

4 VAC 25-101-10. Definitions.

The following words and terms, when used in these regulations, shall have the following meaning unless the context clearly indicates otherwise:

"Approved" means a device, apparatus, equipment, condition, method, course or practice approved in writing by the chief or director. Such items approved by federal agencies such as the Mine Safety and Health Administration (MSHA), or the Office of Surface Mining (OSM), shall also be considered "approved" for the purposes of this chapter.

"Building" means a structure regularly occupied in whole or in part as a habitation for human beings, or where people are accustomed to live, work, or assemble.

"Casing" means all pipe set in wells or vertical ventilation holes except conductor pipe and tubing.

"Cement" means hydraulic cement properly mixed with water.

"Chief" means the chief of the Division of Mines of the Department of Mines, Minerals and Energy, or his designee.

"Coalbed methane gas" means occluded natural gas produced from coalbeds and rock strata associated therewith.

"Coalbed methane gas well" means a well capable of producing coalbed methane gas.

"Coal or mine operator" means any person who operates, controls or supervises a mine, or any independent contractor performing services or construction at such mine.

"Coal-protection string" means a casing designed to protect a coal seam by excluding all fluids, oil, gas or gas pressure from the seam, except such as may be found in the coal seam itself.

"Coal seam" means any stratum of coal twenty inches or more in thickness, unless a stratum of less thickness is being commercially worked, or can in the judgment of the Department foreseeably be commercially worked and will require protection if wells are drilled through it.

"Directional survey" means a well survey that measures the degree of deviation of a hole, or distance from the vertical and the direction of the deviation.

"Director" means the director of the Department of Mines, Minerals and Energy or his authorized agent.

"Division" means the Division of Mines of the Department of Mines, Minerals and Energy.

"Form prescribed by the chief" means a form issued by the division, or an equivalent facsimile, for use in meeting the requirements of the Code of Virginia or this chapter.

"Gas" or "natural gas" means all natural gas whether hydrocarbon or non hydrocarbon or any combination or mixture thereof, including hydrocarbons, hydrogen sulfide, helium, carbon dioxide, nitrogen, hydrogen, casing head gas, and all other fluids not defined as oil.

"Gas well operator" means any person who has been designated to operate or does operate a gas well.

"Gas and Oil Inspector" means the director of the Division of Gas and Oil of the Department of Mines, Minerals and Energy.

"Gas well" means any well which produces or appears capable of producing a ratio of 6,000 cubic feet (6 Mcf) of gas or more to each barrel of oil, on the basis of a gas-oil ratio test.

"Gob well" means a coalbed methane gas well which is capable of producing coalbed methane gas from the de-stressed zone associated with any full-seam extraction of coal that extends above and below the mined-out coal seam.

"Highway" means any public street, public alley, or public road.

"Inclination survey" means a survey, using the surface location of the vertical ventilation hole as the apex, to determine the deviation of a vertical ventilation hole from the true vertical beneath the apex on the same horizontal subsurface plane.

"Mcf" means, when used with reference to natural gas, one thousand cubic feet of gas at a pressure base of 14.73 pounds per square inch gauge and a temperature base of 60 degrees Fahrenheit.

"Mineable coal seam" means a coal seam being mined commercially, or which, in the judgment of the chief, can reasonably be expected to be mined, and which, when mined, will require protection if holes are drilled through it.

"Oil well operator" means any person who has been designated to operate or does operate an oil well.

"Oil well" means any well which produces or appears capable of producing a ratio of less than 6,000 cubic feet (6 Mcf) of gas to each barrel of oil, on the basis of a gas-oil ratio test.

"Owner" means the person or persons listed as owner of record by the Clerk of the Circuit Court of the county in which the property is located.

"Pending" means an application for a permit has been submitted to the department, but the decision to issue or refuse to issue the permit has not yet been made by the department.

"Permanent point" means an established physical point of reference on the land surface, based on the applicant's coordinate system, used for a map or plat submitted with a permit application.

"Person" means individual, corporation, partnership, association, company, business, trust, joint venture, or other legal entity.

"Pillar" means a solid block of coal or ore or other material left unmined to support the overlying strata in a mine.

"Pipeline" means any pipe above or below the ground used or to be used to transport gas or oil.

"Plug" means the stopping of, or a device used for the stopping of, the flow of water, oil or gas from one stratum to another.

"Railroad" means any steam, electric or other powered transportation system operating on a track which carries passengers for hire, or over which loaded or empty equipment is transported.

"Vertical ventilation hole" means any hole drilled from the surface to the coal seam used only for the safety purpose of removing gas from the underlying coal seam and the adjacent strata, thus, removing the gas that would normally be in the mine ventilation system.

"Water-protection string" means a string of casing designed to protect groundwater-bearing strata.

