycling operations, including the extraction and separation of liquid hydrocarbons from natural gas in connection therewith or any other method of operation, including water floods is authorized and may be performed and shall not be held or construed to violate ORS chapter 59 or any of the statutes of this state relative to trusts, monopolies or contracts and combinations in restraint of trade, if such agreement is approved by the board as being in the public interest, for the protection of correlative rights and reasonably necessary to increase ultimate recovery or prevent waste of oil or gas. The failure to submit such an agreement to the board for approval does not for that reason imply or constitute evidence that the agreement or operations conducted pursuant thereto violate ORS chapter 59 or any statute of this state now or hereafter in effect relating to trusts and monopolies.

(2) An agreement for the unit or cooperative development or operation of a field, pool or part thereof, may be submitted to the board for approval as being in the public interest or reasonably necessary to prevent waste or protect correlative rights. Approval by the board constitutes a complete defense to any proceeding charging violation of ORS chapter 59 or of any statute of this state now or hereafter in effect relating to trusts and monopolies on account thereof or on account of operations conducted pursuant thereto. The failure to submit such an agreement to the board for approval does not for that reason imply or constitute evidence that the agreements or operations conducted pursuant thereto violate ORS chapter 59 or any statute of this state now or hereafter in effect relating to trusts and monopolies.

(Formerly 520.085; subsection (2) enacted as 1961 c.671 #13)

520.240 Voluntary unitization of operations by lessees of tide or submerged lands; State Land Board's function. (1) For the purpose of properly conserving the natural resources of any single oil or gas pool or field, lessees under ORS 274.705 to 274.865 and their representatives may unite with each other jointly or separately, or jointly or separately with others owning or operating lands not belonging to the state, in collectively adopting and operating

under a cooperative or unit plan of development or operation of the pool or field, whenever it is determined by the State Land Board to be necessary or advisable in the public interest.

(2) The State Land Board may, with the consent of the holders of the leases involved, establish, alter, change and revoke any drilling and production requirements of such leases, and make such regulations with reference to such leases, with like consent on the part of the lessees, in connection with the institution and operation of any such cooperative or unit plan, as the State Land Board deems necessary or proper to secure the proper protection of the interests of the state.

(1961 c.619 #33)

#### 520.250 (Reserved for expansion)

520.260 Hearing (by governing board of State Department of Geology and Mineral Industries) to determine need for unitization of operations; required findings; order. (1) The board as defined in ORS 520.005, upon its own motion may, and upon the application of any interested person shall, hold a hearing to consider the need for the operation as a unit of one or more pools or parts thereof in a field.

(2) The board shall make an order providing for the unit operation of a pool or part thereof if it finds that:

(a) Unit operation is reasonably necessary to effectively carry on pressure control, pressure maintenance or repressuring operations, cycling operations, water flooding operations, injection operations, or any combination thereof, or any other method of recovery designed to substantially increase the ultimate recovery of oil from the pool or pools; and

(b) The value of the estimated additional recovery of oil or gas exceeds the estimated additional cost incident to conducting unit operations.

(1961 c.671 #2)

520.270 Plan for unit operations. An order issued pursuant to ORS 520.260 shall be upon terms and conditions that are just and reasonable, and shall prescribe a plan for unit operations that includes the following:

(1) A description of the pool or pools or parts thereof to be so operated.

(2) A statement of the nature of the operations contemplated.

(3) An allocation to the separately owned tracts in the unit area of all the oil and gas that is produced from the unit area and is saved, being the production that is not used in the conduct of operations on the unit area or not unavoidably lost.

(4) A provision for the credits and charges to be made in the adjustment among the owners in the unit area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operations.

(5) A provision stating how the costs of unit operations, including capital investments, shall be determined and charged to the separately owned tracts and how these costs shall be paid, including a provision stating when, how and by whom the unit production allocated to an owner who does not pay the share of the cost of unit operations charged to such owner, or the interest of such owner, may be sold and the proceeds applied to the payment of such costs.

(6) A provision, if necessary for carrying or otherwise financing any person who elects to be carried or otherwise financed, allowing a reasonable interest charge for such service payable out of that person's share of the production.

(7) A provision for the supervision and conduct of the unit operations, in respect to which each person shall have a vote with a value corresponding to the percentage of the costs of unit operations chargeable against the interest of that person.

(8) The time when the unit operations shall commence, and the manner in which, and

the circumstances under which, the unit operations shall terminate.

(9) Additional provisions that are found appropriate for carrying on the unit operations, and for the protection of correlative rights.

(1961 c.671 #3)

520.280 Allocation of production under plan; ownership. (1) The allocation described in subsection (3) of ORS 520.270 shall be in accord with the agreement, if any, of the interested parties. If there is no such agreement, the board shall determine the relative value, from evidence introduced at the hearing, of the separately owned tracts in the unit area, exclusive of physical equipment, for development of oil and gas by unit operations. The production allocated to each tract shall be the proportion that the relative value of each tract so determined bears to the relative value of all tracts in the unit area.

