

ANNEX A

Title 25. Environmental Protection

Part. I. Department of Environmental Protection

Subpart C. Protection of Natural Resources

Article I. Land Resources

CHAPTER 78. OIL AND GAS WELLS

Authority

The provisions of this Chapter 78 issued under [**the Oil and Gas Act (58 P. S. §§ 601.101—601.605)**] **58 Pa.C.S. §§ 3201—3274 (the 2012 Oil and Gas Act)**; the Coal and Gas Resource Coordination Act (58 P. S. §§ 501—518); the Oil and Gas Conservation Law (58 P. S. §§ 401—419); Article XIX-A of The Administrative Code of 1929 (71 P. S. §§ 510-1—510-108); The Clean Streams Law (35 P. S. §§ 691.1—691.1001); and the Solid Waste Management Act (35 P. S. §§ 6018.101—6018.1003); **the Dam Safety and Encroachments Act (32 P.S. §§ 693.1—693.27)**; [amended under section [604] of the Oil and Gas Act; sections 5(b)(1), 304 and 402(a) of The Clean Streams Law (35 P. S. §§ 691.5(b)(1), 691.304(a) and 691.402(a)); section 105(a) of the Solid Waste Management Act (35 P. S. § 6018.105(a)); **the Pennsylvania Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6062.101-6026.208)**] and sections 1901-A, 1917-A, 1920-A, 30 and 31 of The Administrative Code of 1929 (71 P. S. §§ 510-1, 510-17, 510-20, 510-103 and 510-104), unless otherwise noted.]

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§ 78.1. Definitions.

[(a) The words and terms defined in section 103 of the act (58 P. S. § 601.103), section 2 of the Coal and Gas Resource Coordination Act (58 P. S. § 502), section 2 of the Oil and Gas Conservation Law (58 P. S. § 402), section 103 of the Solid Waste Management Act (35 P. S. § 6018.103) and section 1 of The Clean Stream Law (35 P. S. § 691.1), have the meanings set forth in those statutes when the terms are used in this chapter.]

[(b) (a) The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

Act—[The Oil and Gas Act (58 P. S. §§ 601.101—601.605).] **58 Pa.C.S. §§ 3201-3274 (2012 Oil and Gas Act)**.

Act 2—The Pennsylvania Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6062.101-6026.208).

Anti-icing—Brine applied directly to a paved road prior to a precipitation event.

Approximate original conditions—Reclamation of the land affected to preconstruction contours so that it closely resembles the general surface configuration of the land prior to construction activities and blends into and complements the drainage pattern of the surrounding terrain, and can support the original land uses to the extent practicable.

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Body of water—This term shall have the same meaning as defined in 25 Pa. Code § 105.1.

Borrow pit—An area of earth disturbance activity where rock, stone, gravel, sand, soil or similar material is excavated for construction of well sites, access roads or facilities that are related to oil and gas development.

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Centralized impoundment—A facility that meets the following:

(1) a natural topographic depression, manmade excavation or diked area formed primarily of earthen materials,

(2) designed to hold fluids or semi-fluids associated with oil and gas activities, including wastewater, flowback and mine influenced water, the escape of which may result in air, water or land pollution or endanger persons or property,

(3) constructed solely for the purpose of servicing multiple well sites.

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Condensate—A low-density, high-API gravity liquid hydrocarbon phase that generally occurs in association with natural gas. For the purposes of this definition, high-API gravity is a specific gravity scale developed by the American Petroleum Institute for measuring the relative density of various petroleum liquids, expressed in degrees.

Containment system—Synthetic liners, coatings, storage structures or other materials used in conjunction with a primary container that prevent spills to the ground surface or off the well site.

Conventional formation—A formation that is not an unconventional formation.

Conventional well—A bore hole drilled or being drilled for the purpose of or to be used for the production of oil or gas from a conventional formation.

De-icing—Brine applied to a paved road after a precipitation event.

Department—The Department of Environmental Protection of the Commonwealth.

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Freeboard—The vertical distance between the surface of an impounded or contained fluid and the lowest point or opening on a lined pit edge or open top storage structure.

Freshwater impoundment—A facility that meets the following:

- (1) is not regulated pursuant to 25 Pa. Code Chapter 105.3,**
- (2) a natural topographic depression, manmade excavation or diked area formed primarily of earthen materials although lined with synthetic materials,**
- (3) designed to hold fluids, including surface water, groundwater, and other Department-approved sources,**
- (4) constructed for the purpose of servicing multiple well sites.**

* * *

Gathering Pipeline—Apipeline that transports oil, liquid hydrocarbons or natural gas from individual wells to an intrastate or interstate transmission pipeline.

* * *

[**Marcellus Shale well**—A well that when drilled or altered produces gas or is anticipated to produce gas from the Marcellus Shale geologic formation.]

Mine influenced water—Water contained in a mine pool or a surface discharge of water caused by mining activities that pollutes, or may create a threat of pollution to, waters of the Commonwealth. The term may also include surface waters that have been impaired by pollutional mine drainage as determined by the Department.

* * *

Oil and Gas Operations—The term includes the following:

- (1) well location assessment, seismic operations, well site preparation, construction, drilling, hydraulic fracturing, completion, production, operation, alteration, plugging and site restoration associated with an oil or gas well;**

(2) water withdrawals, residual waste processing, water and other fluid management and storage used exclusively for the development of oil and gas wells;

(3) construction, installation, use, maintenance and repair of:

(i) oil and gas pipelines;

(ii) natural gas compressor stations; and

(iii) natural gas processing plants or facilities performing equivalent functions; and

(4) construction, installation, use, maintenance and repair of all equipment directly associated with activities specified in paragraphs (1), (2) and (3), to the extent that the equipment is necessarily located at or immediately adjacent to a well site, impoundment area, oil and gas pipeline, natural gas compressor station or natural gas processing plant.

(5) earth disturbance associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.

Owner—A person who owns, manages, leases, controls or possesses a well or coal property. [For purposes of sections 203(a)(4) and (5) and 210 of the act (58 P. S. § § 601.203(a)(4) and (5) and 601.210), the term does not include those owners or possessors of surface real property on which the abandoned well is located who did not participate or incur costs in the drilling or extraction operation of the abandoned well and had no right of control over the drilling or extraction operation of the abandoned well.] The term does not apply to orphan wells, except where the Department determines a prior owner or operator benefited from the well as provided in section [210(a)] 3220(f) of the act (relating to plugging requirements).

* * *

PCSM plan—A post construction stormwater management plan. This term shall have the same meaning as defined in 25 Pa. Code § 102.1 (relating to definitions).

Pit—A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials designed to hold fluids, semi-fluids or solids associated with oil and gas activities, including but not limited to fresh water, wastewater, flowback, mine influenced water, drilling mud and drill cuttings, that services a single well site.

Pre-wetting—Mixing brine with antiskid material prior to roadway application.

Process or Processing—The term shall have the same meaning as “processing” as defined in the Solid Waste Management Act (35 P. S. §§ 6018.101—6018.1003).

PPC plan—A written preparedness, prevention and contingency plan.

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Public water supply—[A water system that is subject to the Pennsylvania Safe Drinking Water Act (35 P. S. §§ 721.1—721.17)] A source of water used by a water purveyor.

Regional groundwater table—**The fluctuating upper water level surface of an unconfined or confined aquifer, where the hydrostatic pressure is equal to the ambient atmospheric pressure. The term does not include the perched water table or the seasonal high water table.**

Regulated substance—**Any substance defined as a regulated substance in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Act (Act 2) (35 P.S. § 6020.103).**

[**Reportable release of brine**—**Spilling, leaking, emitting, discharging, escaping or disposing of one of the following:**

(i) **More than 5 gallons of brine within a 24-hour period on or into the ground at the well site where the total dissolved solids concentration of the brine is equal or greater than 10,000 mg/l.**

(ii) **More than 15 gallons of brine within a 24-hour period on or into the ground at the well site where the total dissolved solids concentration of the brine is less than 10,000 mg/l.]**

* * *

Stormwater—**Runoff from precipitation, snowmelt, surface runoff and drainage.**

Temporary pipelines—**Pipelines used for oil and gas operations that meet the following:**

(1) transport materials used for the development of a well site, the drilling and/or hydraulic fracture stimulation of a well and the residual waste generated as a result of those activities;

(2) lose its functionality after the well site it serviced has been restored.

Watercourse—**This term shall have the same meaning as defined in 25 Pa. Code § 105.1.**

WMP—Water Management Plan—**A plan associated with drilling or completing a well in an unconventional formation that demonstrates that the withdrawal and use of water sources protects those sources, as required by law, and protects public health, safety and welfare.**

* * *

Water purveyor—[The owner or operator of a public water supply.]**Any of the following:**

(1) The owner or operator of a public water system as defined in section 3 of the act of May 1, 1984 (P.L.206, No.43), known as the Pennsylvania Safe Drinking Water Act.

(2) Any person subject to the act of June 24, 1939 (P.L.842, No.365), referred to as the Water Rights Law.

Water source –

(1) Any of the following:

- (i) Water of this Commonwealth.**
- (ii) A source of water supply used by a water purveyor.**
- (iii) Mine pools and discharges.**
- (iv) Any other waters that are used for drilling or completing a well in an unconventional formation.**

(2) The term does not include flowback or production waters or other fluids:

- (i) Which are used for drilling or completing a well in an unconventional formation; and**
- (ii) Which do not discharge into waters of this Commonwealth.**

Water supply—A supply of water for human consumption or use, or for agricultural, commercial, industrial or other legitimate beneficial uses.

Well operator or operator—**Any of the following:**

(1) The person designated as [the well operator or] operator **or well operator** on the permit application or well registration.

(2) If a permit or registration was not issued, [the term means] a person who locates, drills, operates, alters or plugs a well or reconditions a well with the purpose of production [therefrom] **from the well.**

(3) [In cases where] **if** a well is used in connection with the underground storage of gas, [the term also means] a storage operator.

Well site—The area occupied by the equipment or facilities necessary for or incidental to the drilling, production or plugging of a well.

Wetland—**This term shall have the same meaning as defined in 25 Pa. Code § 105.1.**

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§ 78.2. Scope.

[This chapter specifies procedures and rules for the drilling, alteration, operation and plugging of oil and gas wells, and for the operation of a coal mine in the vicinity of an oil or gas well.]

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§ 78.13. Permit transfers.

(a) No transfer, assignment or sale of rights granted under a permit or registration may be made without prior written approval of the Department. Permit transfers may be denied for the reasons set forth in section **[201(e)(4) and (5)] 3211(e.1) (4) and (5)** of the act **[(58 P. S. § 601.201(e)(4) and (5))] (58 Pa.C.S. § 3211(e.1)(4), (e.1)(5))**.

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§ 78.15. Application requirements.

(a) An application for a well permit shall be submitted [on forms furnished by the] **electronically to the** Department **through its website** and contain the information required by the Department to evaluate the application.

(b) The permit application will not be considered complete until the applicant submits a complete and accurate plat, an approvable bond or other means of complying with section **[215] 3225** of the act **[(58 P. S. § 601.215)] (58 Pa.C.S. § 3225)**, the fee in compliance with § 78.19 (relating to permit application fee schedule), proof of **the** notifications **required under section 3211(b.1) of the act (58 Pa.C.S. § 3211(b.1))**, necessary requests for variance or waivers or other documents required to be furnished by law or the Department, **and the information contained in subsection (c)–(e)**. The person named in the permit shall be the same person named in the bond or other security.

(c) The applicant shall submit information identifying parent and subsidiary business entities operating in Pennsylvania with the first application submitted after [effective date] and provide any changes to its business relationships with each subsequent application.

(d) The applicant shall provide proof of consultation with the Pennsylvania Natural Heritage Program (PNHP) regarding the presence of a State or Federal threatened or endangered species where the proposed well site or access road is located. If the Department determines, based on PNHP data or other sources, that the proposed well site or access road may adversely impact the species or critical habitat, the applicant shall consult with the Department to avoid or prevent the impact. If the impact cannot be avoided or prevented, the applicant shall demonstrate how the impacts will be minimized in accordance with State and Federal laws pertaining to the protection of threatened or endangered flora and fauna and their habitat.

(e) If an applicant seeks to locate a well on a well site where the applicant has obtained a permit under 25 Pa.Code § 102.5 (relating to permit requirements) and complied with 25 Pa.Code § 102.6(a)(2), the applicant is deemed to comply with subsection (d).

(f) An applicant proposing to drill a well at a location listed in paragraph (1) shall notify the applicable resource agency, if any, in accordance with paragraph (2) and provide the information in paragraph (3) to the Department in the well permit application.

(1) This subsection applies if the proposed well is located:

(i) in or within 200 feet of a publicly owned park, forest, game land or wildlife area.

(ii) in or within the corridor of a state or national scenic river.

(iii) within 200 feet of a national natural landmark.

(iv) in a location that will impact other critical communities. For the purposes of this section other critical communities means special concern species.