"Well" means any shaft or hole sunk, drilled, bored or dug into the earth or into underground strata for the extraction, injection or placement of any gaseous or liquid substance, or any shaft or hole sunk or used in conjunction with such extraction, injection or placement. The term shall not include any shaft or hole sunk, drilled, bored or dug into the earth for the sole purpose of pumping or extracting therefrom potable, fresh or usable water for household, domestic, industrial, agricultural, or public use and shall not include water boreholes, vertical ventilation holes where methane is vented or flared rather than produced and saved, subsurface boreholes drilled from the mine face of an underground coal mine, any other boreholes necessary or convenient for the extraction of coal or drilled pursuant to a uranium exploratory program carried out pursuant to the laws of this Commonwealth, or any coal or non-fuel mineral corehole or borehole for the purpose of exploration.

4 VAC 25-101-20. Application for permits; maps or plats; notice.

A. Before drilling a vertical ventilation hole on any tract of land, the mine operator shall file with the chief, together with the application required, an accurate map or plat certified by a licensed professional engineer or licensed land surveyor. The map or plat shall be drawn on a scale of one inch equaling 400 feet (1:4,800), and the scale shall be stated on the map. It shall show:

1. The proposed or actual horizontal location of the vertical ventilation hole shown in accordance with the Virginia Coordinate System of 1927 as defined in Chapter 17 (55-287 et seq) of Title 55 of the Code of Virginia, also known as the state plane coordinate system and the surface elevation;

2. _____ The courses and distances of the proposed location from two permanent points or landmarks as shown on the map or plat;

3. _____ The name and number proposed to be given to the hole;

4. _____ The name of the owner and the boundaries and acreage of the tract on which the hole is to be drilled;

5. _____ The names of the owners of all surface and mineral tracts within 750 feet of the proposed location; and

6. _____ Any building, highway, railroad, stream, vertical ventilation hole, oil or gas operation, oil or gas pipeline, mine, mine openings or workings, or quarry within 750 feet of the proposed location.

B. _____ Notice in the form of a copy of the application and map or plat shall be sent by certified mail to the following:

1. _____ Each owner of the surface of the tract which is to be drilled;

2. _____ Each owner or lessee of any coal or mineral rights on, in or under such land;

and

3. Each operator of any mine, well or quarry within 750 feet of the proposed location.

C. The notice shall inform all persons with standing to object to the permit of their right to object to the proposed location, and shall state the prescribed time limit for objections. Objections filed under this section shall be limited to the proposed location of the vertical ventilation hole, and shall state the nature of the objection.

D. Each owner, lessee or operator may, within 10 days of receipt of the notice, file with the chief an objection to the proposed location.

E. Any person required to be notified under this section may waive the right to receive notice of the application and the right to object to the proposed location of the hole. The waiver shall be in writing and shall include a written agreement specifying the location of the proposed hole.

E. 1. Each application also shall contain a description of all safety equipment and safety facilities to be used on the surface during drilling and after completion of the hole. The description shall include a diagram showing the placement of equipment and facilities.

2. Safety equipment and facilities described shall include, but are not limited to:

a. Flame arresters;

b. Back-pressure systems;

c. Pressure-relief systems;

d. Vent systems; and

e. Fire-fighting equipment.

4 VAC 25-101-30. Expiration of permit.

If the drilling of a vertical ventilation hole has not commenced within two years of the date of the issuance of the permit, the permit shall expire.

4 VAC 25-101-40. Venting methane.

A. Nothing in this part shall prevent the operator of a permitted coalbed methane gas well from venting methane from the well in accordance with the requirements of the Virginia Gas and Oil Act, Chapter 22.1 (Section 45.1-361.1 et seq.) of Title 45.1 of the Code of Virginia and the Gas and Oil Regulation, 4 VAC 25-150-10 et seq.

B. The operation of a coalbed methane gas well when operated in conjunction with a mining operation shall be conducted so as to complement the effectiveness of the mine bleeder system in

~~removing methane liberation from the mine. Changes in the well operation shall not be performed which create hazardous conditions for the miners working underground. If the operation of a coalbed methane gas well affects any mine's ventilation, the mine shall be adequately ventilated in accordance with its approved bleeder plan.~~

~~4 VAC 25-101-50. Requirements for issuance of permit.~~

~~A. The chief shall issue a permit when the following criteria have been met:~~

- ~~1. An application for a permit to drill has been received, accompanied by a plat or map showing the proposed location of the hole and other required information;~~
- ~~2. No objection to the proposed location has been made by any interested person within the specified 10-day period; or right to object waivers have been submitted in accordance with 4 VAC 25-101.20.E and the 10 day period shall not apply.~~
- ~~3. No objection to the proposed location has been raised by the chief; and~~
- ~~4. All other conditions for the issuance of a permit have been met.~~