(2) That portion of the unit production allocated to any tract, and the proceeds from the sale thereof, are the property and income of the several persons to whom, or to whose credit, they are allocated or payable under the order providing for unit operations.

(1961 c.671 ##4, 10)

520.290 When unitization order to become effective; supplemental hearings. (1) No order of the board providing for unit operations is effective until:

(a) The plan for unit operations prescribed by the board under ORS 520.270 has been approved in writing by (A) those owners who, under the board's order, will be required to pay at least 75 percent of the costs of the unit operation, and (B) those persons who, at the time of the order of the board, owned of record legal title to 75 percent of royalty and overriding royalty payable with respect to oil and gas produced from the pool or part thereof over the entire unit area; and

(b) The board has made a finding, either in the order providing for unit operations or in a supplemental order, that the plan for unit operations has been so approved.

(2) If the plan for unit operations has not been approved pursuant to subsection (1) of this section at the time the order providing for unit operations is made, the board shall upon application and notice hold such supplemental hearings as are required to determine if and when the plan for unit operations has been approved. If the persons owning the percentage of interest in the unit area required by subsection (1) of this section do not approve the plan for unit operations within a period of six months after the date on which the order providing for unit operations is made, the order is ineffective and shall be revoked by the board unless the board, for good cause shown, extends the time for approval.

(1961 c.671 #5)

520.300 Amending unitization order. An order providing for unit operations may be amended by an order made by the board, as defined in ORS 520.005, in the same manner and subject to the same conditions as an original order providing for unit operations. However:

(1) If the amendment affects only the rights and interests of the owners, the approval of the amendment by the royalty owners is not required.

(2) The order of amendment may not change the percentage for the allocation of:

(a) Oil and gas as established for any separately owned tract by the original order, except with the consent of all persons owning oil and gas rights in the tract; or

(b) Cost as established for any separately owned tract by the original order, except with the consent of all owners in the tract.

(1961 c.671 #6)

520.310 Unitization of area including area previously unitized; partial unitization of pool. (1) The board, as defined in ORS 520.005, by order may provide for the unit operation or a pool or pools or parts thereof that embrace a unit area established by a previous order of the board. The order, in providing for the allocation of unit production, shall first treat as a single tract the unit area previously established, and the portion of the unit production so allocated thereto shall then be allocated among the separately owned tracts included in the previously established unit area in the same proportions as those specified in the previous order.

(2) An order may provide for unit operations on less than the whole of a pool where the unit area is of such size and shape as may reasonably be required for that purpose, and the conduct thereof will have no adverse effect upon other portions of the pool.

(1961 c.671 ##7,8)

520.320 Unitization order does not terminate prior agreements or affect oil and gas rights; acquisition of property during unit operations. (1) No division order or other contract relating to the sale or purchase of production from a separately owned tract may be terminated by the order providing for unit operations, but remains in force and applies to oil and gas allocated to that tract until terminated in accordance with the provisions thereof.

(2) Except to the extent that the parties affected so agree, no order providing for unit operations results in a transfer of all or any part of the title of any person to the oil and gas rights in any tract in the unit area.

(3) All property, whether real or personal, that may be acquired in the conduct of unit operations under ORS 520.260 to 520.330 and subsection (2) of ORS 520.230 shall be acquired for the account of the owners within the unit area, and is the property of such owners in the proportion that the expenses of unit operations are charged.

(1961 c.671 #11, 12)

520.330 Effect of operations in unit area. All operations, including but not limited to the commencement, drilling or operation of a well, upon any portion of the unit area, are considered for all purposes the conduct of such operations upon each separately owned tract in the unit area by the several owners thereof. The portion of the unit production allocated to a separately owned tract in a unit area, when produced, is considered for all purposes to have been actually produced from that tract by a well drilled thereon. Operations conducted pursuant to an order of the board, as defined in ORS 520.005, providing for unit operations constitute a fulfillment of all the express or implied obligations of each lease or contract covering lands in the unit area to the extent that compliance with such obligations cannot be had because of the order of the board.

(1961 c.671 #9)

520.340 to 520.980 (Reserved for expansion)

520.990 (Repealed by 1953 c.667 #21)

520.991 Penalties. Violation of any provision of this chapter or any rule, regulation or order of the board is punishable, upon conviction, by a fine not exceeding \$2,500 or imprisonment in the county jail for a term not exceeding six months, or both.

(1953 c.667 #19)

Excerpts from Chapters 273, 274, and 275, Oregon Laws 1961

273.355 Mining and drilling leases on state lands. (1) Any state agency, board or commission, as to any land or mineral rights which are subject to the jurisdiction and control of such agency, board or commission and without restricting, limiting or repealing any powers and authority which it now has, after consultation with and consideration by the State Department of Geology and Mineral Industries, may execute leases and contracts for the mining of gold, silver, copper, lead, cinnabar, gas and oil or other valuable minerals upon terms and conditions agreed upon by the agency, board or commission and the lessee.

