

**REPORT OF THE SUBCOMMITTEE ESTABLISHED**  
**TO CONSIDER THE NEED FOR A**  
**PERMITTING PROGRAM TO INSURE THE**  
**RECLAMATION OF LAND DISTURBED BY**  
**OIL OR NATURAL GAS EXPLORATION OR DEVELOPMENT**  
**TO**  
**THE SENATE COMMITTEE ON**  
**AGRICULTURE, CONSERVATION AND NATURAL RESOURCES**



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**MEMBERS OF THE SUBCOMMITTEE**

Frederick C. Boucher, Chairman  
Frank W. Nolen  
Madison E. Mayre

**STAFF**

**Division of Legislative Services**

**Senate Clerk's Office**

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**I.  
Introduction**

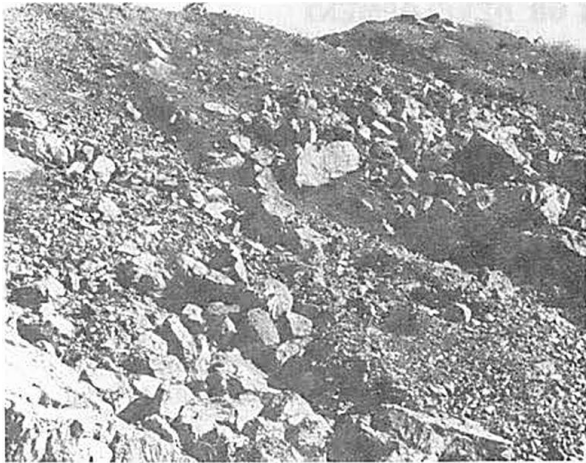
A subcommittee of the Senate Committee on Agriculture, Conservation and Natural Resources consisting of Senator Frederick C. Boucher, Chairman, Senator Madison E. Marye and Senator Frank W. Nolen was appointed in April of 1979 for the purpose of considering the possible need for a state permitting program to insure the reclamation of lands disturbed by oil or natural gas exploration or development. The Subcommittee was directed to conclude its inquiry and submit its findings and recommendations prior to the commencement of the 1980 session of the Virginia General Assembly.

**II.  
Nature of the Problem Addressed**

The reclamation of land disturbed by coal mining operations is currently required by both state and federal law. There is also a state permitting program, administered by the Minerals Other than Coal Section of the Division of Mined Land Reclamation in the Department of Conservation and Economic Development, which insures the reclamation of land disturbed by various types of quarrying operations. However, neither state nor federal law contains a reclamation requirement for lands disturbed by oil or natural gas exploration or development. Moreover, typical standard form leases through which oil or natural gas companies acquire exploration and development rights do not contain reclamation requirements.

The 1978 annual report of the Virginia Department of Labor and Industry reveals that as of December 31, 1978 the oil and gas rights to 1,205,866 acres of Virginia land were under lease to 22 energy companies. Of this total, 1,129,618 acres were undeveloped and 76,248 acres were under development. (1978 annual report of the Virginia Department of Labor and Industry, Table 11, Page 96) The report also indicates that oil and gas rights to 186,365 acres were leased to energy producers during 1978 (Page 91), and while definitive figures are currently unavailable, the subcommittee was informed that producers have acquired the oil and gas rights to substantial new acreages during 1979. Unofficial Department estimates are that by the end of 1979 more than 2,000,000 acres of Virginia land will be under oil and gas leases.

At its August 3, 1979 meeting in Richmond, the Subcommittee reviewed photographs of a Russell County site disturbed by an energy producer exploring for oil in 1977. The producer chose for its drilling site a mountainside with a slope of approximately 40 degrees, above and in the general vicinity of a private residence. In the course of preparing the drilling site, the producer created a level shelf on the mountainside and pushed the overburdening material from the shelf onto the downslope of the shelf. Much of this material, including boulders, came to rest in the general vicinity of the nearby residence. Use of a portion of the resident's land was inhibited both by the presence of overburdening material and erosion from the drilling site. Selected photographs demonstrating these facts are set forth hereunder.



More than one year following abandonment of operations by the producer upon this site, no reclamation had occurred. The subcommittee was informed that while the producer was neither required by law nor by the lease provisions to provide reclamation, it entered into negotiations with the resident for the purpose of providing some measure of reclamation. The absence of reclamation as of the time of the taking of the foregoing photographs in the summer of 1979 was in part due to the inability of the producer and the landowner to agree upon the specifics of reclamation. There had been no discussion of the character or quality of reclamation at the time of the execution of the lease between the landowner and the energy producer.