~~B. If an operator shows compelling safety reasons for drilling a vertical ventilation hole without delay, and submits proof in writing that none of the persons with standing to object to the permit have any objections, then the chief may waive the notice requirements under 4 VAC 25-101-20, and~~

~~may issue the permit to drill a vertical ventilation hole, provided all other conditions for permit issuance have been met.~~

~~4 VAC 25-101-60. Filing of objections: scheduling of hearing.~~

~~A. If an objection is filed by any person notified under 4 VAC 25-101-20 the chief shall:~~

~~1. Notify the applicant for a permit to drill of the source and nature of the objection; and~~

~~2. Schedule a hearing for not less than 20 nor more than 30 days after the date on which the application for a permit to drill was filed. The person to whom notice was required to be sent shall be given at least 10 days written notice prior to the date of the hearing.~~

~~B. At the hearing, the chief shall consider (i) any evidence presented by the applicant, (ii) any evidence presented by the person filing an objection to the proposed location and (iii) such other evidence that the department may possess.~~

~~C. Within 30 days of the hearing the chief shall approve or disapprove the location of the vertical ventilation hole. All parties to the hearing shall receive, by certified mail, a written summary of the chief's decision.~~

1. ~~_____ If the chief disapproves of the location for the hole, the written summary shall state the reasons for disapproval of the location.~~

2. ~~_____ If the location is approved, a permit shall be issued.~~

~~4 VAC 25-101-70. Pillars.~~

A. ~~_____ If the requested location for a vertical ventilation hole will allow it to penetrate a mineable coal seam, the chief shall alter the location of the hole, fixing it on a tract of land as near to the requested location as possible. Placement of the hole shall allow it to pass through a pillar of suitable size. The chief shall take into consideration the dangers from creeps, squeezes or other disturbances caused by the extraction of coal when fixing the location of the hole.~~

B. ~~_____ If no suitable pillar exists in which to locate the ventilation hole, it may be located and drilled through open workings where, in the judgment of the chief, it is practical and safe to do so. The chief shall take into consideration the dangers from creeps, squeezes and other disturbances caused by the extraction of coal.~~

~~4 VAC 25-101-80. Record keeping.~~

A. ~~_____ The chief shall number, index and keep as a permanent record each of the following items filed with the Division of Mines:~~

1._____ The application;

2._____ A plat or map; and

3._____ The notice.

B._____ The chief shall record:

1._____ The name of each applicant;

2._____ The name and address of each person notified;

3._____ The date of receipt of any application, plat or map;

4._____ The date on which an objection was filed;

5._____ The date on which a hearing was held;

6._____ The date on which a permit was issued or refused; and

7._____ The date on which any action was taken by the chief.

4 VAC 25-101-90. Review of action of chief.

Any person aggrieved by the chief's action either in fixing or approving the location of a vertical ventilation hole, or in issuing or refusing to issue a drilling permit, shall have the right to request a review of the chief's action by the circuit court of the county in which the hole is located.

4 VAC 25-101-100. Casing requirements for vertical ventilation holes.

A. Water-protection string.

1. Except as provided in subdivision A 5 of this section, the permittee shall set a water-protection string to a point at least 300 feet below the surface or 50 feet below the deepest known groundwater horizon, whichever is deeper, circulated and cemented in to the surface. If the cement does not return to the surface, every reasonable attempt shall be made to fill the annular space by introducing cement from the surface.

2. The operator shall test or require the cementing company to test the cement mixing water for pH and temperature prior to mixing the cement and to record the results on the cementing ticket.

3. After the cement is placed, the operator shall wait a minimum of eight hours and allow the cement to achieve a calculated compressive strength of 500 psi before drilling, unless the director approves a shorter period of time. The wait-on-cement (WOC)

~~time shall be recorded within the records kept at the drilling rig while drilling is taking place.~~

~~4. When requested by the director, the operator shall submit copies of cement tickets or other documents that indicate the above specifications have been followed.~~

~~5. A coal-protection string may also serve as a water-protection string.~~

~~B. Coal-protection strings.~~

~~1. When any well penetrates coal seams that have not been mined out, the permittee shall, except as provided in subdivisions B 2 and B 3 of this section, set coal-protection string. The coal-protection string shall exclude all fluids, oil, gas and gas pressure except that which is naturally present in each coal seam. The coal-protection string shall also exclude all injected material or disposed waste from the coal seams and the wellbore. The string of casing shall be set to a point at least 50 feet below the lowest coal seam, or as provided in subdivision B 3 of this section, and shall be circulated and cemented from that point to the surface or to a point not less than 50 feet into the water-protection string or strings which are cemented to the surface.~~

~~2. For good cause shown, either before or after the permit is issued, when the procedure specified in subdivision B 1 is demonstrated by the permittee as not practical, the director may approve a casing program involving the cementing of a coal-protection~~