(2) All leases may be without limitation as to time; but the state agency, board or commission may cancel any lease upon failure by the lessee to exercise due diligence in the prosecution of the prospecting, development or continued operation of the mine or well, and shall insert in every such lease appropriate provisions for such cancellation.

(3) The authority granted by this section and ORS 517.420 shall extend to and include the execution of leases and contracts covering the beds and banks of navigable lakes and such portions of the beds and banks of navigable rivers and streams, the leasing of which is not otherwise expressly authorized by statute.

(4) Leases and contracts executed under the provisions of this section and ORS 517.420 shall not be construed to be sales within the purview of ORS 273.060.

(5) The state agency, board or commission may charge a reasonable fee, to be paid by the applicant, for making necessary investigations before the execution of any such lease. (Formerly part of 517.410)

273.420 General powers and duties of board. The State Land Board may sell or lease all lands owned by the state, and shall make such rules and regulations as are necessary for the transaction of business and carrying out the provisions of law applicable to such board. It shall meet on the second and fourth Tuesdays of each month. It may pass upon all matters properly coming before it for consideration, and in any way affecting the lands of the state, hear and decide all disputes between applicants and cancel and annul certificates of sale obtained through fraud, or in any illegal manner. All its acts and decisions as to the legal title, and the right to a certificate of sale or deed from the state, shall be final.

274.070 Ownership of Pacific shore; declaration as highway. Ownership of the shore of the Pacific Ocean between ordinary high tide and extreme low tide, and from the Columbia River on the north to the Oregon and California state line on the south, excepting such portion or portions as may have been disposed of by the state prior to July 5, 1947, hereby is declared vested in the State of Oregon, and hereby is declared to be a public highway. No portion of such shore shall be alienated by any of the agencies of the state.

274.075 Easements across Pacific shore and adjacent submerged lands. (1) Notwithstanding the provisions of ORS 274.070, the State Land Board is authorized to grant easements and licenses for pipe lines, cable lines and other conduits across and under the shore of the Pacific Ocean and the adjacent submerged lands, upon payment of just compensation by the grantee. Such an easement or license shall not be construed to be a sale or lease of tide and overflow lands within the purview of ORS 274.040.

(2) All easements or licenses granted pursuant to this section shall be subject to terms and conditions that will assure the safety of the public and the preservation of economic, scenic and recreational values and to lawful rules and regulations promulgated by state agencies affected by the activities of the grantee or licensee.

(3) No easement or license shall be granted for a term exceeding 99 years.

(4) Easements and licenses granted under this section shall not be valid unless filed for record by the grantee or licensee in the deed records of the county or counties wherein the property affected by the grant or privilege is located within 30 days from the date of execution thereof.

(1961 c. 36 #1,2,3,4)

274.705 Definitions for ORS 274.705 to 274.895. As used in ORS 274.705 to 274.895, unless the context requires otherwise:

(1) "Board" means the State Land Board.

(2) "Filled lands" includes tide and submerged lands reclaimed artificially through raising such lands above the highest probable elevation of the tides to form dry land, by placement of a fill or deposit of earth, rock, sand or other solid imperishable material.

(3) "Gas" means all natural gas and all other fluid hydrocarbons not defined as oil in subsection (5) of this section, including condensate originally in the gaseous phase in the reservoir.

(4) "Lease" means an oil, gas and sulphur lease issued pursuant to the provisions of ORS 274.705 to 274.865.

(5) "Oil" means crude petroleum oil and all other hydrocarbons, regardless of gravity, which are produced in liquid form by ordinary production methods, but does not include liquid hydrocarbons that were originally in a gaseous phase in the reservoir.

(6) "Person," in addition to the meanings defined by ORS 174.100, includes quasi-public corporations, political subdivisions and governmental agencies and instrumentalities.

(7) "Structure" means any construction works, including but not limited to derricks, pipelines, lines for the transmission and distribution of electricity, telephone lines, wharves, piers, slips, warehouses and units designed to act as groins, jetties, seawalls, breakwaters or bulkheads.

(8) "Submerged lands" means lands lying below the line of mean low tide in the beds of all tidal waters within the boundaries of this state as heretofore or hereafter established.

(9) "Tide lands" means lands lying between the line of ordinary high tide and the line of mean low tide.

(1961 c. 619 #1)

274.710 Jurisdiction of State Land Board over tide and submerged lands; easements; leases for oil, gas and sulphur. (1) The State Land Board has exclusive jurisdiction over all ungranted submerged lands owned by this state, whether within or beyond the boundaries of this state, heretofore or hereafter acquired by this state (a) by quitclaim, cession, grant, contract or otherwise from the United States or any agent thereof, or (b) by any other means. All jurisdiction and authority remaining in the state over submerged lands as to which grants have been or may be made is vested in the board.