(v) within 200 feet of a historical or archeological site listed on the Federal or State list of historic places.

(vi) in the case of an unconventional well, within 1000 feet of a water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor.

(2) The applicant shall notify the public resource agency responsible for managing the public resource identified in paragraph (1), if any. The applicant shall forward by certified mail a copy of the plat identifying the proposed location of the well, well site and access road and information in paragraph (3) to the public resource agency at least 15 days prior to submitting its well permit application to the Department. The applicant shall submit proof of notification with the well permit application. From the date of notification, the public resource agency shall have 15 days to provide written comments to the Department and the applicant on the functions and uses of the public resource and the measures, if any, that the public resource agency recommends the Department consider to avoid or minimize probable harmful impacts to the public resource where the well, well site and access road is located. The applicant may provide a response to the Department to any such comments.

(3) The applicant shall include the following information in the well permit application on forms provided by the Department:

(i) an identification of the public resource.

(ii) a description of the functions and uses of the public resource;

(iii) a description of the measures proposed to be taken to avoid or mitigate impacts, if any.

(4) The information required in paragraph 3 shall be limited to the discrete area of the public resource that may be affected by the well, well site and access road.

(g) If the proposed well, well site or access road poses a probable harmful impact to a public resource, the Department may include conditions in the well permit to avoid or mitigate those impacts to the public resource's current functions and uses. The Department shall consider the impact of any potential permit condition on the applicant's ability to exercise its property rights with regard to the development of oil and gas resources and the degree to which any potential condition may impact or impede the optimal development of the oil and gas resources. The issuance of a permit containing conditions imposed by the Department pursuant to this subsection shall be an action that is appealable to the Environmental Hearing Board. The Department shall have the burden of proving that the conditions were necessary to protect against a probable harmful impact of the public resource.

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§ 78.17. Permit renewal.

An operator may request a 1-year renewal of a well permit. The request shall be accompanied by a permit fee, the surcharge required in section [601] **3271** of the act [(58 P. S. § 601.601)], and an affidavit affirming that the information on the original application is still accurate and complete, that the well location restrictions are still met and that the **entities required to be notified pursuant to section 3211(b)(2) of the act [surface owners, coal owners and operators, gas storage operators, where the permit renewal is for a proposed well location within an underground gas storage reservoir or the reservoir protective area, and water supply owners within 1,000 feet,]** have been notified of this request for renewal. The request shall be received by the Department at least 15 calendar days prior to the expiration of the original permit.

§ 78.18. Disposal and enhanced recovery well permits.

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(d) All containment practices and on-site processing associated with disposal and enhanced recovery wells shall comply with the requirements of this chapter.

§ 78.19. Permit application fee schedule.

(a) An applicant shall pay a permit application fee according to the following schedule:

Unconventional

<i>Vertical Wells</i>		<i>Nonvertical Wells</i>		<i>[Marcellus Shale] Wells</i>	
Total Well Bore Length in Feet	Total Fee	Total Well Bore Length in Feet	Total Fee	Total Well Bore Length in Feet	Total Fee

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0 to 2,000	\$250	0 to 1,500	\$900	0 to 1,500	\$900
2,001 to 2,500	\$300	1,501 to 2,000	\$1,000	1,501 to 2,000	\$1,000
2,501 to 3,000	\$350	2,001 to 2,500	\$1,100	2,001 to 2,500	\$1,100
3,001 to 3,500	\$400	2,501 to 3,000	\$1,200	2,501 to 3,000	\$1,200
3,501 to 4,000	\$450	3,001 to 3,500	\$1,300	3,001 to 3,500	\$1,300
4,001 to 4,500	\$500	3,501 to 4,000	\$1,400	3,501 to 4,000	\$1,400
4,501 to 5,000	\$550	4,001 to 4,500	\$1,500	4,001 to 4,500	\$1,500
5,001 to 5,500	\$650	4,501 to 5,000	\$1,600	4,501 to 5,000	\$1,600
5,501 to 6,000	\$750	5,001 to 5,500	\$1,700	5,001 to 5,500	\$1,700
6,001 to 6,500	\$850	5,501 to 6,000	\$1,800	5,501 to 6,000	\$1,800
6,501 to 7,000	\$950	6,001 to 6,500	\$1,900	6,001 to 6,500	\$1,900
7,001 to 7,500	\$1,050	6,501 to 7,000	\$2,000	6,501 to 7,000	\$2,000
7,501 to 8,000	\$1,150	7,001 to 7,500	\$2,100	7,001 to 7,500	\$2,100
8,001 to 8,500	\$1,250	7,501 to 8,000	\$2,200	7,501 to 8,000	\$2,200
8,501 to 9,000	\$1,350	8,001 to 8,500	\$2,300	8,001 to 8,500	\$2,300
9,001 to 9,500	\$1,450	8,501 to 9,000	\$2,400	8,501 to 9,000	\$2,400
9,501 to 10,000	\$1,550	9,001 to 9,500	\$2,500	9,001 to 9,500	\$2,500
10,001 to 10,500	\$1,650	9,501 to 10,000	\$2,600	9,501 to 10,000	\$2,600
10,501 to 11,000	\$1,750	10,001 to 10,500	\$2,700	10,001 to 10,500	\$2,700
11,001 to 11,500	\$1,850	10,501 to 11,000	\$2,800	10,501 to 11,000	\$2,800
11,501 to 12,000	\$1,950	11,001 to 11,500	\$2,900	11,001 to 11,500	\$2,900
		11,501 to 12,000	\$3,000	11,501 to 12,000	\$3,000

(b) An applicant for a vertical well exceeding 12,000 feet in total well bore length shall pay a permit application fee of \$1,950 + \$100 for every 500 feet the well bore extends over 12,000 feet. Fees shall be rounded to the nearest 500-foot interval **under this subsection**.

(c) An applicant for a nonvertical well or **[Marcellus Shale]Unconventional** well exceeding 12,000 feet in total well bore length shall pay a permit application fee of \$3,000 + \$100 for every 500 feet the well bore extends over 12,000 feet. Fees shall be rounded to the nearest 500-foot interval **under this subsection**.

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§ 78.21. Opportunity for objections and conferences; surface landowners.

(a) The surface landowner of the tract on which the proposed well is located may object to the well location based on the assertion that the well location violates section **[205] 3215** of the act **[(58 P. S. § 601.205)] (58 Pa.C.S. § 3215)** or on the basis that the information in the application is untrue in a material respect, and request a conference under section **[501] 3251** of the act **[(58 P. S. § 601.501)] (58 Pa.C.S. § 3251)**.

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§ 78.25. Conferences—general.

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(c) The Department will attempt to schedule the conference as late as possible in the 10-day period if the well is subject to the Coal and Gas Resource Coordination Act (58 P. S. § § 501—518). The Department will not schedule a conference under section [202] 3212 of the act [(58 P. S. § 601.202)] (58 Pa.C.S. § 3212) if it receives written notice that the gas well operator or the coal mine owner or operator has made a written request to convene a panel to resolve objections to the location of a gas well over which a panel has jurisdiction in accordance with § § 78.29—78.33.

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§ 78.28. Final action if objections do not proceed to panel.

If the panel does not have jurisdiction [of] over the objections, under § 78.30 (relating to jurisdiction of panel), or if the panel has jurisdiction but the parties choose not to proceed to a panel, the Department may proceed to issue or deny the permit, under sections [201] 3211 and [202] 3212 of the act [(58 P. S. § § 601.201 and 601.202)] (58 Pa.C.S. § 3211 and 3212). No permit will be issued for a well at a location that in the opinion of the Department would endanger the safety of persons working in a coal mine.

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§ 78.33. Effect of panel on time for permit issuance.

The period of time during which the objections are being considered by a full panel [is not] will not be included in the 45-day period for the issuance or denial of a permit under section [201(e)] 3211(e) of the act [(58 P. S. § 601.201(e))] (58 Pa.C.S. § 3211(e)).

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**Subchapter C. ENVIRONMENTAL PROTECTION
PERFORMANCE STANDARDS**

Sec.

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78.70 Road spreading of brine for dust control and road stabilization.

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§ 78.51. Protection of water supplies.

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(b) A landowner, water purveyor or affected person suffering pollution or diminution of a water supply as a result of **well site construction, well** drilling, altering or operating **[an oil or gas well] activities** may so notify the Department and request that an investigation be conducted. **Such notices should be made to the appropriate Department regional office or by calling the Department's state wide toll free number 1-800-541-2050.** The notice and request must include the following:

- (1) The name, address and telephone number of the person requesting the investigation.
- (2) The type, location and use of the water supply.
- (3) Available background quality and quantity data regarding the water supply, if known.
- (4) Well depth, pump setting and water level, if known.
- (5) A description of the pollution or diminution.

(c) Within 10 days of the receipt of the investigation request, the Department will investigate the claim and will, within 45 days of receipt of the request, make a determination. If the Department finds that pollution or diminution was caused by the **well site construction**, drilling, alteration or operation activities or if it presumes the well operator responsible for polluting the water supply of the landowner or water purveyor under section [208(c)] **3218(c)** of the act [(58 P. S. § 601.208(c))] **(58 Pa.C.S. § 3218(c))**, the Department will issue orders to the well operator necessary to assure compliance with this section. **The presumption established by 58 Pa.C.S. § 3218(c) is not applicable to pollution resulting from well site construction.**

(d) A restored or replaced water supply includes any well, spring, public water system or other water supply approved by the Department, which meeting the criteria for adequacy as follows:

* * *

(2) *Quality.* The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P. S. § § 721.1—721.17), or is comparable to the quality of the water supply before it was affected by the operator if that water supply **exceeded those [did not meet these]** standards.

* * *

(g) If the well operator and the water user are unable to reach agreement on the means for restoring or replacing the water supply, the Department or either party may request a conference under section [501] **3251** of the act [(58 P. S. § 601.501)] **(58 Pa.C.S. § 3251)**.

(h) A well operator who receives notice from a landowner, water purveyor or affected person that a water supply has been affected by pollution or diminution, shall report receipt of notice from an affected person to the Department within 24 hours of receiving the notice. **Notice shall be provided electronically through the Department's website.**

§ 78.52. Predrilling or prealteration survey.

(a) A well operator who wishes to preserve its defense under sections [208(d)(1)] **3218(d)(1)(i) and 3218(d)(2)(i)** of the act [(58 P. S. § 601.208 (d)(1))] **(58 Pa.C.S. §§ 3218(d)(1)(i) and 3218(d)(2)(i))** that the pollution of a water supply existed prior to the drilling or alteration of the well shall conduct a predrilling or prealteration survey in accordance with this section.

(b) A person who wishes to document the quality of a water supply to support a future claim that the drilling or alteration of the well affected the water supply by pollution may conduct a predrilling or prealteration survey in accordance with this section.

(c) The survey shall be conducted by an **[independent certified] Pennsylvania accredited** laboratory. A person independent of the well owner or well operator, other than an employee of the **[certified] accredited** laboratory, may collect the sample and document the condition of the water supply, if the **[certified] accredited** laboratory affirms that the sampling and

documentation is performed in accordance with the laboratory's approved sample collection, preservation and handling procedure and chain of custody.

(d) An operator electing to preserve its defenses under sections [208(d)(1)] 3218(d)(1)(i) and 3218(d)(2)(i) of the act [(58 P. S. § 601.208 (d)(1))] (58 Pa.C.S. §§ 3218(d)(1)(i) and 3218 (d)(2)(i)) shall provide a copy of **all** the **sample** results **taken as part** of the survey to the Department **by electronic means in a format determined by the Department**, and **to** the landowner or water purveyor within 10-business days of **[receipt of the results] completion of the survey**. **[Test]Survey** results not received by the Department within 10 business days may not be used to preserve the operator's defenses under sections [208(d)(1)] 3218(d)(1)(i) and 3218(d)(2)(i) of the act [(58 P. S. § 601.208 (d)(1))] (58 Pa.C.S. §§ 3218(d)(1)(i) and 3218 (d)(2)(i)).

(e) The report describing the results of the survey must contain the following information:

- (1) The location of the water supply and the name of the surface landowner or water purveyor.
- (2) The date of the survey, and the name of the **independent** certified laboratory and the person who conducted the survey.
- (3) A description of where and how the samples [was] were collected.
- (4) A description of the type and age, if known, of the water supply, and treatment, if any.
- (5) The name of the well operator, name and number of well to be drilled and permit number if known.
- (6) The results of the laboratory analysis.

(f) A well operator who wishes to preserve the defense under sections [208(d)(1)] 3218(d)(1)(i) and 3218(d)(2)(i) of the act [(58 P. S. § 601.208 (d)(1))] (58 Pa.C.S. §§ 3218(d)(1)(i) and 3218 (d)(2)(i)) that the landowner or water purveyor refused the operator access to conduct a survey shall confirm the desire to conduct this survey and that access was refused by issuing notice to the person by certified mail, or otherwise document that access was refused. The notice must include the following:

- (1) The operator's intention to drill or alter a well.
- (2) The desire to conduct a predrilling or prealteration survey.
- (3) The name of the person who requested and was refused access to conduct the survey and the date of the request and refusal.
- (4) The name and address of the well operator and the address of the Department, to which the water purveyor or landowner may respond.