~~string in multiple stages, or the cementing of two or more coal-protection strings, or the use of other alternative casing procedures. The director may approve the program provided he is satisfied that the result will be perationally equivalent to compliance with the provisions of subdivision B 1 of this section for the purpose of permitting the subsequent safe mining through of the well or otherwise protecting the coal seams as required by this section. In the use of multiple coal-protection strings, each string below the topmost string shall be cemented at least 50 feet into the next higher string or strings that are cemented to the surface and be verified by a cement top log.~~

3. ~~Depth of coal-protection strings:~~

a. ~~A coal-protection string shall be set to the top of the red shales in any area underlain by them unless, on a showing by the permittee in the permit application, the director has approved the casing point of the coal-protection string at some depth less than the top of the red shales. In such event, the permittee shall conduct a gamma ray/density log survey on an expanded scale to verify whether the well penetrates any coal seam in the uncased interval between the bottom of the coal-protection string as approved and the top of the red shales.~~

b. ~~If an unanticipated coal seam or seams are discovered in the uncased interval, the permittee shall report the discovery in writing to the director. The permittee shall cement the next string of casing, whether a part of the~~

intermediate string or the production string, in the applicable manner provided in this section for coal-protection strings, from a point at least 50 feet below the lowest coal seam so discovered to a point at least 50 feet above the highest coal seam so discovered.

c. The gamma ray/density log survey shall be filed with the director at the same time the driller's log is filed under 4 VAC 25-150-360.

d. When the director believes, after reviewing documentation submitted by the permittee, that the total drilling in any particular area has verified the deepest coal seam higher than the red shales, so that further gamma ray/density logs on an expanded scale are superfluous for the area, he may waive the constructing of a coal-protection string or the conducting of such surveys deeper than 100 feet below the verified depth of the deepest coal seam.

C. Coal-protection strings of wells drilled prior to July 1, 1982. In the case of wells drilled prior to July 1, 1982, through coal seams without coal-protection strings substantially as prescribed in subsection B of this section, the permittee shall retain such coal-protection strings as were set. During the life of the well, the permittee shall, consistent with a plan approved by the director, keep the annular spaces between the various strings of casing adjacent to coal seams open to the extent possible, and the top ends of all such strings shall be provided with casing heads, or such other approved devices as will permit the free passage of gas or oil and prevent filling of the annular spaces with dirt or debris.

D. Producing from more than one stratum. The casing program for any well designed or completed to produce from more than one stratum shall be designed in accordance with the appropriate standard practices of the industry.

E. Casing through voids.

1. When a well is drilled through a void, the hole shall be drilled at least 30 feet below the void, the annular space shall be cemented from the base of the casing up to the void and to the surface from the top of the void, or it shall be cemented at least 50 feet into the next higher string or strings of casing that are cemented to the surface and be verified by a cement top log.

2. For good cause shown, the director may approve alternative casing procedures proposed by the permittee, provided that the director is satisfied that the alternative casing procedures are operationally equivalent to the requirements imposed by subdivision E.1 of this section.

3. For good cause shown, the director may impose special requirements on the permittee to prevent communication between two or more voids.

F. A well penetrating a mine other than a coal mine. In the event that a permittee has requested to drill a well in such a location that it would penetrate any active mine other than a coal mine,

~~the director shall approve the safety precautions to be followed by the permittee prior to the commencement of activity.~~

~~G. Reporting of lost circulation zones. The permittee shall report to the director as soon as possible when an unanticipated void or groundwater horizon is encountered that results in lost circulation during drilling. The permittee shall take every necessary action to protect the lost circulation zone.~~

~~4 VAC 25-101-110. Safety precautions for a vertical ventilation hole penetrating a non-coal mine.~~

~~Upon receiving an application for a permit to drill a vertical ventilation hole in a location that would allow it to penetrate any active or abandoned mine other than a coal mine, the chief may establish the safety precautions to be followed by the ventilation hole operator. The safety precautions shall conform to those generally followed by the industry in such cases.~~

~~4 VAC 25-101-120. Survey requirements.~~

~~A. All vertical ventilation holes shall be drilled with due diligence to maintain, within reason, a vertical hole bore.~~

~~B. The permittee shall use an inclination survey to determine the horizontal location of any vertical ventilation hole that penetrates a mineable coal seam. The inclination survey shall be conducted from the surface to the lowest mineable coal seam penetrated by the hole.~~

C. The first survey point shall be taken at a depth not greater than the most shallow mineable coal seam. Thereafter, shot points shall be taken at each mineable coal seam or at intervals of 200 feet, whichever distance is less, to the lowest mineable coal seam penetrated by the hole.

D. If the deviation of the hole exceeds one degree from true vertical at any point between the surface and the lowest mineable coal seam, then the permittee, unless granted a variance by the chief, shall:

1. Correct the borehole to within one degree of vertical; or
2. Conduct a directional survey to the lowest mineable coal seam penetrated by the hole and notify the coal owners of the actual location of the hole.