(2) Notwithstanding ORS 273.355, the board shall administer and control all lands described in subsection (1) of this section, and may lease such lands and tide lands and dispose of oil, gas and sulphur under such lands and tide lands in the manner prescribed by ORS 274.705 to 274.865; provided, however, that any tide and submerged lands lying more than 10 miles easterly of the 124th West Meridian shall be subject to leasing for oil, gas and sulphur under the provisions of ORS 273.355, rather than under ORS 274.705 to 274.865.

(3) Notwithstanding any other provision of ORS 274.705 to 274.865, the State Land Board may not permit any interference other than temporary interference with the surface of the Pacific shore, as defined in ORS 274.070. It may, however, grant easements underlying that part of the surface of the Pacific shore owned by the state at such times and at such places as the board finds necessary to permit the extraction and transportation of oil, gas, or sulphur from state, federal or private lands; and in addition the State Land Board may issue

oil and gas leases underlying the Pacific shore under the same terms and conditions as provided in ORS 274.705 to 274.865.

(1961 c.619 #2)

274.715 Sulphur leases; royalties. The provisions of ORS 274.705 to 274.865 shall apply equally to the exploration and leasing of tide and submerged lands for the production of sulphur, save and except that the royalty for sulphur produced under ORS 274.705 to 274.865 shall be not less than \$1 per long ton.

(1961 c.619 #34)

274.720 Effect of ORS 274.705 to 274.865 on power to make other leases and on jurisdiction of agencies other than land board. (1) ORS 274.705 to 274.865 shall not affect the power and authority of the board to lease mineral rights, including oil, gas and sulphur underlying state lands other than tide and submerged lands subject to ORS 274.705 to 274.865; nor shall the provisions of ORS 274.705 to 274.865 affect the power and authority of the board to lease mineral rights, other than oil, gas and sulphur underlying tide and submerged lands. Nothing contained in ORS 274.705 to 274.865 shall in any way impair or affect any existing oil, gas and mineral lease issued before August 9, 1961, by any agency, board or commission of the State of Oregon, and all such leases are hereby ratified and confirmed.

(2) Nothing in ORS 274.705 to 274.865 deprives this state or any agency or instrumentality thereof of its jurisdiction over matters affecting the public health and safety, including but not limited to the control of air and water pollution.

(1961 c.619 #36, 37)

274.725 Scope of leases and permits; persons ineligible; administrative procedures. (1) Any interests in lands, or lands in fee simple, acquired by the board by purchase, donation, lease, condemnation or otherwise, may be made available to any lessee of the state for the purposes contained in ORS 274.705 to 274.865 and upon such terms and conditions as may be determined by the board.

(2) No permit or lease shall be granted to any person then in violation of any laws or regulations applicable to ORS 274.705 to 274.865.

(3) The provisions of ORS chapter 183 are made expressly applicable to ORS 274.705 to 274.865.

(1961 c.619 #32, 38 and 43)

274.730 (Reserved for expansion)

#### (Geological and Geophysical Surveys)

274.735 Application for survey permit; effect of permit. (1) The board upon application by any person may permit geological, geophysical and seismic surveys, including the taking of cores and other samples, on the tide and submerged lands of this state. However:

(a) Such permits shall be nonexclusive and shall not give any preferential rights to any oil, gas and sulphur or other mineral lease.

(b) The board in consultation with the Department of Geology and Mineral Industries may grant permission for the taking of cores and other samples.

(c) After consultation with the Fish Commission and the Game Commission, the board shall include such rules and regulations in the permit as are necessary to protect the fish and wildlife resources.

(2) Each application under this section must contain at least the following information:

(a) A description of the areas where the applicant proposes to conduct a survey.

- (b) The name and address of the applicant.
  - (c) Such other relevant information as the board requires.
- (1961 c.619 #3)

274.740 Issuance of survey permit, renewal, reports. (1) Upon compliance of an applicant with ORS 274.735, the board may issue to the applicant a permit to conduct a geological, geophysical and seismic survey, including the taking of cores and other samples, in areas of the tide and submerged lands of this state described on the permit. The board may prohibit such surveys on any area if, in consultation with the Department of Geology and Mineral Industries, it determines that a lease, if applied for, should not be granted as to such areas. The board shall include in a permit conditions and payments proper to safeguard the interests of the state.

(2) Permits issued under this section shall not exceed two years, and may be renewed for like periods upon application to the board and upon showing due compliance with applicable laws and regulations.

(3) The board shall require the permittee to provide the Fish Commission and the Game Commission with complete information with respect to the area or areas of proposed operations, type of exploration and a schedule showing the period or periods during which such explorations will be conducted. Such information shall be treated as confidential unless released by the permittee.