(g) The operator of an unconventional well must provide written notice to the landowner or water purveyor indicating that the presumption established under section 3218(c) of the act (58 Pa.C.S. § 3218(c)) may be void if the landowner or water purveyor refused to allow the operator access to conduct a predrilling or prealteration survey. Proof of written notice to the landowner or water purveyor shall be provided to the Department for the operator to retain the protections under sections 3218(d)(1)(ii) and 3218(d)(2)(ii) of the act (58 Pa.C.S. §§ 3218(d)(1)(ii) and 3218(d)(2)(ii)). Proof of written notice shall be presumed if provided in accordance with section 3212(a) of the act (58 Pa.C.S. § 3212(a)).

§ 78.52a. Abandoned and orphaned well identification.

(a) Prior to hydraulically fracturing the well, the operator of a gas well or horizontal oil well shall identify the location of orphaned or abandoned wells within 1,000 feet measured horizontally from the vertical well bore and 1000 feet measured from the surface above the entire length of a horizontal well bore in accordance with subsection (b). Prior to hydraulically fracturing the well, the operator of a vertical oil well shall identify the location of orphaned or abandoned wells within 500 feet of the well bore in accordance with subsection (b). For the purposes of this section a gas well is a well which is producing or capable of producing marketable quantities of gas or of gas and oil with a gas-oil ratio of more than 100 MCF per bbl. of oil.

(b) Identification shall be accomplished by conducting the following:

- (1) A review the Department's orphaned and abandoned well database;**
- (2) A review of applicable farm line maps, where accessible; and**
- (3) Submitting a questionnaire on forms provided by the Department to landowners whose property is within the area identified in subsection (a) regarding the precise location of orphaned and abandoned wells on their property.**

(c) Prior to hydraulically fracturing a well, the operator shall submit a plat to the Department showing the location and GPS coordinates of orphaned and abandoned wells identified pursuant to subsection (b) and proof of notification that the operators submitted questionnaires pursuant to subsection (b)(3).

§ 78.53. Erosion and sediment control.

[During and after earthmoving or soil disturbing activities, including the activities related to siting, drilling, completing, producing, servicing and plugging the well, constructing, utilizing and restoring the access road and restoring the site, the operator shall design, implement and maintain best management practices in accordance with]Any person proposing or conducting earth disturbance activities associated with oil and gas activities shall comply with the requirements of 25 Pa. Code Chapter 102 (relating to erosion and sediment control). [and an erosion and sediment control plan prepared under that chapter.] Best management practices for erosion and sediment control for oil and gas well [operations]

activities are listed in the [*Oil And Gas Operators Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Guidance No. 550-0300-001 (April 1997), as amended and updated*] **Erosion and Sediment Pollution Control Program Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008, as amended and updated, and the Oil And Gas Operators Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Guidance No. 550-0300-001, as amended and updated.**

..*

§ 78.55. [Control and disposal plan.] Planning and emergency response.

(a) **[Prior to generation of waste, the well operator] Persons conducting oil and gas operations** shall prepare and implement **site specific PPC plans according to the requirements in 25 Pa.Code § 91.34 and 102.5(l).**

(b) In addition to the requirements in subsection (a), the well operator shall prepare and develop a site specific PPC [a] plan [for the control and disposal of fluids, residual waste and drill cuttings,] prior to storing, using, generating or transporting regulated substances to, on or from a well site [including tophole water, brines, drilling fluids, additives, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids and drill cuttings] from the drilling, alteration, production, plugging or other activity associated with oil and gas wells.

[(b)](c) The unconventional well operator's PPC plan must describe the containment practices to be utilized and the area of the well site where containment systems will be employed as required in section 78.64a. The PPC plan shall include a description of the equipment to be kept onsite during drilling and hydraulic fracturing operations that can be utilized to prevent a spill from leaving the well site.

(d) The well operator's PPC plan must also identify the control and disposal methods and practices utilized by the well operator and be consistent with the act, The Clean Streams Law (35 P. S. §§ 691.1—691.1001), the Solid Waste Management Act (35 P. S. §§ 6018.101—6018.1003) and §§ 78.54, 78.56—78.58 and 78.60—78.63. The PPC plan must also include a pressure barrier policy developed by the operator that identifies barriers to be used during identified operations.

[(c)](d.1) The well operator shall revise the PPC plan prior to implementing a change to the practices identified in the PPC plan.

[(d)](d.2) A copy of the well operator's PPC plan shall be provided to the Department, the Pennsylvania Fish and Boat Commission or the landowner upon request and shall be available at the [well] site during drilling and completion activities for review.

(d.3) With the exception of the pressure barrier policy required in subsection (d), a PPC plan developed in conformance with the Guidelines for the Development and Implementation of Environmental Emergency Response Plans, Commonwealth of Pennsylvania, Department

of Environmental Protection, No. 400-2200-001, as amended and updated, shall be deemed to meet the requirements of this section.

* * *

§ 78.56. [Pits and tanks for t]Temporary storage.

(a) Except as provided in §§ 78.60(b) and 78.61(b) (relating to discharge requirements; and disposal of drill cuttings), the operator shall contain **[pollutional] regulated** substances from the drilling, altering, completing, recompleting, servicing and plugging the well, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a pit, tank or series of pits and tanks **or other approved storage structures**. The operator shall install or construct and maintain the pit, tank or series of pits and tanks **or other approved storage structures** in accordance with the following requirements:

(1) The pit, tank, **[or]** series of pits and tanks **or other approved storage structure** shall be constructed and maintained with sufficient capacity to contain all **[pollutional] regulated** substances which are used or produced during drilling, altering, completing, **recompleting, servicing** and plugging the well.

(2) Modular aboveground storage structures that are assembled on site may not be utilized to store regulated substances without Department approval. The Department shall maintain a list of approved modular storage structures on its website. The owner or operator shall notify the Department at least 3 business days before the commencement of construction of these storage structures. This notice shall be submitted electronically to the Department through its website and include the date the storage structure installation will commence. If the date of installation is extended, the operator shall re-notify the Department with the date that the installation will commence which need not be 3 business days in advance.

[(2)] (3) A pit shall be designed, constructed and maintained so that at least 2 feet of freeboard remain at all times. If open tanks **or open storage structures** are used, the tanks **and storage structures** shall be maintained so that at least 2 feet of freeboard remain at all times unless the tank **or storage structure** is provided with an overflow system to a standby tank or pit with sufficient volume to contain all excess fluid or **[waste] regulated substances**. If an open standby tank **or open storage structure** is used, it shall be maintained with 2 feet of freeboard. If this subsection is violated, the operator immediately shall take the necessary measures to ensure the structural stability of the pit, or tank **or other storage structure**, prevent spills and restore the 2 feet of freeboard.

[(3)] (4) Pits, **[and]** tanks **and other approved storage structures** shall be designed, constructed and maintained to be structurally sound and reasonably protected from unauthorized acts of third parties.

(5) For unconventional well sites, unless an individual is continuously present at the well site, a fence or fences shall completely surround all pits to prevent unauthorized acts of third parties and damage caused by wildlife.

(6) Unless an individual is continuously present at the well site, operators shall equip all tank valves and access lids to regulated substances with reasonable measures to prevent unauthorized access by third parties such as locks, open end plugs, removable handles, retractable ladders or other measures that prevent access by third parties. Tanks storing freshwater, fire prevention materials and spill response kits are excluded from the requirements of this paragraph.

(7) The operator of an unconventional well site shall display a sign on or near the tank or other approved storage structure identifying the contents, and containing an appropriate warning of the contents such as flammable, corrosive or a similar warning.

[(4)] (8) A pit, [or] tank or other approved storage structure that contains drill cuttings from below the casing seat, [pollutional] regulated substances[, wastes] or fluids other than tophole water, fresh water and uncontaminated drill cuttings shall be impermeable, [and comply with the following:]

[(i) The pits] (9) Pits shall be constructed with a synthetic flexible liner that covers the bottom and sides of the pit. [The] [I]Liners used in a pit or other approved storage structures shall comply with the following:

(i) Have [with] a coefficient of permeability of no greater than $1 \times [10^{-7}] 10^{-10}$ cm/sec, [and with sufficient strength and thickness to maintain the integrity of the liner.]

(ii) Be at least 30 mils thick unless otherwise approved by the Department. Approval may be granted if the manufacturer demonstrates that the alternative thickness is at least as protective as a 30 mil liner. A list of approved alternative liners shall be maintained on the Department's website.

(iii) The liner shall be designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the [waste] regulated substance stored therein and the liner is resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners or other compatibility test approved by the Department for the duration the pit or other temporary storage structure is used.

(iv) Adjoining sections of liners shall be sealed together to prevent leakage in accordance with the manufacturer's directions. The integrity of all seams of the adjoining sections of liner shall be tested prior to use. Results of the tests shall be available upon request. [If the operator seeks to use a liner material other than a synthetic flexible liner, the operator shall submit a plan identifying the type and thickness of the material and the installation

procedures to be used, and shall obtain approval of the plan by the Department before proceeding.]

[(ii)] **(10)** The pit shall be constructed so that the liner subbase is smooth, uniform and free from debris, rock and other material that may puncture, tear, cut or otherwise cause the liner to fail. **The pit must be structurally sound and the interior slopes of the pit must have a slope no steeper than 2 horizontal to 1 vertical.** The liner subbase and subgrade shall be capable of bearing the weight of the material above the liner without settling that may affect the integrity of the liner. If the pit bottom or sides consist of rock, shale or other materials that may cause the liner to fail, a subbase of at least 6 inches of soil, sand or smooth gravel, or sufficient amount of an equivalent material, shall be installed over the area as the subbase for the liner.

[(iii)] **(11)** The bottom of the pit shall be at least 20 inches above the seasonal high groundwater table, unless the operator obtains approval under subsection (b) for a pit that exists only during dry times of the year and is located above groundwater. **The operator of an unconventional well shall determine that the pit bottom is at least 20 inches above the seasonal high groundwater table prior to using the pit. The determination shall be made by a soil scientist or other similarly trained person using accepted and documented scientific methods. The individual's determination shall contain a statement certifying that the pit bottom is at least 20 inches above the seasonal high groundwater table according to observed field conditions. The name, qualifications and statement of the individual making the determination and the basis of the determination shall be provided to the Department upon request.**

(12) Stormwater shall be diverted away from the pit.

(13) Prior to placing material in the pit, the liner shall be inspected for lack of uniformity, damage and other imperfections that may cause the liner to leak. The well operator shall correct damages or imperfections before placing the material in the pit, and shall maintain the pit until closure of the pit.

[(iv)] **(14)** If a liner becomes torn or otherwise loses its integrity, the pit **or approved storage structure** shall be managed to prevent the [pit] contents from leaking [from the pit]. If repair of the liner or construction of another temporary pit **or approved storage structure** is not practical or possible, the [pit] contents shall be removed and disposed at an approved waste disposal facility or disposed on the well site in accordance with § 78.61, § 78.62 or § 78.63 (relating to disposal of residual waste—pits; and disposal of residual waste—land application).

[(v)] **(15)** **The liner shall be secured around the perimeter of the pit in a manner that does not compromise the integrity of the liner.** If the liner drops below the 2 feet of freeboard, the pit shall be managed to prevent the pit contents from leaking from the pit and the 2 feet of lined freeboard shall be restored.

(16) The unconventional well operator shall notify the Department at least 3 business days before the installation of the pit liner. This notice shall be submitted electronically to the Department through its website and include the date the liner will be installed. If the

date of installation is extended, the operator shall re-notify the Department with the date of installation which need not be 3 business days in advance. Notice is not required if the licensed professional engineer or geologist that designed the well site submits a statement on forms provided by the Department certifying that the pit and the pit liner, as built, are compliant with this section. This certification shall be submitted within 10 business days of installation of the pit liner.

(17) Condensate, whether separated or mixed with other fluids, shall not be stored in any open top structure or pit. Tanks used for storing or separating condensate during well completion shall be monitored and shall have controls to prevent vapors from exceeding the lower explosive limits of the condensate outside the tank. Tanks used for storing or separating condensate shall be grounded.

(b) The operator may request to use practices other than those specified in subsection (a) which provide equivalent or superior protection by submitting a request to the Department for approval. The request shall be made on forms provided by the Department.

(c) Disposal of uncontaminated drill cuttings in a pit or by land application shall comply with § 78.61. A pit used for the disposal of residual waste, including contaminated drill cuttings, shall comply with § 78.62. Disposal of residual waste, including contaminated drill cuttings, by land application shall comply with § 78.63.