### **III.** **Proceedings of the Subcommittee**

On August 3, 1979 the Subcommittee met in Richmond and received comments concerning the propriety of a state reclamation program for oil and gas lands from representatives of the Department of Labor and Industry, Columbia Gas Transmission Company, one of Virginia's major natural gas producers, and the Virginia Petroleum Industries. All concerned parties agreed that the General Assembly should enact legislation creating in the Division of Mines and Quarries of the Department of Labor and Industry a permitting program to insure the reclamation of land disturbed by oil or natural gas exploration or development.

### **IV.** **Findings and Recommendations of the Subcommittee**

Based upon the testimony presented and representations made to the Subcommittee, the following findings and recommendations are hereby submitted:

1. The Subcommittee believes that property owners, energy producers and the general public would be better served if the degree of required reclamation for oil and gas sites is known prior to the commencement of operations. The Russell County experience is indicative of the type of difficulties which can arise when reclamation is left to after-the-fact negotiations between landowners and energy producers.

2. The Subcommittee finds that landowners need the protection of state law to insure reclamation of sites disturbed by oil or natural gas operations, and such a requirement would serve to protect the public's environmental interest in part by prohibiting erosion from operations sites into waterways. Given the rapid acceleration of oil and gas rights in the current year and the year just past, the need for this protection is greater than ever before.

3. The General Assembly should adopt legislation requiring that prior to the commencement of oil or natural gas exploration or development, any entity proposing such operations must submit and obtain state approval of plans for operations and reclamation. The legislation should require that upon agency approval, the operations and reclamation plans shall become a part of the operator's permit, and a bond in an amount not to exceed \$10,000 should be required to insure compliance with the permit conditions.

4. The reclamation permitting program should be integrated with the current casing, plugging and abandonment permit requirements administered by the Division of Mines and Quarries of the Department of Labor and Industry under the provisions of Code of Virginia § 45.1-115.1, to the end that plugging, casing, abandonment and reclamation regulation would involve the submission of a single application, the issuance of a single permit and the posting of a single bond.

5. The fee submitted to the Division with each application for a permit should be increased from \$25.00 to \$100.00. This fee has remained constant since 1966, notwithstanding general inflationary increases in the cost of processing applications and administering the permitting program since that time. Moreover the additional departmental responsibility of approving and enforcing reclamation plans further justifies this fee increase. Representatives from the affected industries indicated approval for this proposal.

**V.**

### Concluding Comments

1. Legislation which incorporates the changes outlined in this report is attached hereto as Appendix

Respectively Submitted,

Frederick C. Boucher, Chairman  
Frank W. Nolen  
Madison E. Marye

A BILL to amend and reenact §§ 45.1-106, 45.1-115.1, 45.1-116 and 45.1-139 of the Code of Virginia, so as to provide for the regulation of oil and gas drilling operations by the Division of Mines and Quarries of the Department of Labor and Industry.

Be it enacted by the General Assembly of Virginia:

1. That §§ 45.1-106, 45.1-115.1, 45.1-116 and 45.1-139 of the Code of Virginia are amended and reenacted as follows:

§ 45.1-106. Definitions.—As used in §§ 45.1-106 through 45.1-144 unless the context clearly indicates otherwise:

(a) "Casing" means a string or strings of pipe commonly placed in wells drilled for petroleum and natural gas;

(b) "Casing-head gas" means any gas or vapor, or both gas and vapor, indigenous to an oil stratum and produced from such stratum with oil;

(c) "Cement" means hydraulic cement ~~properly mixed with water only~~ ;

(d) "Chief" means the Chief Mine Inspector or his designated assistant unless the context indicates otherwise;

(e) "Coal operator" means any person or persons, firm, partnership, partnership association or corporation that proposes to or does operate a coal mine;

(f) "Commissioner" means the Commissioner of the Department of Labor and Industry;

(g) "Division" means the Division of Mines;

(h) "Gas" means the natural gas including casing-head gas obtained from gas or combination wells regardless of its chemical analysis;

(i) "Log" or "well log" means the written record progressively describing all strata, water, oil or gas encountered in drilling, depth and thickness of each bed or seam of coal drilled through, quantity of oil, volumes of gas, pressures, rate of fill-up, fresh and salt water-bearing horizons and depths, cavings strata, casing records, etc., as is usually recorded in the normal procedure of drilling; also includes the electrical survey records or logs;