4 VAC 25-101-130. Correction requirements.

A. Prior to drilling any vertical ventilation hole into a mineable coal seam being actively mined within 500 feet of where the hole will penetrate the seam, the permittee shall conduct an inclination survey to determine whether the deviation of the hole exceeds one degree from true vertical. If necessary, the permittee shall then correct the hole to within one degree of true vertical, unless a variance is obtained from the chief as specified in 4 VAC 25-101-120.

B. The chief may grant a variance to the correction requirements contained in 4 VAC 25-

~~101-120 or this section only after the permittee and the owners of any mineable coal seams penetrated by the vertical ventilation hole have jointly submitted a written request for a variance. The request shall state that the conduction of a directional survey or the correction of the hole is not needed to protect the safety of persons engaged in active coal mining.~~

~~C. The chief may require the permittee to conduct a directional survey if he finds that the lack of assurance of the horizontal location of the hole may pose a danger to persons engaged in active coal mining.~~

~~D. A copy of any survey required for a vertical ventilation hole shall be filed with the chief within 30 days of completion of the hole. All mining operations affected by the vertical ventilation hole shall be furnished a copy of the survey and its interpretations.~~

~~4 VAC 25-101-140. Mining near a vertical ventilation hole.~~

~~A. Before removing any coal or other mineral, or extending any mine workings or operations within 500 horizontal feet of any permitted or pending vertical ventilation hole, the mine operator shall give notice by certified mail to the vertical ventilation hole operator and the chief.~~

~~B. The mine operator shall send to the vertical ventilation hole operator and the chief an accurate map. The scale of the map shall be one inch equals 400 feet (1:4,800), and shall be stated on the map. The map shall show both actual and projected mine workings beneath the tract of land or within 500 horizontal feet of the ventilation hole and shall be shown in accordance with the Virginia state~~

plane coordinate system.

C. Once notice and the map have been provided, the mine operator may proceed with mining operations as shown on the map. However, the mine operator shall not remove any coal or other mineral, or conduct any mining operations nearer than 200 horizontal feet, as determined by survey, to any permitted or pending vertical ventilation hole without the consent of the chief. This provision shall not apply to mining operations in the seam which the vertical ventilation hole is intended to ventilate, unless the casing extends through that seam.

4 VAC 25-101-150. Mining near a gas or oil well.

A. Before removing any coal or other mineral, or extending any mine workings or operations within 500 horizontal feet of any permitted or pending gas or oil well, the mine operator shall give notice by certified mail to the well operator, the Gas and Oil Inspector and the chief.

B. The mine operator shall send to the well operator, the Gas and Oil Inspector and the chief an accurate map. The scale of the map shall be one inch equals 400 feet (1:4,800), and shall be stated on the map. The map shall show both actual and projected mine workings beneath the tract of land or within 500 horizontal feet of the gas or oil well and shall be shown in accordance with the Virginia state plane coordinate system.

C. Once notice and the map have been provided, the mine operator may proceed with mining operations as shown on the map. However, the mine operator shall not remove any coal or

other mineral, or conduct any mining operations nearer than 200 horizontal feet, as determined by survey, to any permitted or pending well without the consent of the chief.

4 VAC 25-101-160. Mining within 200 feet of a vertical ventilation hole.

A. A mine operator shall submit an application to the chief for a permit to conduct mining operations within 200 horizontal feet of any permitted or pending vertical ventilation hole.

B. The application shall be made on a form prescribed by the chief, and shall contain information the chief requires. It shall be accompanied by a map showing all mining operations or workings projected within 200 horizontal feet of the hole and shall be shown in accordance with the Virginia state plane coordinate system.

C. The chief may, prior to considering the application, make or cause to be made any inspections or surveys which he deems necessary.

D. Notice of the application shall be sent by certified mail to the operator of the vertical ventilation hole which may be affected by the proposed mining operations. The notice shall inform the vertical ventilation hole operator of the right to object to the proposed mining activity. Objections shall be filed with the chief within 10 days of the date that the notice is received. If the vertical ventilation hole operator files an objection, the chief shall schedule a hearing in accordance with the provisions in 4 VAC 25-101-60.