(d) [Unless a permit under The Clean Streams Law (35 P. S. §§ 691.1—691.1001) or approval under § 78.57 or § 78.58 (relating to control, storage and disposal of production fluids; and existing pits used for the control, storage and disposal of production fluids) has been obtained for the pit,] [t]The owner or operator shall remove or fill the pit within 9 months after completion of drilling, or in accordance with the extension granted by the Department under section [206(g)] 3216(g) of the act [(58 P. S. § 601.206(g))] (58 Pa.C.S. 3216(g)) and § 78.65(d). Pits used during servicing, plugging and recompleting the well shall be removed or filled within 90 days of construction.

§ 78.57. Control, storage and disposal of production fluids.

(a) Unless a permit has been obtained under § 78.60(a) (relating to discharge requirements), the operator shall collect the brine and other fluids produced during operation[, **service and plugging**] of the well in a tank[, **pit**] or a series of [**pits or**] tanks, or other device approved by the Department for subsequent disposal or reuse. **Open top structures shall not be used to store brine and other fluids produced during operation of the well.** Except as allowed in this subchapter or otherwise approved by the Department, the operator may not discharge the brine and other fluids on or into the ground or into the waters of this Commonwealth.

(b) Except as provided in § 78.56 (relating to pits and tanks for temporary), the operator may not use a pit for the control, handling or storage of brine and other fluids produced during operation, service or plugging of a well. **[unless the pit is authorized by a permit under The Clean Streams Law (35 P. S. §§ 691.1—691.1001) or approval to operate the pit as an**

impoundment under The Clean Streams Law is obtained from the Department under subsection (c).]

(c) [The operator may apply for approval from the Department to operate a pit as an impoundment under The Clean Streams Law, as indicated by the Department's issuance of a pit approval number in accordance with this section. No pit will be eligible for approval under this subsection unless the capacity of any one pit or of any two or more interconnected pits is less than 250,000 gallons, or the total capacity contained in pits on one tract or related tracts of land is less than 500,000 gallons. Compliance with this subsection does not relieve the operator from the obligation to comply with section 308 of The Clean Streams Law (35 P. S. § 691.308) and the requirements for obtaining a permit for the erection, construction and operation of treatment works promulgated under that section.] Secondary containment capable of preventing tank contents from entering waters of the Commonwealth is required for all new, refurbished or replaced tanks or other aboveground containment structures approved by the Department, including their associated manifolds, that contain brine and other fluids produced during operation of the well. If one tank in a series of tanks is added, refurbished or replaced, secondary containment is required for the entire series of tanks. The secondary containment area provided by dikes or other methods of secondary containment open to the atmosphere shall have containment capacity sufficient to hold the volume of the largest single tank, plus an additional 10% of volume for precipitation. Compliance with § 78.64 (relating to containment around oil and condensate tanks) or using double walled tanks capable of detecting a leak in the primary container shall fulfill the requirements in this subsection.

[(1) A request for approval under this subsection shall be made on forms furnished by the Department and, at a minimum, shall include the following:

- (i) A description of the operator's plan that demonstrates compliance with this subsection for the construction or reconstruction of the pit.
- (ii) A description of the operator's program for operation and maintenance of the pit.
- (iii) A description of the method for subsequent disposal or reuse of the brine or other fluids produced during operation of the well.
- (iv) A description of the operator's program for the closure of the pit and restoration of the site.

(2) The operator shall design, construct, operate and maintain the pit in accordance with the approval and the following:

- (i) The pit approval number is posted at the pit in a legible and visible manner.
- (ii) The pit is not located within 100 feet of a stream, wetland or body of water unless a waiver is granted by the Department.

(iii) The bottom of the pit is a minimum of 20 inches above the seasonal high groundwater table.

(iv) At least 2 feet of freeboard remain at all times.

(v) The pit is structurally sound and the inside slopes of the pit are not steeper than a ratio of 2 horizontal to 1 vertical.

(vi) The pit is impermeable and is lined with a synthetic flexible liner or alternate material that has a coefficient of permeability of no greater than 1×10^{-7} cm/sec. The liner shall be of sufficient strength and thickness to maintain the integrity of the liner. The thickness of a synthetic liner shall be at least 30 mils. Adjoining sections of liners shall be sealed together in accordance with the manufacturer's directions to prevent leakage.

(vii) The physical and chemical characteristics of the liner shall be compatible with the waste and the liner is resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy EPA Method 9090, *Compatibility Test for Wastes and Membrane Liners*, or other documented data approved by the Department.

(viii) The pit shall be constructed so that the liner subbase is smooth, uniform and free of debris, rock and other material that may puncture, tear, cut, rip or otherwise cause the liner to fail. The liner subbase and subgrade shall be capable of bearing the weight of the material above the liner without settling in an amount that will affect the integrity of the liner. If the pit bottom or sides consist of rock, shale or other material that may cause the liner to leak, a subbase of at least 6 inches of soil, sand or smooth gravel, or a sufficient amount of an equivalent material shall be installed over the area as the subbase for the liner.

(ix) Prior to placing brine or other fluids in the pit, the operator shall inspect the liner and correct all damage or imperfections that may cause the liner to leak.

(x) Surface water which may drain into the pit shall be diverted away from the pit.

(xi) The pit is reasonably protected from unauthorized acts of third parties.

(3) Upon abandonment of the well or revocation of the approval by the Department, the operator shall restore the pit in accordance with the following:

(i) The free liquid fraction of the pit contents shall be removed and disposed under § 78.60(a) and the remaining pit contents and liner shall be removed and disposed under §§ 78.62 and 78.63 (relating to disposal of residual waste—pits; and disposal of residual waste—land application), or the Solid Waste Management Act.

(ii) The pit shall be backfilled to the ground surface and graded to promote runoff with no depression that would accumulate or pond water on the surface. The stability of the backfilled pit shall be compatible with the adjacent land.

(iii) The surface of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78.53 (relating to erosion and sedimentation control). The revegetation shall establish a diverse, effective, permanent, vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against accelerated erosion.]

(d) Tanks, series of tanks or other above ground storage structures approved by the Department used to store brine or other fluids produced during operation of the well, shall be designed, constructed and maintained to be structurally sound in accordance with sound engineering practices adhering to nationally recognized industry standards and the manufacturer's specifications. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks.

(e) Underground or partially buried storage tanks may not be used to store brine or other fluids produced during operation of the well unless approved by the Department. Existing underground or partially buried storage tanks shall be removed within 3 years of the effective date of this subsection. A well operator utilizing underground or partially buried storage tanks as of the effective date of this section shall provide the Department with a list of the well sites where the underground or partially buried storage tanks are located and schedule for removal of the tanks within six months from the effective date of this subsection.

(f) All new, refurbished or replaced tanks that store brine or other fluid produced during operation of the well must comply with the applicable corrosion control requirements in the Department's storage tanks regulations at 25 Pa. Code §§ 245.531-534.

(g) All new, refurbished or replaced tanks storing brine or other fluids produced during operation of the well shall be reasonably protected from unauthorized acts of third parties. Unless the tank is surrounded by a fence, tank valves and access lids shall utilize locks, open end plugs or removable handles and ladders on tanks shall be retractable or other measures that prevent access by third parties.

**§ 78.58. [Existing pits used for the control, storage and disposal of production fluids.]
Onsite processing.**

[For pits in existence on July 29, 1989, the operator may request approval for an alternate method of satisfying the requirements of § 78.57(c)(2)(iii) (relating to control, storage and disposal of production fluids), the angle of slope requirements of § 78.57(c)(2)(v) and the liner requirement of § 78.57(c)(2)(vi)—(viii) by affirmatively demonstrating to the Department's satisfaction, by the use of monitoring wells or other methods approved by the Department, that the pit is impermeable and that the method will provide protection

equivalent or superior to that provided by § 78.57. The operator shall request approval under § 78.57(c)(1).] (a) The operator may request approval by the Department to process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells at the well site where the fluids were generated or at the well site where all of the fluid is intended to be beneficially used to develop, drill or stimulate a well. The request shall be submitted on forms provided by the Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

(b) Approval from the Department is not required for the following activities conducted at a well site or centralized impoundment permitted under § 78.59c:

(1) mixing fluids with freshwater;

(2) aerating fluids; or

(3) filtering solids from fluids.

(c) The operator may request to process drill cuttings only at the well site where those drilling cuttings were generated, by submitting a request to the Department for approval. The request shall be submitted on forms provided by the Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

(d) Processing residual waste generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells other than as provided for in subsections (a) and (b) shall comply with the requirements of the Solid Waste Management Act.

(e) Processing of fluids in a manner approved pursuant to subsection (a) shall be deemed to be approved at subsequent well sites provided the operator notifies the Department of location of the well site where the processing will occur prior to the commencement of processing operations. This notice shall be submitted electronically to the Department through its website and include the date activities will commence.

(f) Sludges, filter cake or other solid waste remaining after the processing or handling of fluids pursuant to subsections (a) or (b), including solid waste mixed with drill cuttings, shall be characterized pursuant to 25 Pa. Code § 287.54 before the solid waste leaves the well site.

§ 78.59a. Impoundment embankments.

(a) Embankments constructed for freshwater and centralized impoundments for oil and gas activities shall meet the following requirements:

(1) The foundation for each embankment must be stripped and grubbed to a minimum depth of two feet below existing contour prior to any placement and compaction of fill.

(2) Any springs encountered in the embankment foundation area shall be drained to the downstream toe of the embankment with a drain section two foot by two foot in dimension consisting of PennDOT Type A sand, compacted by hand tamper. Geotextiles shall not be used around sand. The last three feet of this drain at the downstream slope shall be constructed of AASHTO #8 material.

(3) The minimum top width of the embankment shall be 12 feet.

(4) The inside and outside slope shall have a slope no steeper than 3 horizontal to 1 vertical.

(5) Soils to be used for embankment construction shall be classified in accordance with ASTM D-2487 (Unified Soils Classification). Soil samples shall be classified at a minimum rate of 1 sample per 1,000 cubic yards of placed fill. Results of testing of materials shall be provided to the Department upon request.

(6) The embankment shall be constructed out of soils designated as GC, GM, SC, SM, CL or ML, only. Soils with split designations where one of the designations is not GC, GM, SC, SM, CL or ML shall not be used. Soils shall contain a minimum of 20% of No. 200 sieve materials or larger. Results of testing of materials shall be provided to the Department upon request.

(7) No particles greater than 6 inches in any dimension shall be used for embankment construction.

(8) Soil used in embankment construction shall be compacted. Soil compaction shall be conducted in accordance with the following:

(i) Compaction shall be conducted with a sheepsfoot or pad roller.

(ii) The maximum loose lift thickness shall be 9 inches.

(iii) Soil shall be compacted until visible non-movement of the embankment material.

(9) Exposed embankment slopes shall be permanently stabilized using one or a combination of the following methods:

(i) Exposed embankments shall be limed, fertilized, seeded and mulched and permanent vegetative ground covering in compliance with 25 Pa. Code § 102.22 must be established upon completion of construction of the impoundment.

(ii) Compacted rockfill or riprap placed on the downstream face of the embankment as a cover having a minimum depth of two feet. The rockfill shall be durable, evenly distributed, and underlain by a Class 2, Type A geotextile.

§ 78.59b. Freshwater impoundments.

(a) In addition to meeting the requirements of 25 Pa. Code § 78.59a, freshwater impoundments shall comply with this section.

(b) A well operator that constructed a freshwater impoundment shall register the location of the freshwater impoundment within 60 days of the effect of this section by providing the Department, in writing, with the GPS coordinates, township and county where the freshwater impoundment is located. A well operator shall register the location of a new freshwater impoundment prior to construction. Registration of the freshwater impoundment may be transferred to another operator. Registration transfers shall utilize forms provided by the Department.

(c) Freshwater impoundments shall be constructed with a synthetic impervious liner.

(d) Unless an individual is continuously present at a freshwater impoundment, a fence shall completely surround the freshwater impoundment to prevent unauthorized acts of third parties and damage caused by wildlife.

(e) The bottom of the impoundment shall be at least 20 inches above the seasonal high groundwater table. The applicant may maintain the required separation distance of 20 inches by artificial means such as an under-drain system throughout the lifetime of the impoundment. In no case shall the regional groundwater table be affected. The operator shall document the depth of the seasonal high groundwater table, the manner in which the depth of the seasonal high groundwater table was ascertained, the distance between the bottom of the impoundment and the seasonal high groundwater table, and the depth of the regional groundwater table if the separation between the impoundment bottom and seasonal high groundwater table is maintained by artificial means. The operator shall submit records demonstrating compliance with this subsection to the Department upon request.

(f) Freshwater impoundments shall be restored by the operator that the impoundment is registered to by removing excess water and the synthetic liner and returning the site to approximate original conditions, including preconstruction contours, and can support the original land uses to the extent practicable within nine months of completion of drilling the last well serviced by the impoundment. A two-year restoration extension may be requested pursuant to section 3216(g) of the act (58 Pa.C.S. § 3215(g)). If written consent is obtained from the landowner, the requirement to return the site to approximate original contours may be waived by the Department if the liner is removed from the impoundment.

(g) Prior to storing mine influenced water in a freshwater impoundment, the operator shall develop a mine influenced water storage plan and submit it to the Department for approval.