(j) "Mine" means an underground or surface excavation or development with or without any shafts, slopes, drifts or tunnels for the extraction of coal, minerals or nonmetallic materials, commonly designated as mineral resources (excluding petroleum and natural gas), containing the same with hoisting or haulage equipment and appliances for the extraction of the said mineral resources; and embraces any and all of the land or property of the mining plant, and the surface and underground, that is used or contributes directly or indirectly to the mining property, concentration or handling of said mineral resources;

(k) "Mine operator" means any person or persons, firm, partnership, partnership association or corporation that proposes to or does operate a mine;

(l) "Mud-laden fluid" means 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~~ ;

(m) "Natural gas" (See Gas);

(n) "Oil" means crude petroleum oil or petroleum;

(o) "Operator" means any person who, duly authorized, is in charge of the development of a lease, drilling activities or the operator of a producing well;

(p) "Person" means any natural person, firm, partnership, partnership association, association, company, corporation, receiver, trustee, guardian, executor, administrator, fiduciary or representative of any kind;

(q) "Petroleum" means the natural untreated oil obtained from an oil well;

(r) "Pillar" means a solid block of coal or ore or other material, left unmined to support the overlying strata in a mine;

(s) "Pipeline" means any pipes above or below the ground used or to be used for the transportation of oil or gas;

(t) "Plat" or "map" means a map, drawing or print showing the location of a well or wells, mines, quarries;

(u) "Plug" means the stopping of the flow of water, gas or oil in connection with the abandoning of a producing or nonproductive well;

(v) "Porosity" means the state of or quality of being porous, the absorbent capacity of the material or the volume of liquid held by the pores;

(w) "Shot" or "shooting" means exploding nitroglycerine or other high explosive in a hole, to shatter the rock and increase the flow of oil or gas;

*(w1) "Spoil" means any overburden or other material removed from its natural state in the process of preparing or utilizing a well location;*

(x) "Tubing" means the conduit through which oil or gas is removed from a well;

(y) "Waste," in addition to its ordinary meaning, means "physical waste" as that term is generally understood in the oil and gas industry;

(z) "Well" means a ~~bore hole or excavation for the purpose of producing any liquid or gaseous substance from beneath the surface of the earth but shall not include any water well any excavation or hole drilled or bored into the earth, for the purpose of exploring for or producing, extracting or injecting any gas, petroleum, or other liquid, but excluding holes drilled or bored, to produce fresh water to be used as such, or vertical mine ventilation holes ;~~

(aa) "Well operator" means any person or persons, firm, partnership, partnership association or corporation that proposes to or does locate, drill, operate or abandon any well as herein defined;

(bb) "Workable coal bed" means a coal bed in fact being operated commercially, or which, in the judgment of the Chief, can, and that is reasonably to be expected will be so operated, and which, when operated, will require protection if wells are drilled through it.

§ 45.1-115.1. Permit to drill required; fee; application; bond.—A. ~~Before any such well is drilled, the operator shall secure from the Chief a permit to drill. It shall be unlawful for any person to commence well drilling operations without first securing from the Chief a permit to drill.~~ The application for such permit shall be accompanied by a fee of ~~twenty five~~ *one hundred* dollars and such operator shall, in addition, give bond, payable to the Commonwealth of Virginia, with surety acceptable to the Chief when in the opinion of the Chief such is considered necessary, to insure compliance with all laws and regulations relating to the drilling, redrilling, deepening, casing, plugging and abandonment of wells , *reclamation of well locations* and for furnishing such reports and information as may be required by the Chief. The amount of the bond shall be set by the Chief in an amount not less than two thousand five hundred dollars nor more than ten thousand dollars for a well which is to be drilled three thousand feet or less; the bond shall be set in an amount not less than five thousand nor more than ten thousand dollars for a well which is to be drilled more than three thousand feet but less than six thousand feet; the bond shall be set in an amount not less than seven thousand five hundred dollars nor more than ten thousand dollars for a well which is to be drilled more than six thousand feet but less than nine thousand feet; and the bond shall be in the amount of ten thousand dollars for a well which is to be drilled more than nine thousand feet. Such bond shall remain in force until released by the Chief. The Chief may, at his discretion,



release the bond at any time and shall release the same when he is satisfied that the well has been abandoned and plugged and reports and information furnished as required by chapters 1 to 14 (§§ 45.1-1 to 45.1-161 et seq.) of this title. When such operator makes or has made application for permits to drill a number of wells, the Chief on request of such operator, may, in lieu of requiring a separate bond for each well, require a blanket bond in such sum as he deems adequate, and the Chief may increase or reduce the amount of such bond from time to time as he may deem proper in view of the number of wells drilled by the particular well operator and the number of wells abandoned and plugged in the manner prescribed herein by such operator. On or after July one, nineteen hundred seventy-eight, all wells not covered by a bond shall be bonded in accordance with the provisions of this section.