~~E. If the mine operator submits proof in writing that the vertical ventilation hole operator does not object to the projected mining activity, then the chief may waive the notice requirement and issue a permit, provided all other conditions for permit issuance have been met.~~

~~E. The chief may, if an objection is not filed by the vertical ventilation hole operator within the specified period, issue a permit for the mining operations as projected, or with such modifications as the chief may deem necessary.~~

~~4 VAC 25-101-170. Mining within 200 feet of a gas or oil well or pipeline.~~

~~A. A mine operator shall submit an application to the chief for a permit to conduct mining operations within 200 horizontal feet of any permitted or pending gas or oil well or pipeline.~~

~~B. The application shall be made on a form prescribed by the chief, and shall contain information the chief requires. It shall be accompanied by a map showing all mining operations or workings projected within 200 horizontal feet of the well or pipeline and shall be shown in accordance with the Virginia state plane coordinate system.~~

~~C. The chief may, prior to considering the application, make or cause to be made any inspections or surveys which he deems necessary.~~

~~D. Notice of the application shall be sent by certified mail to both the operator of the well which may be affected by the proposed mining operations, and to the Gas and Oil Inspector. The notice~~

~~shall inform the well operator of the right to object to the proposed mining activity. Objections shall be filed with the chief within 10 days of the date that the notice is received. If the well operator or the Gas and Oil Inspector files an objection, the chief shall schedule a hearing in accordance with the provisions of 4 VAC 25-101-60.~~

~~E. If the mine operator submits proof in writing that none of the persons required to be notified under this section has any objection to the projected mining activity, then the chief may waive the notice requirement and issue a permit, provided all other conditions for permit issuance have been met.~~

~~F. The chief may, if an objection is not filed by either the well operator or the Gas and Oil Inspector within the specified period, issue a permit for the mining operations as projected, or with such modifications as the chief may deem necessary.~~

~~4 VAC 25-101-180. Pillars of coal to be left unmined, and other protective measures.~~

~~A. When mining using an underground, auger or highwall mining method within 200 horizontal feet of a vertical ventilation hole or a gas or oil well, the mine operator shall submit a plan showing the projected pillars of coal to be left unmined around each hole or well.~~

~~B. Pillars shall be situated so that each hole or well is centered within a pillar, and each pillar shall conform to the specifications shown in Table 12.5-A, based on the depth of cover above the area being mined. The excavated areas adjacent to any pillar may not exceed 20 feet in width without~~

prior approval from the chief. In no circumstances may the most narrow pillar dimension be less than twice the width of the excavated area.

Table 12.5-A

Pillar Specifications

<u>Cover</u> <u>(in feet)</u>	<u>Required Solid</u> <u>Pillar Area</u> <u>(in square feet)</u>	<u>Required Additional</u> <u>Split, in sq. ft.)</u>	<u>Total Area</u> <u>Bearing Surface</u> <u>Pillar Area (Solid or</u> <u>Required (in sq. ft.)</u>
0-149	3,600	---	3,600
150-249	5,625	---	5,625
250-349	10,000	---	10,000
350-449	10,000	5,600	15,600
450-549	10,000	13,000	23,000
550-649	10,000	22,000	32,000
650 or more	10,000	30,000	40,000

4 VAC 25-101-190. Mining a seam not more than 200 feet below a vented or produced seam.

A. When a mine operator plans to mine a seam located not more than 200 feet below a seam that is being vented or produced by a vertical ventilation hole, coalbed methane gas well or gob well, the operator shall give notice by certified mail to the chief, the hole or well operator, and the Gas

and Oil Inspector.

B. The notice shall be accompanied by a map showing all mining projections under the hole or well. The notice shall inform the hole or well operator and the Gas and Oil Inspector of the right to object to the proposed mining activity. Objections shall be filed with the chief within 10 days of receipt of the notice.

C. If the operator of the hole or well or the Gas and Oil Inspector objects to the proposed mining activity, then the chief shall schedule a hearing in accordance with the provisions of 4 VAC 25-101-60.

D. If the mine operator submits proof in writing that none of the persons required to be notified under this section has any objection to the projected mining activity, then the chief may waive the notice requirement and issue a permit, provided all other conditions for permit issuance have been met.

4 VAC 25-101-200. Mining through a plugged vertical ventilation hole or gas or oil well.

A. A mine operator may submit an application for a permit to mine through either a plugged vertical ventilation hole or plugged gas or oil well.

B. The application shall be made on a form prescribed by the chief and shall contain information the chief requires. It shall be accompanied by a map which complies with the requirements

set forth in 4 VAC 25-101-140.

C. The application shall contain information from the log completed by the person who conducted the plugging necessary to establish that:

1. The hole or well has been adequately plugged with cement, from a point 50 feet below the coal seam to a point 50 feet above the coal seam, unless otherwise approved by the Chief.

2. No oil, gas or fluids can migrate into the mine workings.

D. The chief may, prior to considering the application, make or cause to be made any inspections or surveys which he deems necessary.

E. Notice of the application shall be sent by certified mail to the vertical ventilation hole or gas or oil well operator and, in the case of mining through a well, to the Gas and Oil Inspector. The notice shall inform the hole or well operator and the Gas and Oil Inspector of the right to object to the proposed mining activity. Objections shall be filed with the chief within 10 days of the date that the notice is received. If the hole or well operator or the Gas and Oil Inspector files an objection, the chief shall schedule a hearing in accordance with the provisions of 4 VAC 25-101-60.