(1) The mine influenced water storage plan shall be submitted on forms provided by the Department and shall include the following:

(i) a demonstration that the escape of the mine influenced water stored in the freshwater impoundment will not result in air, water or land pollution or endanger persons or property and include;

(ii) a procedure and schedule to test the mine influenced water. This testing shall be conducted at the source prior to storage in the impoundment; and

(iii) a records retention schedule for the mine influenced water test results.

(2) An operator with an approved mine influenced water storage plan shall maintain records of all mine influenced water testing prior to storage. These records shall be made available to the Department upon request.

(h) The Department may require the operator to test water sources proposed to be stored in a freshwater impoundment prior to storage.

§ 78.59c. Centralized impoundments.

(a) A well operator proposing to build a centralized impoundment that is also classified as hazard potential category 4 and size category C pursuant to 25 Pa. Code § 105.91 (relating to classification of dams and reservoirs) shall obtain a permit on forms provided by the Department prior to construction of the impoundment and shall also comply with this section. An operator proposing to build a centralized impoundment that is also classified as hazard potential category 1, 2 or 3 or size category A or B pursuant to 25 Pa. Code § 105.91 shall obtain a permit from the Department prior to construction of the impoundment and comply with 25 Pa. Code Chapter 105.

(b) The embankment of the centralized impoundment shall meet the requirements of 25 Pa. Code § 78.59a.

(c) Centralized impoundments shall not be constructed in any portion of the following areas:

(1) In a floodplain of waters of this Commonwealth as defined in section 3215(f)(5) of the act (58 Pa.C.S. § 3215(f)(5)).

(2) In or within 100 feet measured horizontally of a wetland greater than 1 acre in size.

(3) In areas underlain by limestone or carbonate formations where the formations are greater than 5 feet thick and present at the uppermost geologic unit. These areas include areas mapped by the Pennsylvania Geological Survey as underlain by the formations, unless competent geologic studies demonstrate the absence of limestone and carbonate formations.

(4) Within 500 feet measured horizontally from an occupied dwelling without the written consent of the owner of the building.

(5) Within 100 feet measured horizontally from any solid blue line stream, spring or body of water, except wetlands, identified on the most current 7.5 minute topographic quadrangle map of the United States Geological Survey.

(6) Within 500 feet measured horizontally of a private water supply without the written consent of the owner of the water supply.

(7) Within 1,000 feet measured horizontally of an existing water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor without the written consent of the water purveyor.

(d) The bottom of the impoundment shall be at least 20 inches above the seasonal high groundwater table. The applicant may request approval from the Department to use an alternative that maintains the required separation distance of 20 inches by artificial means such as an under-drain system throughout the lifetime of the impoundment, by submitting a request to the Department for approval. In no case shall the regional groundwater table be affected.

(e) Centralized impoundments shall be constructed with a liner system composed of the following components:

(1) A sub-base that meets the following:

(i) Bears the weight of the liner system, impounded fluid, and equipment operating on the impoundment without causing or allowing a failure of the liner system.

(ii) Accommodates potential settlement without damage to the liner system.

(iii) Be compatible with the impounded fluid.

(iv) Covers the bottom and sidewalls of the impoundment.

(vi) Is covered with non-woven geotextile fabric to cushion the secondary liner and allow for adequate venting between the secondary liner and sub-base to prevent entrapment of gases beneath the liner system.

(vii) Is constructed of a natural clay material and include an upper 6 inches that meets the following:

(A) Is free of coarse rock fragments greater than 0.75” in diameter.

(B) Is hard, uniform, smooth and free of debris, rock fragments, plant materials and other foreign material.

(C) Is no more permeable than 1.0×10^{-6} cm/sec., based on laboratory and field testing. Soil compaction and permeability testing shall be conducted on the bottom and sides at a minimum rate of once per 2,500 square feet.

(D) Is compacted to a density of at least 95% standard proctor.

(2) A secondary liner that meets the following:

(i) Prevents the migration of fluid from the impoundment.

(ii) Is designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the impounded fluid, and the liner is resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners.

(iii) Covers the bottom and sidewalls of the impoundment.

(iv) Is composed of a synthetic material with a coefficient of permeability not greater than 1.0×10^{-10} cm/sec., based on laboratory testing.

(v) Has a minimum thickness of 40 mil unless a greater thickness is recommended by the manufacturer's specifications.

(vi) Is installed according to manufacturer's specifications under the supervision of an authorized representative of the manufacturer. A Department approved quality assurance and quality control plan shall be implemented in the field during the installation of the liner.

(vii) Is inspected for uniformity, damage and imperfections during construction and installation.

(viii) Use of a composite secondary liner may not be substituted for a separate primary liner.

(3) A leak detection system that meets the following:

(i) Rapidly detects and collect liquid entering the leak detection zone, and rapidly transmit the liquid to a sump.

(ii) Withstands chemical attack from the water or wastewater being impounded.

(iii) Withstands anticipated loads, stresses and disturbances from impounded liquid.

(iv) Functions without clogging.

(v) Does not affect the primary or secondary liner by puncturing, cracking, tearing, stretching or otherwise losing its physical integrity.

(vi) Cover the bottom and sidewalls of the impoundment.

(vii) Create a flow zone between the secondary liner and the primary liner equal to, or more permeable than 1.0×10^{-2} cm/sec., based on laboratory testing and, when required by the Department, field testing.

(viii) Contain a perforated piping system capable of detecting and intercepting liquid within the leak detection zone and conveying the liquid to a collection sump.

(A) The collection sump shall be equipped with a sump pump with a switch to automatically activate the pump if a leak occurs.

(B) Discharge from the sump pump shall be directed back into the impoundment or other suitable containment. The sump shall have no outlet other than the sump pump discharge.

(C) The pump and sump shall be of sufficient size and capacity to convey any leak that may occur back into the impoundment without a discharge.

(ix) A piping system that meets the following requirements:

(A) The slope, size and spacing of the piping system shall assure that liquids drain from the leak detection zone.

(B) The pipes shall be installed as close to perpendicular to the flow as practicable and shall have a minimum post-settlement grade of at least 2%.

(C) The minimum diameter of the perforated pipe shall be 4 inches with a wall thickness of Schedule-80 or greater as specified by ASTM, or equivalent.

(D) The pipes shall be cleaned and maintained as necessary to ensure the effectiveness of the system.

(x) A minimum bottom slope of 2%.

(xi) Designed to allow the operator to monitor and record leakage rates.

(xii) Not contain carbonate stones or aggregate with sharp edges.

(xiii) The operator shall monitor the leak detection zone weekly to determine whether liquid is flowing from the zone. These records shall be made available to the Department upon request.

(4) A primary liner that meets the following:

(i) The effectiveness of the primary liner may not be adversely affected by the physical or chemical characteristics of the impounded fluids from the impoundment.

(ii) Designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the impounded fluid and be resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners, or other compatibility tests approved by the Department.

(iii) Cover the bottom and sidewalls of the impoundment.

(iv) Composed of a synthetic material with a coefficient of permeability not greater than 1.0×10^{-10} cm/sec., based on laboratory testing.

(v) A minimum thickness of 40 mil unless a greater thickness is required by manufacturer recommendations.

(vi) Installed according to manufacturer's specifications under the supervision of an authorized representative of the manufacturer. A Department approved quality assurance and quality control plan shall be implemented in the field during the installation of the liner.

(vii) Inspected for uniformity, damage and imperfections during construction and installation.

(viii) Use of a composite primary liner does not relieve the operator of responsibility for a separate secondary liner.

(ix) Allowable leakage rates through the primary liner shall be determined based upon the maximum depth of the impounded fluid as specified in Table 1. The area shall be calculated as the area of the liner in contact with the impounded fluid. Weekly leakage rates shall be documented and provided to the Department upon request. These records shall be made available to the Department upon request.

Table 1

Fluid Height (ft)	Allowable Leakage Rate (gallons/acre/day)
------------------------------	----------------------------------------------------------

$h \leq 10$	340
$10 < h \leq 15$	420
$15 < h \leq 20$	490
$20 < h \leq 25$	550
$25 < h \leq 30$	610
$h > 30$	case by case

(x) In the event that the flow rate of leakage through the primary liner, as collected in the leak detection sump, exceeds the value in Table 1 for a given fluid depth, the operator shall notify the Department within 24 hours, drain the impoundment to the extent necessary to repair the impoundment and shall repair the impoundment. Notice shall be made electronically to the Department through its website.

(f) Hydrogeologic investigation—An operator that intends to construct a centralized impoundment must initially complete a baseline hydrogeologic investigation to document background conditions pursuant to this subsection.

(1) The investigation shall determine the groundwater flow beneath the site and adjacent area, based on an initial round of water quality testing, a groundwater elevation study and a review of reasonably available secondary source information. The results of the initial round of water quality testing shall be submitted with the permit application.

(2) A second round of testing, including water quality testing and water level measurements, shall also be completed. The second round of testing shall be conducted between 90 and 120 calendar days from the initial round of testing. The results of the second round of water quality testing may be submitted after the permit application is submitted. The Department will not make a decision on the permit application until the operator submits the results of the second round of water quality testing.

(3) The water quality testing required by this subsection shall include the constituents listed subsection (i)(6) below.

(4) If during the groundwater elevation study, soil mottling is apparent within the intended confines of the impoundment or within 20 inches of its base, or if the seasonal high water table will be adjusted using engineering controls in order to accommodate the impoundment, the requirements of 25 Pa. Code §§ 289.121-123 (relating to phase I application requirements – site analysis) must be followed and the groundwater monitoring period must be extended to four quarterly tests.

(5) Only passive drainage systems that lower the seasonal high water table and do not alter the supply of receiving water bodies or downgradient groundwater users may be utilized to adjust the seasonal high groundwater table.

(g) An operator that operates a centralized impoundment shall install, operate and maintain a water quality monitoring system that can detect the entry of regulated substances into the groundwater or surface water. The water quality monitoring system shall accurately characterize groundwater flow, groundwater chemistry and flow systems on the site and adjacent area. The system shall include the following:

(1) A minimum of one monitoring well at a point hydraulically upgradient from the impoundment area in the direction of increasing static head that is capable of providing representative data of groundwater not affected by the impoundment, except when the impoundment occupies the most upgradient position in the flow system. In that case, sufficient down gradient monitoring wells shall be placed to determine the extent of adverse effects on groundwater from the impoundment in the event of a liner system failure.

(2) A minimum of three monitoring wells at points hydraulically downgradient in the direction of decreasing static head from the area around a centralized impoundment. In addition to the downgradient wells, the Department may allow one or more springs for monitoring points if the springs are hydraulically downgradient from the impoundment, if the springs are developed and protected in a manner approved by the Department and if the springs otherwise meet the requirements of this subchapter.

(h) The upgradient and downgradient monitoring wells shall be:

(1) Sufficient in number, location and depth to accurately characterize water quality.

(2) Located so that they do not interfere with routine operations.

(3) Located within 200 feet of the permitted centralized impoundment and at least 100 feet closer to the centralized impoundment than the nearest private drinking water well, except as necessary to comply with paragraph (4).

(4) Upgradient monitoring wells shall be located so that they will not be affected by adverse effects on groundwater from the impoundment.

(5) Downgradient monitoring wells shall be located so that they will provide early detection of adverse effects on groundwater from the impoundment.

(6) The well equipment and materials shall be decontaminated prior to installation.

(i) Monitoring wells and casing of monitoring wells shall be constructed as follows:

(1) The casing shall maintain the integrity of the monitoring well borehole and shall be constructed of material that will not react with the groundwater being monitored.

(2) The minimum casing diameter shall be 4 inches unless otherwise approved by the Department in writing.

(3) The well shall be constructed with a screen that meets the following requirements:

(i) The screen shall be factory-made.

(ii) The screen may not react with the groundwater being monitored.

(iii) The screen shall maximize open area to minimize entrance velocities and allow rapid sample recovery.

(iv) The well shall be filter-packed with chemically inert clean quartz sand, silica or glass beads. The material shall be well rounded and dimensionally stable.

(v) The casing shall be clearly visible and protrude at least 1 foot above the ground, unless the Department has approved flush mount wells.

(vi) The annular space above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(vii) The casing shall be designed and constructed in a manner that prevents cross contamination between surface water and groundwater.

(viii) Alternative casing designs for wells in stable formations may be approved by the Department.

(4) Monitoring well casings shall be enclosed in a protective casing that shall:

(i) Be of sufficient strength to protect the well from damage by heavy equipment and reasonably protected from the unauthorized acts of third parties.

(ii) Be installed for at least the upper 10 feet of the monitoring well, as measured from the well cap, with a maximum above grade surface of 3 feet, unless otherwise approved by the Department in writing.

(iii) Be cemented and placed with a concrete collar at least 3 feet deep to hold it firmly in position.

(iv) Be numbered for identification with a label capable of withstanding field conditions and painted in a clearly visible color.

(v) Protrude above the monitoring well casing.