(1961 c.619 #4)

274.745 Drilling logs and records; use of information restricted. (1) Records of drilling conducted by a permittee under ORS 274.740 shall be filed by the permittee with the Department of Geology and Mineral Industries as described by ORS 520.095. Such records shall be treated as confidential for a period of five years from the date of filing unless the permittee authorizes their earlier release.

(2) The board may require, as a condition to the issuance of any lease under ORS 274.705 to 274.865, that the lessee make available to the board, or the Department of Geology and Mineral Industries, upon request, all factual and physical exploration results, logs and records resulting from the operations under the lease. Any such factual or physical exploration results, logs or records which the lessee is required to make available to the board and the department shall not be open to inspection by any other person or agency without the written consent of the lessee.

(3) It is a misdemeanor for any member of the Department of Geology and Mineral Industries, any officer or employee thereof, or any person performing any function or work assigned to him by the department, to disclose to any person who is not a member, officer, employee of the department or to any person who is not performing any function or work assigned to him by the department, any information obtained from the inspection of such factual or physical exploration results, logs or records, or to use such information for purposes other than the administration of the functions, responsibilities, and duties vested in the department by law, except upon the written consent of the permittee or lessee making such information available to the department.

(1961 c.619 #5)

274.750 (Reserved for expansion)

(Bid Procedure)

274.755 Hearing prior to granting lease or easement. (1) Before granting any easement under ORS 274.075 or under ORS 274.705 to 274.865, and before offering tide and submerged lands for leasing under ORS 274.705 to 274.865, or whenever any person files a written application with the board requesting that an easement be granted for such lands or that such lands be offered for leasing under ORS 274.705 to 274.865, accompanying the same with the required fee, the board shall hold a public hearing as provided in this section.

(2) Before granting an easement or inviting bids on any tide and submerged lands, the board shall cause written notice describing the area under consideration and other pertinent information to be transmitted to:

- (a) Director, Oregon State Department of Geology and Mineral Industries;
- (b) State Highway Engineer;
- (c) Secretary, State Sanitary Authority;
- (d) Director, Oregon State Game Commission;
- (e) Director, Fish Commission of Oregon;
- (f) The applicant, if any, requesting the hearing;
- (g) Prospective applicants or bidders, by publication thereof in two or more publications of general circulation in the oil and gas industry; and

(h) The public, by publication thereof once each week for not less than four weeks in a newspaper of general circulation throughout the State of Oregon, and in addition in a newspaper of general circulation in the county in which the lands lie or the county or counties contiguous to the area under consideration for bidding.

(3) The notice shall set forth the place of hearing and shall set its time at not less than 20 days following date of the last newspaper publication.

(4) The board may appoint one of its officers or employees to conduct hearings authorized under this section. An officer or employee of each interested state agency, board or commission named in subsection (2) of this section may question any witnesses appearing before the board or its representative, and any interested person may offer evidence and otherwise be heard.

(1961 c.619 #6)

274.760 Considerations involved in granting lease or easement. After the public hearing the board shall determine whether the granting of an easement or an invitation for bidding to lease the area under consideration would be in the public interest. In such determination the board shall consider whether an easement or a lease or leases of the area under consideration would:

- (1) Be detrimental to the health, safety, or welfare of persons residing in, owning real property, or working in the neighborhood of such areas;
- (2) Interfere with the residential or recreation areas to an extent that would render such areas unfit for recreational or residential uses or unfit for park purposes;
- (3) Destroy, impair or interfere with the esthetic and scenic values of the Oregon coast, or other affected area;
- (4) Create any air, water or other pollution;
- (5) Substantially endanger marine life or wildlife;

- (6) Substantially interfere with commerce or navigation; and
  - (7) Protect state lands from drainage of oil and gas.
- (1961 c.619 #7)

274.765 Publishing offer to lease tide and submerged lands; bids; cash bonus; award of lease; fee. (1) The board may offer to lease tide and submerged lands by publication of a notice of its intention to do so, once each week for not less than two weeks in two or more newspapers of general circulation in this state, one of which is published or has general circulation in the county in which the lands lie or county or counties contiguous thereto. The notice shall describe the land so offered, and shall specify the rate of royalty and the rental, the manner in which bids may be filed with the board, the amount of the deposit that must accompany each bid, and the time and place for filing bids, which time shall not be less than 30 days after the date of last publication of such notice. Further, the notice shall state that the lease will be awarded to the bidder offering the highest cash bonus, and that the form of lease, conditions for bidding and bid form may be obtained from the board upon request.

(2) Each bid shall be enclosed in a sealed envelope, shall be on the form provided by the board and shall be accompanied by duplicate lease forms executed by the bidder, and by a certified or cashier's check or checks payable to the State of Oregon in the amount fixed by the board, which sum shall be deposited as evidence of good faith and except in the case of the successful bidder shall be returned to the bidder. If the successful bidder fails to pay the balance of the cash bonus bid and the annual rental for the first year within 15 days after the award of the lease, or fails to post any bond required by the lease or the regulations in effect at the date of the invitation for bids within the time prescribed, the amount of the deposit shall be forfeited to the state.

