**Section 45.1-161.64.A.** **Maps of mines required to be made;**

**Surface Gas wells and pipelines:**

It is essential that accurate locations of gas wells be shown on the required map. Gas transmission lines should be located on the map by general reference to roads etc or surveyed in. The inspector should review and evaluate all required plans pertaining to gas wells and pipeline safety adequacy at each surface mine and at the surface areas of underground mines. The inspector should:

- Assure the map required by 45.1-161.64.A. is available for review, with emphasis on the purpose of the map. DMLR permit map will be sufficient. If the mine may intersect old works, a map must be submitted to the Department.
- Assure that notice to the Chief was submitted prior to mining taking place within 500 feet of a gas well, in accordance with 4 VAC 25-101-150.
- Assure the mine has the approval from the Chief to mine within 200 feet of gas a well or pipeline, in accordance with 4 VAC 25-101-160.A. The inspector should pay special attention to those wells and pipelines on upper and lower benches that are not visible from the work area.
- Review the adequacy of approved plans to mine within 200 feet of gas wells and pipelines, in accordance with 4 VAC 25-101-160.B. Any concerns related to the approved plan adequacy should be addressed promptly with the inspector's supervisor and/or Mine Safety Engineer.
- Review accuracy of the well numbers and location of pipelines as specified in the approved plan, assuring that all wells and pipelines are identified in the approved plan.
- Assure pipelines are conspicuously marked with emphasis given to areas of poor visibility, foggy areas and darkness, in accordance with 45.1-161.256.E.
- Assure pre-shift examinations are conducted for pipelines when mining within 500 feet. If mining conditions prohibit the lines from being physically examined, then the operator should submit a plan to the Chief for approval, in accordance with 45.1-161.256.E.
- Review record of pre-shift examinations required when mining within 500 feet of gas wells and transmissions lines.

**Recommendations concerning the plans for mining within 200 feet of gas wells and pipelines at surface mine sites:**

1. The plan should address how to protect the gas well against damage during mining and how to reduce the exposure to persons involved while installing or removing any protection over gas well heads.
2. The well "head" and "Christmas tree" piping should be adequately protected by the installation of a substantial cover to prevent damage from "fly rock" or other materials.
3. The cover that is placed over the well "head" or piping must be lined with a non-sparking material to minimize the danger of creating a spark that could ignite an explosive or flammable mixture.
4. The cover should be of adequate diameter to provide ample clearance when being installed or removed to lessen the risk of bumping or striking the gas well or piping.
5. The cover should be provided with vents that will provide adequate ventilation to prevent the accumulation of an explosive or flammable mixture under the covering device.
6. The cover should be provided with substantial "eyelets" with at least a "four point" hookup for the purpose of connecting appropriate slings and clevis to allow installation or removal without slipping or dropping, and to minimize movement that could cause the cover to strike, bump or damage the well "head" or piping.
7. A substantial dirt berm should also be constructed around the cover to a height equal to or greater than the height of the cover when in place over the gas well. The diameter of the berm should be larger than the cover to allow adequate and safe clearance between the equipment used to construct the berm and the covered gas well and piping.
8. Gas detection equipment should be available, and a certified person should take proper gas examinations before the installation and removal of the cover to determine if gas leaks or accumulations of gas are present.
9. A certified mine foreman should supervise the installation and removal of these protective devices at the gas well.
10. Only the minimum number of persons required to safely install or remove the cover should be near the gas well while the cover and berm are being constructed or removed to minimize unnecessary exposure to persons.
11. The equipment used to lift the cover from the gas well during the installation or removal should be capable of lifting the cover and equipped with a device such as a hook or "eyelet" with a proper lifting clevis or connection that will prevent the load from shifting while being lifted.
12. No smoking or open flames will be permitted near the gas well while performing these procedures.
13. In the event it becomes necessary to leave the well covered for an extended amount of time, a sign identifying the gas well will be placed in near proximity to the well location.
14. Gas pipelines and/or wells will be marked with flagging or florescent paint at a height of at least 6 feet off the ground. These markings will be placed every 25 to

30 feet apart. At times when conditions create poor visibility, a strobe light placed at a height of at least 6 feet will be located between the equipment work area and the gas well and/or pipeline. If conditions will allow a 4-foot high earthen berm will be constructed between the equipment work area and no closer than 10 feet of the pipeline. The pipeline may be protected by covering it with a larger diameter casing and/or an appropriate thickness of dirt or spoil material. Pipelines may also be temporarily disconnected and purged before conducting mining operations within 200 feet.

15. In the event employees are required to operate equipment in near proximity to a gas well and/or pipeline, the employees will be required to dismount the equipment and physically familiarize themselves with the work area.
16. All employees should be trained in the potential hazards associated with working around gas wells and pipelines.
17. All employees should be trained on proper emergency response procedures should a gas well or pipeline be accidentally damaged or ruptured.

NOTE: The above recommendations are to be considered and applied where appropriate in part or as a whole.