(vi) Have a lockable cap.

(vii) Be made of steel or another material of equivalent strength.

(5) Analyses of data collected shall be submitted to the Department within 60 days of sampling or 15 days after completion of analyses, whichever is sooner, unless the Department approves another time period.

(6) Water samples must be collected from monitoring wells on a minimum frequency of once per calendar quarter and at a minimum, analyzed for the following parameters:

(i) Total dissolved solids,

(ii) Total Chloride,

(iii) Total Sulfates,

(iv) pH,

(v) Specific conductance,

(vi) Total Iron, and

(vi) Other parameters specified by the Department.

(j) Plans, specifications and reports for site characterization and groundwater testing systems required by this section shall be prepared and sealed by a registered professional geologist.

(k) The design engineer shall provide oversight for all aspects of impoundment construction to ensure that construction is completed in accordance with the design and quality assurance and quality control plan.

(l) Plans, specifications and reports for centralized impoundments required by this section shall reasonably ensure mechanical integrity of the structure and function, shall be prepared by a registered professional engineer and shall be affixed with the engineer's seal and a certification which shall read as follows:

I (name) do hereby state to the best of my knowledge, information and belief that the information contained in the plans specifications and reports have been prepared in accordance with accepted environmental practices and the design and construction standards for centralized impoundment dams and Chapters 105 and 78 of the Rules and Regulations of the Department of Environmental Protection and is true and correct.

(m) Upon completion of construction of the impoundment, a facility completion and final certification report must be submitted to the Department. The report must be completed and sealed by the licensed Pennsylvania professional engineer who provided oversight for construction and must contain the following items at a minimum:

(1) A statement that the engineer provided oversight for all aspects of construction.

(2) Soils classification testing results for the embankments.

(3) Soil compaction testing results for the sub-base, and for the clay portion of the secondary liner if a natural or remolded clay liner is used.

(4) As-built drawings noting any deviation from the original plans approved by the Department.

(5) Quarry tickets for drain material.

(6) Quality assurance and quality control test results.

(7) Color photographs of the following at a minimum:

(i) The cleared and grubbed foundation.

(ii) Leak detection system installation.

(iii) Placement and compaction of fill.

(iv) The completed embankments.

(v) The completed sub-base.

(vi) The completed secondary liner

(8) The impoundment shall not be used until the facility completion and final certification report is received and approved by the Department. The Department shall make a determination on the facility completion and final notification report within 30 days.

(n) Centralized impoundments shall be restored according to the following requirements:

(1) Within nine months of completion of drilling the last well serviced by the impoundment, or the expiration of the last well permit that the impoundment was intended to service. The impoundment shall be restored by removing any impermeable membrane, concrete and earthen liner so that water movement to subsoils is achieved. A two year restoration extension may be requested pursuant to section 3216 (g) of the act.

(2) The site shall be restored to approximate original conditions including preconstruction contours.

(3) The site shall support the original land uses to the extent practicable.

(4) Excavated impoundments shall be backfilled above finished grade to allow for settlement and so the impoundment will no longer impound water.

(o) The owner or operator may request approval from the Department to deviate from the requirements in this section in the permit application. The request shall demonstrate that the alternate practice provides equivalent or superior protection to the requirements of this section.

§ 78.60. Discharge requirements.

(a) The owner and operator may not cause or allow a discharge of a substance, **fill or dredged material** to the waters of this Commonwealth unless the discharge complies with this subchapter and Chapters 91—93, 95, **102** and **[102] 105**, The Clean Streams Law (35 P. S. §§ 691.1—691.1001), **The Dam Safety and Encroachments Act (32 P.S. §§ 693.1 – 693.280)**, and the act.

(b) The owner and operator may not discharge tophole water or water in a pit as a result of precipitation by land application unless the discharge is in accordance with the following requirements:

* * *

(7) The area of land application is not within 200 feet of a water supply or within 100 feet of a **[stream] watercourse[,]** **or** body of water **[or a wetland]** unless approved as part of a waiver granted by the Department under section **[205(b)] 3215(b)** of the act **[(58 P. S. § 601.205(b))]** **(58 Pa.C.S. § 3215(b))**.

(8) If the water does not meet the requirements of paragraph (2) or (4), the Department may approve treatment prior to discharge to the land surface.

(c) Compliance with subsection (b) shall be documented by the operator and made available to the Department upon request while conducting activities pursuant to subsection (b) and shall be submitted pursuant to § 78.65(f)(1).

§ 78.61. Disposal of drill cuttings.

(a) *Drill cuttings from above the casing seat—pits.* The owner or operator may dispose of drill cuttings from above the casing seat determined in accordance with § 78.83**[(b)](c)** (relating to surface and coal protective casing and cementing procedures) in a pit at the well site if the owner or operator satisfies the following requirements:

(1) The drill cuttings are generated from the well at the well site.

(2) The drill cuttings are not contaminated with **[pollutional material] a regulated substance**, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.

(3) The disposal area is not within 100 feet of a **[stream] watercourse[,]** **or** body of water **[or a wetland]** unless approved as part of a waiver granted by the Department under section **[205(b)] 3215(b)** of the act **[(58 P. S. § 601.205(b))] (58 Pa.C.S. § 3215(b))**.

(4) The disposal area is not within 200 feet of a water supply.

(5) The pit is designed, constructed and maintained to be structurally sound.

(6) The free liquid fraction of the waste shall be removed and disposed under § 78.60 (relating to discharge requirements).

(7) The pit shall be backfilled to the ground surface and graded to promote runoff with no depression that would accumulate or pond water on the surface. The stability of the backfilled pit shall be compatible with the adjacent land.

(8) The surface of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78.53 (relating to erosion and sediment[**ation**] control). The revegetation shall establish a diverse, effective, permanent, vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface of the landowner, the surface shall be stabilized against erosion.

(b) *Drill cuttings from above the casing seat—land application.* The owner or operator may dispose of drill cuttings from above the casing seat determined in accordance with § 78.83**[(b)](c)** by land application at the well site if the owner or operator satisfies the following requirements:

(1) The drill cuttings are generated from the well at the well site.

(2) The drill cuttings are not contaminated with **[pollutional material] a regulated substance**, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.

(3) The disposal area is not within 100 feet of a **[stream,] watercourse or** body of water **[or wetland]** unless approved as part of a waiver granted by the Department under section **[205(b)] 3215(b)** of the act **[(58 P. S. § 601.205(b))] (58 Pa.C.S. § 3215(b))**.

(4) The disposal area is not within 200 feet of a water supply.

(5) The soils have a minimum depth from surface to bedrock of 20 inches.

(6) The drill cuttings are not spread when saturated, snow covered or frozen ground interferes with incorporation of the drill cuttings into the soil.

(7) The drill cuttings are not applied in quantities which will result in runoff or in surface water or groundwater pollution.

(8) The free liquid fraction is disposed in accordance with § 78.60.

(9) The drill cuttings are spread and incorporated into the soil. **The loading and application rate of drill cuttings shall not exceed a maximum of drill cuttings to soil ratio of 1:1.**

(10) The land application area shall be revegetated to stabilize the soil surface and comply with § 78.53. The revegetation shall establish a diverse, effective permanent vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against erosion.

(c) *Drill cuttings from below the casing seat.* After removal of the free liquid fraction and disposal in accordance with § 78.60, drill cuttings from below the casing seat determined in accordance with § 78.83[(b)](c) may be disposed of as follows:

(1) In a pit that meets the requirements of § 78.62(a)(5)—(18) and (b) (relating to disposal of residual waste—pits).

(2) By land application in accordance with § 78.63(a)(5)—(20) and (b) (relating to disposal of residual waste—land application).

(d) The owner or operator may request to use solidifiers, dusting, unlined pits, attenuation or other alternative practices for the disposal of uncontaminated drill cuttings by submitting a request to the Department for approval. The request shall be made on forms provided by the Department and shall demonstrate that the practice provides equivalent or superior protection to the requirements of this section. **The Department will maintain a list of approved solidifiers on its website. Use of approved solidifiers will not require the operator to request approval from the Department.**

(e) A pit used for the disposal of residual waste, including contaminated drill cuttings, shall comply with § 78.62. Land application of residual waste, including contaminated drill cuttings, shall comply with § 78.63.

(f) The owner or operator shall notify the Department at least 3 business days before disposing of drill cuttings pursuant to this section. This notice shall be submitted electronically to the Department through its website and include the date the cuttings will be disposed. If the date of disposal is extended, the operator shall re-notify the Department of the date of disposal which need not be 3 business days in advance.

§ 78.62. Disposal of residual waste—pits.

(a) After the removal and disposal of the free liquid fraction of the waste under § 78.60(a) (relating to discharge requirements), the owner or operator may dispose of residual waste,

including contaminated drill cuttings, in a pit at the well site if the owner or operator satisfies the following requirements:

(1) The **residual** waste is generated by the drilling, **or stimulation [or production]** of an oil or gas well that is located on the well site where the **residual** waste is disposed. **Solid waste generated by hydraulic fracturing of unconventional wells and solid waste generated by processing of fluids pursuant to § 78.58, may not be disposed of on the well site.**

(2) The well is permitted under section [201] **3211** of the act [(58 P. S. § 601.201)] **(58 Pa.C.S. § 3211)** or registered under section [203] of the act (58 P. S. § 601.203).

(3) The requirements of section [215] **3225** of the act [(58 P. S. § 601.215)] **(58 Pa.C.S. § 3225)** are satisfied by filing a surety or collateral bond for wells drilled on or after April 18, 1985.

(4) Compliance is maintained with the act and this title.

(5) The owner or operator shall notify the Department at least 3 days before disposing residual waste according to this section. This notice shall be submitted electronically to the Department through its website and include the date the residual waste will be disposed. If the date of disposal changes, the operator shall re-notify of the new proposed date of disposal.

[(5)] **(6)** The disposal area is not within 200 feet measured horizontally from an existing building, unless the current owner thereof has provided a written waiver consenting to the disposal closer than 200 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the current owner.

[(6)] **(7)** The disposal area is not within 100 feet of a [stream,] **watercourse or** body of water[or wetland].

[(7)] **(8)** The disposal area is not within 200 feet of a water supply.

[(8)] **(9)** The bottom of the pit is a minimum of 20 inches above the seasonal high groundwater table. **The well operator shall determine that the pit bottom is at least 20 inches above the seasonal high groundwater table prior to using the pit. The determination shall be made by a soil scientist or other similarly trained person using accepted and documented scientific methods. The individual's determination shall contain a statement certifying that the pit bottom is at least 20 inches above the seasonal high groundwater table according to observed field conditions. The name, qualifications and statement of the individual making the determination and the basis of the determination shall be provided to the Department upon request.**

[(9)] **(10)** The pit is designed, constructed and maintained to be structurally sound and impermeable.

[(10)] (11) The pit and liner meet the requirements of 78.56 (a)(8)-(10).[is lined with a synthetic flexible liner that is compatible with the waste and has a coefficient of permeability of no greater than 1×10^{-7} cm/sec. The liner shall be of sufficient strength and thickness to maintain the integrity of the liner. The liner thickness shall be at least 30 mils. Adjoining sections of liners shall be sealed together in accordance with the manufacturer's directions to prevent leakage. The operator may use an alternate liner or natural materials, if the material and the installation procedure to be used are approved by the Department. Notice of the approved liners and installation procedures will be published by the Department in the *Pennsylvania Bulletin*.

(12) The liner shall be designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the waste and the liner is resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy EPA Method 9090, *Compatibility Test for Wastes and Membrane Liners*, or other documented data approved by the Department.

(13) The pit shall be constructed so that the liner subbase is smooth, uniform and free of debris, rock and other material that may puncture, tear, cut, rip or otherwise cause the liner to fail. The liner subbase and subgrade shall be capable of bearing the weight of the material above the liner without settling. If the pit bottom or sides consist of rock, shale or other material that may cause the liner to fail and leak, a subbase of at least 6 inches of soil, sand or smooth gravel, or sufficient amount of an equivalent material shall be installed over the area as the subbase for the liner.

(14) Prior to placing material in the pit, the liner shall be inspected for lack of uniformity, damage and other imperfections that may cause the liner to leak. The owner or operator shall correct damages or imperfections before placing waste in the pit, and shall maintain the pit until closure of the pit.]

[(14)] (12) Prior to encapsulating the residual waste within the liner, the free liquid fraction of the residual waste shall be removed and disposed under § 78.60(a).

[(15)] (13) The liner shall be folded over, or an additional liner shall be added, to completely cover the residual waste and the residual waste is shaped so that water does not infiltrate the liner and is not confined above the liner.

[(16)] (14) Puncturing or perforating the liner is prohibited.

[(17)] (15) The pit shall be backfilled to at least 18 inches over the top of the liner and graded to promote runoff with no depressions that would accumulate or pond water on the surface. The stability of the backfilled pit shall be compatible with the adjacent land.