B. The bonding requirements for oil and gas wells shall be limited to those set forth in this section and no additional bonding requirements contained within §§ 45.1-1 through 45.1-225 shall apply to oil and gas operations.

*C. An operations plan shall accompany each application for a permit to drill and shall include the following: (i) a map detailing the areas to be disturbed by the proposed drilling operations; (ii) a description of the proposed method of back filling and grading for the area to be disturbed and the anticipated adverse disruptions and injurious effects reasonably foreseeable upon such area and any adjacent areas both during and after the proposed drilling operations; (iii) proposed control techniques to minimize or prevent disruptions to the drilling site and surrounding areas including a statement of the proposed method of spoil disposition; (iv) a description of the proposed method of drainage control for the area to be disturbed; (v) a description of the proposed actions to be taken by the operator to prevent erosion both prior to and following revegetation and to assure suitable reclamation and revegetation of the disturbed area when drilling and completion operations are concluded. The operations plan shall become part of the terms and conditions of any permit which is issued and the provisions of this plan shall be carried out where applicable in the drilling operation.*

§ 45.1-116. Issuance of permit when no objections filed; offset wells; what permit to recite.—~~Upon the filing of an application for a permit to drill,~~ The Chief shall review each application for permit to drill along with accompanying material and shall determine whether or not a permit shall be issued. The Chief shall cause such inspections to be made of the proposed well location as to assure adequate review of the application, and if it is determined that the proposed drilling operation will constitute a hazard to the public safety, that reclamation or proper drainage control is not feasible, or that the waters of the State as defined in § 62.1-44.3, public park, certified historic landmark or publicly owned recreational area would be materially damaged, the permit shall not be issued.

*If, after adequate review, the application for permit to drill is found to be in order and , if no objection has been made within the specified time to such drilling by any person to whom notice is required to be sent, the Chief shall issue the requested permit provided, the Chief may, in any case in which a well is proposed to be drilled within five hundred feet of any boundary of a tract of land, if in his opinion such drilling would cause drainage of adjacent land, require as a condition of the granting of such permit the making of an agreement, satisfactory to the owner or lessee of any such adjacent land, relating to the drilling of an offset well on such land if the proposed well produces oil or gas in commercially paying quantities.*

Any permit so issued shall recite the filing of an application for a permit to drill and a plat or map showing the proposed location of the well and other required information, that no objection has been made to the proposed location by any interested person, or found by the Chief, that the same is approved and the well operator is authorized to proceed to drill, redrill or deepen a well at such location.

§ 45.1-139. Rights of Chief and adjacent owners upon default of owner or operator of well.—If the owner or operator of any such well shall neglect or refuse to drill, case and equip, or plug and abandon the well in a proper manner , *reclaim the well location in a proper manner* or shut in and conserve from waste the oil or gas produced therefrom as required to be done and performed by chapters 1 to 14 (§§ 45.1-1 to 45.1-161) of this title, for a period of twenty days after a written notice so to do, which notice may be served personally upon the owner or operator, or may be posted in a conspicuous place at or near the well, the owner or operator of any adjacent or neighboring lands, or the Chief:

(1) May enter upon the premises where such well is situated and properly case and equip such well; or,

(2) In case the well is to be abandoned, may properly plug and abandon it; or,

(3) In case the well is wasting oil or gas, may properly shut it in and make the needed repairs to the well to prevent such waste ; *or*,

*(4) May perform such reclamation on the well location as is necessary and proper to prevent erosion and other injurious effects to that area and any surrounding areas .*

The reasonable cost and expenses incurred by the owner or operator of any adjacent or neighboring lands in so doing shall be paid by the owner or operator of such well and may be recovered as debts of like amount are by law recoverable; and such expense, if incurred by the Chief, shall be a charge against the bond given by the well operator ; *provided that if the bond proceeds are insufficient to reimburse the Chief, his expenses in excess of the bond proceeds shall be recoverable against the well operator by an action at law .*