E. If the mine operator submits proof in writing that none of the persons required to be notified under this section has any objection to the projected mining activity, then the chief may waive

~~the notice requirement and issue a permit, provided all other conditions for permit issuance have been met.~~

~~G. The chief may, if an objection is not filed by the hole or well operator or the Gas and Oil Inspector within the specified period, issue a permit for the mining operations as projected, or with such modifications and written safety precautions as the chief may deem necessary.~~

~~4 VAC 25-101-210. Receipt of coal seam information: decision on casing.~~

~~A. When an application to drill a vertical ventilation hole has been submitted and notice has been given as required in 4 VAC 25-101-20, all interested persons who are owners, lessees, or operators of any coal seams located above the seam from which methane gas is to be removed shall furnish information to the Division of Mines regarding the elevations and thicknesses of the seams, if known.~~

~~B. The chief shall, prior to the drilling of the hole, decide which seams will require protection by use of casing as described in 4 VAC 25-101-100.~~

~~4 VAC 25-101-220. Plugging of Vertical Ventilation Holes.~~

~~A. Permit requirements; variances.~~

1. ~~Plugging operations shall not commence until a detailed plugging plan has been submitted to and approved by the director. A permit modification is required if the well was not previously permitted for plugging.~~

2. ~~Any person may file an application with the director to replug a previously plugged well in any manner permissible under provisions of this section to facilitate the safe mining-through of the well at a later date. The application shall be treated in all respects like any other application for a permit under § 45.1-361.29 of the Code of Virginia.~~

3. ~~The director may, upon application by the permittee, approve a variance to the prescribed plugging methods for the following reasons if it is determined that the alternate plan meets the requirements of the Act:~~

a. ~~The coal owner or operator requests a special plugging program to facilitate mine safety, mining through the well, or to obtain approval from another governmental agency for the safe mining-through of a well. The application for a variance must include documentation of the request from the coal owner or operator.~~

b. ~~The permittee has obtained written authorization from the coal owner or operator for alternate plugging of the coal-bearing section. The application for a~~

variance must include documentation of approval by the coal owner or operator.

c. Downhole conditions such as junk in the hole, a stuck or collapsed casing, caving or other adverse conditions which would prevent proper execution of the prescribed plugging methods.

d. A permittee presents an alternate plugging plan which may differ in method from that prescribed herein, but which will achieve the desired result.

B. Plugging in open hole. When a well or section of a well without casing is to be plugged or plugged back, it shall be sealed and filled as prescribed in this section.

1. At a point approximately 20 feet above each oil, gas or water-bearing stratum in open hole, a plug shall be placed so as to completely seal the wellbore. Whenever two or more gas or oil stratum are not widely separated, they may be treated as a single stratum and plugged accordingly. Cement plugs shall be at least 100 feet in length. At least 20 feet of cement shall be placed on top of open hole bridge plugs.

2. At each coal seam, a cement plug shall be placed from not less than 50 feet below the base of the coal to not less than 50 feet above the top of the coal. Whenever two or more coal seams are not widely separated, they may be treated as a single seam and plugged accordingly. This subsection applies only to coal seams which occur at a

depth compatible with mining. Coal-bearing sections at greater depths may be plugged in accordance with subdivision B1 of this section.

3. If a source of groundwater capable of having a beneficial use is exposed in open hole below surface (water-protection) casing, a cement plug at least 100 feet in length shall be placed below the base of the lowest such groundwater zone.

4. A cement plug of a minimum length of 100 feet shall be placed across the shoe of the surface (water-protection) casing. The plug shall be placed so as to have approximately equal lengths in open hole and inside casing. If the well is without surface casing, a continuous cement plug shall be placed from at least 50 feet below the base of the lowest known aquifer or 300 feet depth, whichever is deeper, to the surface.

5. All intervals below and between plugs shall be filled with drilling mud, bentonite gel, or other appropriately weighted materials approved by the director.

C. Plugging in cased hole. When a cased hole or section of a cased hole is to be plugged or plugged back, it shall be sealed and filled as prescribed in this section.

1. All perforated intervals shall be either squeeze-cemented or otherwise isolated from the wellbore by suitable plugs placed across or immediately above the perforated interval. Cement plugs placed across perforations shall extend to at least 50 feet above the top perforations. A cement plug shall be placed to at least 50 feet above squeezed

~~perforations. Cement plugs placed entirely above perforations shall be at least 100 feet in length. At least 20 feet of cement shall be placed on top of bridge plugs, cement retainers, or other tools left in the hole.~~

~~2. At each coal seam which is behind a properly installed and cemented coal-protection casing, a cement plug shall be placed from not less than 50 feet below the base of the coal to not less than 50 feet above the top of the coal. Whenever two or more coal seams are not widely separated, they may be treated as a single seam and plugged accordingly.~~