[(18)] (16) The surface area of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78.53 (relating to erosion and sediment[ation] control). The revegetation shall establish a diverse, effective permanent vegetative cover which is capable of

self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against erosion.

(b) A person may not dispose of **residual** waste, including contaminated drill cuttings, at the well site unless the **residual** waste meets the following requirements:

(1) The concentration of contaminants in the leachate from the **residual** waste does not exceed 50% of the maximum concentration in **40 C.F.R.** § 261.24 Table I (relating to characteristic of toxicity).

(2) The concentration of contaminants in the leachate from the **residual** waste does not exceed 50 times the primary maximum contaminant level in effect under § 109.202 (relating to State MCLs, MRDLs and treatment technique requirements).

(3) For other health related contaminants, the concentration of contaminants in the leachate from the **residual** waste does not exceed 50 times the safe drinking water level established by the Department.

(4) Leachate characteristics are determined in accordance with methods approved by the Department.

* * *

§ 78.63. Disposal of residual waste—land application.

(a) The owner or operator may dispose of residual waste, including contaminated drill cuttings, at the well site by land application of the waste if the owner or operator satisfies the following requirements:

(1) The **residual** waste is generated by the drilling[or production] of an oil or gas well that is located on the well [side] site. **Residual waste generated by hydraulic fracturing of unconventional wells and residual waste generated by processing pursuant to § 78.58, may not be disposed of by land application.**

(2) The well is permitted under section [201] **3211** of the act [(58 P. S. § 601.201)] **(58 Pa.C.S. § 3211)** or registered under section [203] **3213** of the act [(58 P. S. § 601.215)] **(58 Pa.C.S. § 3213)**.

(3) The requirements of section [215]**3222** of the act [(58 P. S. § 601.215)] **(58 Pa.C.S. § 3222)** are satisfied by filing a surety or collateral bond for wells drilled on or after April 18, 1985.

(4) Compliance with the act and this title is maintained.

(5) The owner or operator shall notify the Department **electronically through its website** at least 3 **[working] business** days before the land application activity is to occur. **The**

notification shall include the date on which the land application is to occur. If the date of land application is extended, the operator shall re-notify the Department of the new proposed date which need not be 3 business days in advance.

* * *

(20) The land application area shall be revegetated to stabilize the soil surface and comply with **[§ 78.53] 25 Pa. Code Chapter 102** (relating to erosion and sediment[ation] control). The revegetation shall establish a diverse, effective permanent vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against erosion.

(21) If **[a chemical] additional** analysis **conducted pursuant to paragraph 19** fails to show compliance with **[paragraph [(18)] this section**, the owner or operator shall remediate the land application area until compliance is demonstrated.

(b) A person may not dispose of residual waste, including contaminated drill cuttings, at the well site unless the concentration of contaminants in the leachate from the waste does not exceed the maximum concentration stated in **40 C.F.R.** § 261.24 Table I (relating to characteristic of toxicity).

* * *

(d) Compliance with subsection (b) shall be documented by the operator and made available to the Department upon request while conducting activities pursuant to subsection (a) and shall be submitted pursuant to § 78.65(f)(7).

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§ 78.64. Containment around oil and condensate tanks.

(a) If an owner or operator uses a tank with a capacity of at least 660 gallons or tanks with a combined capacity of at least 1,320 gallons to contain oil **or condensate** produced from a well, the owner or operator shall construct and maintain a dike or other method of secondary containment which satisfies the requirements under 40 CFR 112 (relating to oil pollution prevention) around the tank or tanks which will prevent the tank contents from entering waters of this Commonwealth.

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§ 78.64a Containment systems and practices at unconventional well sites.

(a) This section shall only apply to unconventional well sites.

(b) Well sites shall be designed and constructed using containment systems and practices that prevent spills of regulated substances to the ground surface and to prevent spills from leaving the well site.

(c) All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within a containment system. This subsection does not apply to fuel stored in equipment or vehicle fuel tanks unless the equipment or vehicle is being refueled at the well site.

(d) Pits and centralized impoundments that comply with this Chapter are deemed to meet the requirements of this section.

(e) Containment systems shall meet all of the following:

(1) Be used on the well site when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well site and when regulated substances including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives or flowback are brought onto or generated at the well site.

(2) Have a coefficient of permeability no greater than 1×10^{-10} cm/sec.

(3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the system, that could potentially come into direct contact with regulated substances being stored, shall be compatible with the regulated substance and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners or other standards as approved by the Department.

(f) *Secondary containment:* An operator shall utilize secondary containment when storing additives, chemicals, oils or fuels. The secondary containment shall have sufficient containment capacity to hold the volume of the largest container within the secondary containment area plus 10% to allow for precipitation, unless the container is equipped with individual secondary containment such as a double walled tank. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks. A well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.

(g) Subsurface secondary containment systems may be employed at the well site. Subsurface secondary containment shall meet the following requirements:

(1) Subsurface secondary containment systems shall have a coefficient of permeability of no greater than 1×10^{-10} cm/sec with sufficient strength and thickness to maintain the integrity of the containment system. The thickness of a subsurface containment system shall be at least 30 mils. Adjoining sections of the subsurface containment system shall be

sealed together, in accordance with the manufacturer's directions, to prevent leakage. All seams of the adjoining sections shall have their integrity tested prior to being covered.

(2) Be designed to allow for the management or removal of stormwater.

(3) Be designed and installed in a manner that prevents damage to the system by the sub-base or the movement of equipment or other activities on the surface.

(4) Not be used to store regulated substances.

(5) A written Standard of Operational Procedure for the inspection, maintenance and repair of the subsurface secondary containment system shall be included in the preparedness, prevention and contingency plan.

(h) All surface containment systems shall be inspected weekly to ensure integrity. If the containment system is damaged or compromised, the well operator shall repair the containment system as soon as practicable. The well operator shall maintain records of any repairs until the well site is restored. Stormwater shall be removed as soon as possible and prior to the capacity of secondary containment being reduced by 10% or more.

(i) Regulated substances that escape from primary containment or are otherwise spilled onto a containment system shall be removed as soon as possible. After removal of the regulated substances the operator shall inspect the containment system. A Department approved leak detection system capable of rapidly detecting a leak shall satisfy the requirement to inspect the integrity of a subsurface containment system. Groundwater monitoring wells shall not constitute a leak detection system for the purpose of this subsection. If the containment system did not completely contain the material, the operator shall notify the Department and remediate the affected area in accordance with § 78.66.

(j) Stormwater that comes into contact with regulated substances stored within the secondary containment area shall be managed as residual waste.

(k) Inspection reports and maintenance records shall be available at the well site for review by the Department.

(l) Documentation of chemical compatibility of containment systems with material stored within the system shall be provided to the Department upon request.

§ 78.65. Site restoration.

(a) [In addition to complying with section 206 of the act (58 P. S. § 601.206), an owner or operator shall meet the following requirements:] The owner or operator shall restore the land surface within the area disturbed pursuant to section 3216 of the act (58 Pa.C.S. § 3216) and 25 Pa. Code Chapter 102.

[(1)](b) A drill hole or bore hole used to facilitate the drilling of a well shall be filled with cement, soil, **uncontaminated** drill cuttings or other earthen material before moving the drilling equipment from the well site.

[(2)] (c) If a well site is constructed and the well is not drilled, the well site shall be restored within 30 days after the expiration of the well permit unless the Department approves an extension for reasons of adverse weather or lack of essential fuel, equipment or labor.

(d) Restoration after drilling — Within nine months after completion of drilling a well, the owner or operator shall restore the well site, remove or fill all pits used to contain produced fluids or residual wastes and remove all drilling supplies, equipment and containment systems not needed for production. When multiple wells are drilled on a single well site, post drilling restoration is required within nine months after completion of drilling all permitted wells on the well site or 30 days after the expiration of all existing well permits on the well site, whichever occurs later in time. Drilling supplies and equipment not needed for production may only be stored on the well site if express written consent of the surface landowner is obtained and the supplies or equipment are maintained in accordance with § 78.64a.

(1) An area is restored under this subsection if the following are met:

(i) All permanent post construction stormwater control features as identified in the PCSM plan or site restoration plan are in place consistent with the requirements in 25 Pa. Code § 102.8.

(ii) Remaining impervious areas are minimized. Impervious areas include areas where the soil has been compacted, areas where the soil has been treated with amendments to firm or harden the soil and areas where soil is underlain with an impermeable liner.

(iii) All areas of the site not needed to safely operate the well are restored to approximate original conditions, including preconstruction contours, and can support the original land uses to the extent practicable. The areas needed to safely operate the well include to the following:

(A) Areas used for service vehicle and rig access.

(B) Areas used for storage tanks and secondary containment facilities.

(C) Areas used for wellhead(s) and appurtenant processing facilities.

(D) Area used for any necessary safety buffer limited to the area surrounding equipment that is physically cordoned off to protect the facilities.

(E) Area used to store any supplies or equipment consented to by the surface landowner.

(F) Area used for operation and maintenance of long-term PCSM best management practices.

(iv) Earth disturbance associated with oil and gas activities that are not included in an approved site restoration plan, and other remaining impervious surfaces, shall comply with all post construction stormwater management requirements in 25 Pa. Code Chapter 102.

(v) The site is permanently stabilized according to 25 Pa. Code § 102.22(a).

(2) The restoration period in this subsection may be extended by the Department for an additional period of time, not to exceed two years, upon demonstration by the well owner or operator that:

(i) the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources; or

(ii) site restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

(3) The demonstration under paragraph (2) shall be submitted on forms provided by the Department six months after the completion of drilling, for approval by the Department. The demonstration must include all of the following:

(i) A site restoration plan that shall provide for:

(A) The timely removal or fill of all pits used to contain produced fluids or residual wastes;

(B) The removal of all drilling supplies and equipment not needed for production, including containment systems;

(C) The stabilization of the well site that shall include interim post construction storm water management best management practices in compliance with 25 Pa. Code §102.8 including 25 Pa. Code §§ 102.8(a)–(m); or

(D) Other measures to be employed to minimize accelerated erosion and sedimentation in accordance with The Clean Streams Law.

(E) A minimum uniform 70% perennial vegetative cover over the disturbed area, with a density capable of resisting accelerated erosion and sedimentation, or a BMP which permanently minimizes accelerated erosion and sedimentation.

(F) Return the portions of the site not occupied by production facilities or equipment to approximate original conditions, including preconstruction contours, and can support the original land uses to the extent practicable.

(4) Written consent of the landowner on forms provided by the Department satisfies the restoration requirements of this section provided the operator develops and implements a site restoration plan that complies with paragraph 3(i)(A)-(E) and all PCSM requirements in 25 Pa. Code Chapter 102.

(e) Restoration after plugging—Within nine months after plugging a well, the owner or operator shall remove all production or storage facilities, supplies and equipment and restore the well site to approximate original conditions, including preconstruction contours, and can support the original land uses to the extent practicable.

[(3)] **(f)** Within 60 days after the restoration of the well site, the operator shall submit a well site restoration report to the Department. The report shall be made on forms provided by the Department and shall identify the following:

[(i)] **(1)** The date of land application of the topsoil water, the results of pH and specific conductance tests and an estimated volume of discharge.

[(ii)] **(2)** A description of the method used for disposal or reuse of the free liquid fraction of the waste, and the name of the hauler and disposal facility, if any.

[(iii)] **(3)** The location, **including GPS coordinates,** of the pit in relation to the well, the depth of the pit, the type and thickness of the material used for the pit subbase, the type and thickness of the pit liner, the type and nature of the waste, **the type of any approved solidifier,** a description of the pit closure procedures used and the pit dimensions.

[(iv)] **(4)** The location of the area used for land application of the waste, and the results of a chemical analysis of the waste soil mixture if requested by the Department.

[(v)] **(5)** The types and volumes of waste produced and the name and address of the waste disposal facility and waste hauler used to dispose of the waste.

(6) The name, qualifications and basis for determination that the bottom of a pit used for encapsulation is at least 20 inches above the seasonal high groundwater table.

(7) The test results required by §§ 78.62 and 78.63 for all unconventional wells or any conventional wells with a horizontal well bore.

(g) The well operator shall forward a copy of the well site restoration report to the surface landowner if the well operator disposes of drill cuttings or residual waste at the well site.

§ 78.66. Reporting **and remediating** releases.

(a) Scope - This section applies to reporting and remediating spills or releases of regulated substances on or adjacent to well sites and access roads.

[(a) A] **(b) Reporting releases -**

(1) An operator or responsible party shall report the following spills and releases of regulated substances to the Department in accordance with paragraph (2):

(i) A spill or release of a **regulated** substance causing or threatening pollution of the waters of this Commonwealth, [shall comply with the **following** reporting and corrective action requirements; of § 91.33 (relating to incidents causing or threatening pollution).]

(ii) A spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by a containment system.

(2) In addition to the notification requirements of 25 Pa. Code § 91.33, the operator or responsible party shall contact the appropriate regional Department office by telephone or call the Department's statewide toll free number 1-800-541-2050 as soon as practicable, but no later than 2 hours after discovering the spill or release. To the extent known, the following information shall be provided:

(i) The name of the person reporting the incident and telephone number where that person can be reached.