(3) At the time and place specified in the notice the board shall publicly open the sealed bids and shall award the lease for each parcel to the bidder who, in addition to complying with all of the conditions for bidding, offers the highest cash bonus. The board may, however, reject any or all bids for cause.

(4) Following the award of the lease, the payment by the successful bidder of the balance of the cash bonus, the annual rental for the first year, and the fee specified in this section, and the posting of any required bonds, the board shall execute the lease in duplicate on behalf of the state and transmit one counterpart thereof to the lessee. The lease shall become effective as of the date of such execution.

(5) The board shall prescribe a reasonable fee to cover the procedures under this section, which shall be paid by the successful bidder.

(1961 c.619 #27)

274.770 Discriminatory requirements prohibited. In leasing tide and submerged lands, the board may not discriminate between bidders by requiring drilling from:

- (1) Upland or littoral drill sites;
  - (2) Sites on filled land, whether contiguous or noncontiguous to the littoral lands or upland; or
  - (3) Any pier, platform or other fixed or floating structure in, on or over tide and submerged lands with respect to which this state or any other owner thereof has consented to use.
- (1961 c.619 #30)

274.775 (Reserved for expansion)

(Leases)

274.780 Conditions in leases and permits; execution; delivery of bonds or contracts to Land Board. (1) The form of lease shall contain, in addition to other provisions deemed necessary and desirable by the board, after consultation with the Department of Geology and Mineral Industries, the Fish Commission, the Game Commission and other interested agencies, boards and commissions, the provisions of ORS 274.780 to 274.855.

(2) The form of a permit shall contain, in addition to other provisions deemed necessary and desirable by the board, after consultation with the Department of Geology and Mineral Industries, the Fish Commission, the Game Commission and other interested agencies, boards and commissions, the provisions of subsection (3) of ORS 274.785.

(3) All leases and other instruments required in carrying out ORS 274.705 to 274.865 shall be executed by the board. All bonds, contracts and other instruments required by ORS 274.705 to 274.865 for the protection of the interests of this state and political subdivisions, persons and property therein shall be executed and delivered to the board.  
(1961 c.619 §§9, 28)

274.785 Exclusive rights granted by lease; requirement of diligence; maximum area; assignment. (1) The lease shall grant the exclusive right to drill for and produce all oil, gas and sulphur deposits in the leased land and be for a primary term of 10 years and for so long thereafter as oil, gas or sulphur is produced in paying quantities from the leased land, or lessee is diligently conducting producing, drilling, deepening, repairing, redrilling or other necessary lease or well maintenance operations on the leased land or is excused from conducting such operations under the terms of the lease.

(2) The maximum area which shall be included in any single lease to any person shall be three geographical miles seaward by six statute miles along or parallel to the shore.

(3) No permit, easement or lease, or any portions thereof shall be assignable without the prior written consent of the board.  
(1961 c.619 §§8, 10, 22)

274.790 Royalties. (1) The board shall specify in the notice described by ORS 274.765 and in the lease the rate of royalty paid under such lease which royalty shall not be less than  $12\frac{1}{2}$  percent of gross production, or the value thereof, produced and saved from the leased lands and not used by lessee for operations thereon or for injection therein. Such royalty shall, at the board's option, be paid in kind or in value, and be computed after an allowance for the actual cost of oil treatment or dehydration of not to exceed five cents per barrel of royalty oil so treated or dehydrated.

(2) The State of Oregon shall have a lien upon all production for unpaid royalties.  
(1961 c.619 §§11, 12)

274.795 Rents. The board shall specify a rental payable annually in advance of not less than 50 cents for each acre of land subject to the lease at the rental date. After production has been established, rent paid shall be deducted from any royalty due under the terms of a lease during the year for which such rent has been paid.  
(1961 c.619 §13)

274.800 Bonds. Sufficient bonding requirements, as determined by the Department of Geology and Mineral Industries, shall be specified to secure to the State of Oregon performance and the faithful compliance by the lessee with the terms of the lease, and further to secure adjacent landowners and the public generally as to all proper claims for damages arising from operations thereunder.

(1961 c.619 #14)

274.805 Drill sites. Unless otherwise determined by the board, each well drilled pursuant to the terms of the lease may be drilled or slant drilled to and into the subsurface of the submerged lands covered by the lease from upland or littoral drill sites owned or controlled by the state or owned by or available to the lessee, or from drill sites located upon any filled lands heretofore or hereafter filled, whether contiguous or noncontiguous to the littoral lands or uplands, or from any pier heretofore or hereafter constructed owned by or available to the lessee and available for such purpose, or from platforms or other fixed or floating structures in, on or over the submerged lands covered by the lease or otherwise available to the lessee.