~~3. If casing is not to be pulled, and there is uncemented annulus behind the pipe, plugging shall be as follows:~~

~~a. Each oil, gas or water-bearing stratum present behind the pipe in an uncemented annulus must be isolated by perforating the casing at each zone and squeezing cement up into the zone, or circulating cement up the annulus such that a cement fill-up of not less than 100 feet is achieved. When squeezing or circulating the annulus, a cement plug of at least 50 feet shall be placed inside the casing above the perforations.~~

~~b. If the well penetrates a minable coal-bearing section, and no coal-protection casing was used, and if surface (water-protection) casing is either absent or not properly placed and cemented to surface, the production casing~~

shall be converted to a coal-protection string by perforating at least 50 feet below the base of the lowest coal stratum, and circulating cement in the annulus from that point to the surface.

c. _____ At each coal seam in a minable coal-bearing section which is protected by a properly installed and cemented coal-protection string, a cement plug shall be placed in casing from not less than 50 feet below the base of the coal to not less than 50 feet above the top of the coal. If there is uncemented annulus between the inner casing and the coal-protection string, the casing shall be perforated to allow cement to be circulated over the prescribed interval, and a plug of equal length shall be placed inside the inner casing.

d. _____ If a fresh water aquifer is exposed to the wellbore in an uncemented annulus, it shall be isolated by perforating the casing at least 100 feet below the aquifer and squeezing cement into the annulus or circulating it up the annulus so that a fill-up of not less than 100 feet is achieved. When squeezing or circulating cement, a cement plug of at least 100 feet shall be placed inside the casing above the perforation.

e. _____ At a point no less than 50 feet below the shoe of surface (water-protection) string, the casing shall be perforated and cement circulated up the annulus to a minimum fill-up of 100 feet. A plug of equal length shall be placed inside the casing.

f. From a point not less than 50 feet below surface, a cement plug shall be installed which reaches the surface. If any uncemented annuli are present at the surface, the voids should be filled and sealed to the greatest extent possible by introducing cement from the surface.

g. All intervals below and between plugs shall be filled with drilling mud, bentonite gel, or other appropriately weighted materials approved by the director.

4. If casing is to be pulled, plugging shall be as follows:

a. All perforated intervals shall be isolated as described in subdivision C.1 of this section.

b. Casing stubs shall be isolated by placing a plug across or above the cut-off point. Cement plugs shall be at least 100 feet in length and shall be placed so as to have approximately equal lengths inside and above the remnant casing. Permanent bridge plugs may be placed above the stub and shall be capped by at least 20 feet of cement.

D. Plugging operations involving uncemented water-protection casing or coal-protection casing.

1. If the annulus of the largest casing present across a minable coal-bearing section is not cemented across that section, then one of the two procedures listed below must be followed:

a. The casing must be perforated at least 50 feet below the lowest coal seam, and cement circulated in the annulus to the surface (if water-protection casing is absent or not properly placed and cemented to surface), or to at least 100 feet above the highest coal (if the casing is to be partially pulled to facilitate plugging operations in the fresh water zone). Plugging shall proceed according to cased hole requirements; or

b. The casing shall be pulled from the well, and plugging shall proceed according to open hole requirements.

2. If the annulus of the largest casing present across the fresh-water-bearing section is not cemented across that section, then one of the two procedures listed below must be followed:

a. The casing shall be perforated below the lowest known fresh-water zone or at a minimum depth of 300 feet. Cement shall be circulated in the annulus to the surface. Plugging shall proceed according to cased hole requirements; or

b. The casing shall be pulled from the well, and a continuous cement plug shall be placed from below the base of the lowest known fresh-water aquifer exposed to the wellbore, or 300-foot depth, whichever is deeper, to the surface.

E. Unfillable cavities. When an unfillable cavity such as a cavern, mine void, blast stimulation zone or gob completion is encountered, the section shall be plugged as follows:

1. If the stratum with the unfillable cavities is the lowest gas or oil stratum in the well, a plug shall be placed at the nearest suitable point not less than 20 feet above the stratum. Cement plugs shall be at least 100 feet long, and at least 20 feet of cement shall be placed on top of bridge plugs.

2. If the stratum with unfillable cavities is above the lowest gas or oil stratum, a plug shall be placed below the stratum and shall extend to within 20 feet of its base. A plug shall also be placed above the stratum as described in subdivision E.1 of this section.

4 VAC 25-101-230. Annual Report; Abandonment.

Annually by July 1st, the vertical ventilation hole operator shall submit to the chief on a form prescribed by the chief a status report of all permitted holes. When it is determined by the chief that a

vertical ventilation hole is no longer used for the purpose for which it was permitted, the hole shall be plugged and abandoned according to methods and procedures in accordance with 4 VAC 25-101-220 unless otherwise approved by the chief.