(1961 c.619 #16)

274.810 Commencement of drilling; operational requirements. Subject to the lessee's right to surrender, the lessee shall commence operations for the drilling of a well within five years from date of the lease and commence production within three years of discovery of oil, gas or sulphur in paying quantities, unless the board shall have, for cause, granted an extension of time for such oct. In addition, the lease shall have such exploratory, drilling and producing requirements as the board in consultation with the Department of Geology and Mineral Industries deems necessary to encourage the exercise of due diligence on the part of lessee.

(1961 c.619 #20)

274.815 Extension of time when wells to be drilled from filled land or structure. If the lessee, as disclosed by information submitted with his bid, proposes to drill one or more wells from filled land, whether contiguous or noncontiguous to the littoral lands or uplands, or from any pier or from platforms or other fixed or floating structures to be constructed for such purpose, and if permission from any federal or state agency is legally required in order to construct any such filled lands or structures, the lessee shall be allowed a reasonable time following the execution of the lease within which to secure the necessary permission from such federal and state agencies as shall be legally required, and, upon the securing of such permission, a further reasonable time, determined with regard to the nature of the filled lands or structure or structures to be constructed within which to commence operations for the drilling of such well or wells, and if necessary, the drilling term provided for in ORS 274.810 shall be extended by the board to the date to which the time to commence operations for the drilling of such well or wells has been extended.

(1961 c.619 #19)

274.820 Water contamination or pollution. (1) Avoidable pollution or avoidable contamination of the ocean and of the waters covering submerged lands, avoidable pollution or avoidable contamination of the beaches or land underlying the ocean or waters covering submerged lands, or any substantial impairment of and interference with the enjoyment and use thereof, including but not limited to bathing, boating, fishing, fish and wildlife production, and navigation, shall be prohibited, and the lessee shall exercise a high degree of care to provide that no oil, tar, residuary product of oil or any refuse of any kind from any well or works shall be permitted to be deposited on or pass into the waters of the ocean, any bay or inlet thereof, or any other waters covering submerged lands; provided, however, that this

section does not apply to the deposit on or passage into such waters of water not containing any hydrocarbons or vegetable or animal matter.

(2) For the purposes of this section, "avoidable pollution" or "avoidable contamination" means pollution or contamination arising from:

(a) The acts or omissions of the lessee or its officers, employees or agents, or

(b) Events that could have been prevented by the lessee or its officers, employees or agents through the exercise of a high degree of care.

(1961 c.619 #18)

274.825 Nonconflicting use of leased lands. The State of Oregon reserves the right to permit reasonable nonconflicting uses (including seismic surveys but excluding core hole drilling on lands under lease) so long as:

(1) Such uses do not unreasonably impair or interfere with operations of the lessee, and

(2) Requirement is made that the permittee indemnify the lessee against any damage caused by such use.

(1961 c.619 #21)

274.830 Protecting lands from drainage. The lessee shall at all times proceed with due diligence to protect the leasehold from drainage by wells on lands not owned by the state.

(1961 c.619 #23)

274.835 Conformance to laws and regulations; periodic negotiations. It shall be a continuing condition of such lease that the lessee shall conform to all applicable laws of the State of Oregon and all duly promulgated rules and regulations pursuant thereto in effect at the date of the invitation for bids in pursuance of which the lease was awarded. Periodic mutual negotiations between lessee and lessor may be carried out to make conditions, rules and regulations current as warranted by changes in environment or operational methods.

(1961 c.619 #26)

274.840 Continuation of lease after cessation of production. In the event production on the leasehold shall cease at any time or from time to time, before or after the expiration of the primary term of the lease, the lease shall nevertheless continue in full force and effect if the lessee shall, within six months after the cessation of production or within such longer period of time as the board may authorize, commence and thereafter prosecute with reasonable diligence drilling, deepening, repairing, redrilling or other operations for the restoration of production of oil, gas or sulphur from the leased lands.

(1961 c.619 #15)

274.845 Surrender of lease. The lessee may at any time file with the board a written surrender of all rights under the lease or any portion thereof or any separate or distinct zone or geological horizon or any portion thereof. Such surrender shall be effective as of the date of its filing subject to the continuing obligation of the lessee to pay all rentals and royalties theretofore accrued and to place all wells on the lands or in the zones or horizons surrendered in condition for suspension or abandonment in accordance with the applicable lease terms, regulations and law. Thereupon the lessee shall be released from all obligations under such lease with respect to the lands, zones or horizons surrendered, but no such surrender shall release such lessee from any liability for breach of any monetary obligation of the lease with respect to which such lessee is in default at the time of the filing of such surrender.

(1961 c.619 #24)

274.850 Cancellation of lease; partial retention of leasehold; removal of equipment. The board shall reserve and may exercise the authority to cancel any lease upon which oil, gas or sulphur has not been discovered in paying quantities, upon failure of the lessee after 30 days' written notice and demand for performance to exercise due diligence and core in the prosecution of the prospecting or development work in accordance with the terms of the lease. After discovery of oil, gas or sulphur in paying quantities on lands subject to any lease, such lease may be forfeited and canceled only by appropriate judicial proceedings upon failure of the lessee after 90 days' written notice and demand for performance to comply with any of the provisions of the lease or of laws or regulations applicable thereto and in force at the date of the invitation for bids in pursuance of which the lease was awarded; provided, however, that in the event of any such cancellation, the lessee shall have the right to retain under such lease any and all drilling or producing wells as to which no default exists, together with a parcel of land surrounding each such well and such rights of way through the leased lands as may be reasonably necessary to enable such lessee to drill and operate such retained well or wells. In the event of the cancellation of any lease, the lessee shall have a reasonable time within which to remove all property, equipment and facilities owned or used by the lessee in connection with operations under the lease.  
(1961 c.619 #25)

274.855 Restoration of leasehold to original condition. Upon any partial or total termination, surrender or forfeiture of its permit or lease, the board may require that the permittee or lessee, within a reasonable time, restore that portion of the premises that is visible at extreme low tide to substantially its original condition.  
(1961 c.619 #17)

274.860 Protection and location of filled lands. Under a lease entered into by the board pursuant to ORS 274.705 to 274.865, the fill constituting filled lands may be retained in place or protected by bulkheads, seawalls, revetments or similar enclosures and may be placed at any location approved by the board, in consultation with the Department of Geology and Mineral Industries, the Fish Commission, Game Commission and other interested agencies, boards, and commissions.  
(1961 c.619 #31)

275.294 Sole or lease of right to prospect for and remove minerals or oil and gas from county lands. (1) Nothing contained in this chapter shall prohibit the county court of any county, whenever it appears to the best interest of the county, from making or executing a lease or conveyance granting rights to explore or prospect for valuable minerals or oil and gas and for the mining and removal of the same from any lands acquired by such county through foreclosure of tax liens or otherwise.

(2) Except as provided in subsection (3) of this section, any lease or conveyance of minerals or oil and gas or interest in such lands shall be granted to the highest bidder, after an opportunity for competitive bidding is given by advertisement of the proposed sale or lease for not less than once a week for two successive weeks by publication in one or more newspapers having general circulation in the county, and under such terms, conditions and regulations as the county court may provide under ORS 275.300.

(3) The county court, as to any land which is owned by the county or whereon the mineral rights are reserved by the county, may execute leases and contracts, other than for gas or oil, upon a royalty basis without requiring bids for the mining of gold, silver, copper, lead, cinnabar and valuable minerals or mineral materials from such lands upon terms and conditions agreed upon by the county court and the lessee. However, if the parties cannot agree upon

the terms of a lease as to the amounts to be paid to the county, then it shall be upon a royalty basis of no more than 10 percent of the gross value of all minerals produced.  
(1955 c. 150 §§ 1, 2; 1959 c. 603 § 1)

Excerpts from Chapters 476 and 480, Oregon Laws 1961

476.030 Duties and powers of (State Fire) marshal and deputies generally. (1) The State Fire Marshal shall enforce all laws and all lawful ordinances, and make rules and regulations relating to:

....(b) The storage and use of combustibles and explosives.

480.410 Definitions. As used in ORS 480.420 to 480.460, "LP gas" or "liquid petroleum gas" means any liquid composed predominately of any of the following hydrocarbons or mixtures of the same: Propane, propylene, butanes (normal butane or isobutane) and butylenes.  
(Amended by 1957 c. 712 § 1)

480.420 Liquid petroleum gas rules and regulations; conformity with standards of National Board of Fire Underwriters. (1) The State Fire Marshal shall make, promulgate and enforce regulations establishing minimum general standards for the design, construction, location, installation and operation of equipment for storing, handling, transporting by tank truck or tank trailer and utilizing liquid petroleum gases and specifying the degree of odorization of the gases, and shall establish standards and rules for the issuance, suspension and revocation of licenses and permits provided in ORS 480.410 to 480.460.

Excerpt from Chapter 516, Oregon Laws 1937

516.090 General powers and duties of board. (1) The governing board shall accept from the United States or any of its agencies such funds as may be made available to this state for any of the purposes contemplated by this chapter, and shall enter into such contracts and agreements with the United States or any of its agencies or with Oregon or any of its agencies as may be necessary, proper and convenient, and not contrary to the laws of this state. The governing board may receive on behalf of this state, for the use and benefit of the department, gifts, devises and legacies of real or other property, and use them in accordance with the wishes of the donors, or, in the absence of specific instructions by the donors, manage, use and dispose of the gifts and legacies as may be deemed by the governing board for the best interest of the state.

(2) The board shall have general charge and control of the department and shall promulgate and publish uniform rules consistent with the terms of this chapter for the conduct of business by the department, which rules may be amended or changed from time to time by the board.