(ii) The name, address and telephone number of the responsible party.

(iii) The date and time of the incident or when it was discovered.

(iv) The location of the incident, including directions to the site, GPS coordinates or the 911 address, if available.

(v) A brief description of the nature of the incident and its cause, what potential impacts to public health and safety or the environment may exist, including any available information concerning the contamination of surface water, groundwater or soil.

(vi) The estimated weight or volume of each regulated substance spilled or released.

(vii) The nature of any injuries.

(viii) Remedial actions planned, initiated or completed.

(3) Upon the occurrence of any spill or release, the operator or responsible party shall take necessary corrective actions to:

(i) Prevent the regulated substance from reaching the waters of the Commonwealth.

(ii) Prevent damage to property.

(iii) Prevent impacts to downstream users of waters of the Commonwealth.

(4) The Department may immediately approve temporary emergency storage or transportation methods necessary to prevent or mitigate harm to the public health, safety or the environment. Storage may be at the site of the incident or at a site approved by the Department.

(5) After responding to a spill or release, the operator shall decontaminate equipment used to handle the regulated substance, including storage containers, processing equipment, trucks and loaders, before returning the equipment to service. Contaminated wash water, waste solutions and residues generated from washing or decontaminating equipment shall be managed as residual waste.

(c) Remediating releases - Remediation of an area affected by a spill or release is required. The operator or responsible party must remediate a release in accordance with one of the following:

(1) Spills or releases to the ground of less than 42 gallons at a well site that do not impact or threaten to pollute of waters of the Commonwealth may be remediated by removing the soil visibly impacted by the release and properly managing the impacted soil in accordance with the Department's waste management regulations. The operator or responsible party shall notify the Department of its intent to remediate a spill or release in accordance with this paragraph at the time the report of the spill or release is made. Completion of the cleanup should be documented through the process outlined in 25 Pa.Code § 250.707(b)(1)(iii)(B) (relating to statistical tests).

(2) For spills or releases to the ground of more than 42 gallons or that impact or threaten pollution of waters of the Commonwealth, the operator or responsible person may satisfy the requirements of this subsection by demonstrating attainment of one or more of the standards established by Act 2 and 25 Pa.Code Chapter 250 (relating to administration of land recycling program).

(3) For releases of more than 42 gallons or that impact or threaten pollution waters of the Commonwealth, as an alternative to (2), the responsible party may remediate a spill or release using the Act 2 background or Statewide health standard in the following manner:

(i) Within 15 days of the spill or release, the operator or responsible party shall provide an initial written report that includes, to the extent that the information is available, the following:

- (A) The regulated substance involved,**
- (B) The location where the spill or release occurred,**
- (C) The environmental media affected,**
- (D) Impacts to water supplies, buildings or utilities, and**
- (E) Interim remedial actions planned, initiated or completed.**

(ii) The initial report shall also include a summary of the actions the operator or responsible party intends to take at the site to address the spill or release such as a schedule for site characterization, to the extent known, and the anticipated timeframes within which it expects to take those actions. After the initial report, any new impacts identified or

discovered during interim remedial actions or site characterization shall also be reported in writing to the Department within 15 days of their discovery.

(iii) Within 180 days of the spill or release, the operator or responsible party must perform a site characterization to determine the extent and magnitude of the contamination and submit a site characterization report to the appropriate Department Regional Office describing the findings. The report shall include a description of any interim remedial actions taken. For a background standard remediation, the site characterization shall contain information required by 25 Pa.Code § 250.204(b)-(e) (relating to final report). For a Statewide health standard remediation, the site characterization shall contain information required by 25 Pa.Code § 250.312(a) (relating to final report).

(iv) This report may be a final remedial action report if the interim remedial actions meets all of the requirements of an Act 2 background or Statewide health standard remediation or combination thereof. Remediation conducted under this section shall not be required to meet the notice and review provisions of these standards except as described in this section.

(v) If the site characterization indicates that the interim remedial actions taken did not adequately remediate the release the operator or responsible party must develop and submit a remedial action plan to the appropriate Regional Office of the Department for approval. The plan is due within 45 days of submission of the site characterization to the Department. Remedial action plans should contain the elements outlined in 25 Pa.Code § 245.311(a) (relating to remedial action plan).

(vi) Once the remedial action plan is implemented, the responsible party must submit a final report to the appropriate Department Regional Office for approval. The Department will review the final report to ensure that the remediation has met all the requirements of the background or Statewide health standard or combination thereof, except the notice and review provisions. Relief from liability will not be available to the responsible party, property owner or person participating in the cleanup.

(vii) An operator or responsible party remediating a release pursuant to this paragraph may elect to utilize Act 2 at any time.

[(b) If a reportable release of brine on or into the ground occurs at the well site, the owner or operator shall notify the appropriate regional office of the Department as soon as practicable, but no later than 2 hours after detecting or discovering the release.

(c) The notice required by subsection (b) shall be by telephone and describe:

(1) The name, address and telephone number of the company and person reporting the incident.

(2) The date and time of the incident or when it was detected.

(3) The location and cause of the incident.

- (4) The quantity of the brine released.
 - (5) Available information concerning the contamination of surface water, groundwater or soil.
 - (6) Remedial actions planned, initiated or completed.
- (d) If, because of an accident, an amount of brine less than the reportable amount as described in § 78.1 (relating to definitions), spills, leaks or escapes, that incident does not have to be reported.
- (e) Upon the occurrence of any release, the owner or operator shall take necessary corrective actions to:
- (1) Prevent the substance from reaching the waters of this Commonwealth.
 - (2) Recover or remove the substance which was released.
 - (3) Dispose of the substance in accordance with this subchapter or as approved by the Department.]

§ 78.67. Borrow pits.

- (a) An operator who owns or controls a borrow pit that does not require a permit pursuant to the Noncoal Surface Mining Conservation and Reclamation Act pursuant to the exemption in 3273.1(b) of the act (58 Pa. C.S. § 3273.1(b)) relating to noncoal borrow areas for oil and gas well development, shall operate, maintain and reclaim the borrow pit in accordance with the performance standards established in 25 Pa. Code Chapter 77 Subchapter I, 25 Pa. Code Chapter 102 and other applicable laws.**
- (b) Operators shall register the location of their existing borrow pits within 60 days of the effective date of this section by providing the Department, in writing, with the GPS coordinates, township and county where the borrow pit is located. The operator shall register the location of a new borrow pit prior to construction.**
- (c) Borrow pits used for the development of oil and gas well sites and access roads that no longer meet the conditions under section 3273.1 of the act (58 Pa.C.S. § 3273.1) shall meet one of the following:**
- (1) be restored within nine months after completion of drilling all permitted wells on the well site or 30 days after the expiration of all existing well permits on the well site, whichever occurs later in time.**
 - (2) obtain a noncoal surface mining permit for its continued use, unless relevant exemptions apply pursuant to the Noncoal Surface Mining Conservation and Reclamation Act and regulations promulgated thereunder. A two-year extension of the restoration requirement may be approved pursuant to section 78.65(d).**

§ 78.68. Oil and gas gathering lines.

(a) All earth disturbance activities associated with oil and gas gathering line installations and supporting facilities shall be limited to the construction right-of-way, work space areas, pipe storage yards, borrow and disposal areas, access roads and other necessary areas identified on the erosion and sediment control plan.

(b) Highly visible flagging, markers or signs shall be used to identify the shared boundaries of the limit of disturbance, wetlands and locations of threatened or endangered species habitat, prior to land clearing. The flagging, markers or signs shall be maintained throughout earth disturbance activities, and restoration or PCSM activities.

(c) The operator shall maintain topsoil and subsoil during excavation pursuant to the following, unless otherwise authorized by the Department:

(1) Topsoil and subsoil must remain segregated until restoration.

(2) Topsoil and subsoil must be prevented from entering watercourses and bodies of water.

(3) Topsoil cannot be used as bedding for pipelines.

(4) Native topsoil or imported topsoil must be of equal or greater quality to ensure the land is capable of supporting the uses that existed prior to earth disturbance.

(d) Backfilling of the gathering line trench shall be conducted in a manner that minimizes soil compaction to ensure that water infiltration rates of the soil have not been decreased.

(e) Equipment shall not be refueled within the jurisdictional floodway of any watercourse or within 50 feet of any body of water.

(f) Materials staging areas shall be outside of a jurisdictional floodway of any watercourse or greater than 50 feet from any body of water.

(g) The gathering line operator shall maintain the pipeline right-of-way, service roads and points of access to minimize the potential for accelerated erosion and sedimentation and to manage post construction stormwater and minimize impacts to existing riparian buffers in accordance with 25 Pa. Code Chapter 102.

(h) All buried metallic gathering lines shall be installed and placed in operation in accordance with 49 CFR Pt. 192 or 195 (relating to the requirements for corrosion control).

§ 78.68a. Horizontal directional drilling for oil and gas pipelines.

(a) Any horizontal directional drilling associated with pipeline construction related to oil and gas operations, including gathering and transmission pipelines, that occurs beneath any body of water or watercourse must be authorized by the Department in accordance with 25 Pa. Code Chapters 102 (relating to erosion and sediment control) and Chapter 105 (relating to dam safety and waterway management).

(b) Prior to commencement of any horizontal directional drilling activity, the directional drilling operator shall develop a PPC plan pursuant to 25 Pa. Code § 102.5(l) (relating to permit requirements). The PPC plan shall include a site specific contingency plan that describes the measures to be taken to control, contain and collect any discharge of drilling

fluids and minimize impacts to waters of the Commonwealth. The PPC plan must be present on site during drilling operations and made available to the Department upon request.

(c) The Department shall be notified at least 24 hours prior to commencement of any horizontal directional drilling activities, including conventional boring, beneath any body of water or watercourse. Notice shall be made electronically to the Department through its website and include the name of the municipality where the activities will occur, GPS coordinates of the entry point of the drilling operation and the date when drilling will commence.

(d) All required permits and Material Safety Data Sheets shall be on site during horizontal directional drilling operations and be made available to the Department upon request.

(e) Materials staging areas shall be outside of a floodway, as that term is defined in 25 Pa. Code Chapter 105, of any watercourse or greater than 50 feet from any body of water.

(f) Drilling fluid additives other than bentonite and water must be approved by the Department prior to use. All approved horizontal directional drilling fluid additives shall be listed on the Department's website.

(g) Horizontal directional drilling operations shall be monitored for pressure and loss of drilling fluid returns. Bodies of water and watercourses over and adjacent to horizontal directional drilling operations shall also be monitored for any signs of drilling fluid discharges. Monitoring shall be in accordance with the PPC Plan.

(h) Horizontal directional drilling activities shall not result in a discharge of drilling fluids to waters of the Commonwealth. If a discharge occurs during horizontal directional drilling activities, the drilling operator shall immediately implement the contingency plan developed pursuant to subsection (b).

(i) When a drilling fluid discharge or loss of drilling fluid circulation is discovered, the loss or discharge shall be immediately reported to the Department, and the operator shall request an emergency permit pursuant to 25 Pa. Code § 105.64 (relating to emergency permits), if necessary.

(j) Any water supply complaints received by the operator shall be reported to the Department within 24 hours through the Department's website.

(k) Horizontal directional drilling fluid returns and drilling fluid discharges shall be contained, stored and recycled or disposed of in accordance with 25 Pa. Code Article IX (relating to residual waste management).

§ 78.68b. Temporary pipelines for oil and gas operations.

(a) Temporary pipelines shall meet applicable requirements in 25 Pa. Code Chapters 102 (relating to erosion and sediment control) and Chapter 105 (relating to dam safety and waterway management).

(b) Temporary pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, shall be installed aboveground except when crossing pathways, roads or railways where the pipeline may be installed below ground surface.

(c) Temporary pipelines cannot be installed through existing stream culverts, storm drain pipes or under bridges without approval by the Department pursuant to § 105.151 (relating to permit application for construction or modification of culverts and bridges).

(d) The section of a temporary pipeline crossing over a watercourse or body of water, except wetlands, shall not have joints or couplings. Temporary pipeline crossings over wetlands shall utilize a single section of pipe to the extent practicable. Shut off valves shall be installed on both sides of the temporary crossing.

(e) In addition to the requirements of subsection (c), temporary pipelines used to transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, shall have shut off valves, check valves or other method of segmenting the pipeline placed at designated intervals, to be determined by the pipeline diameter, that prevent the discharge of no more than 1000 barrels of fluid. Elevation changes that would effectively limit flow in the event of a pipeline leak shall be taken into consideration when determining the placement of shut off valves and be considered effective flow barriers.

(f) Highly visible flagging shall be placed at regular intervals, no greater than 75 feet, along the entire length of the temporary pipeline.

(g) Temporary pipelines shall be pressure tested prior to being first placed into service and after the pipeline is moved or altered. A passing test is holding 125% of the anticipated maximum pressure for two hours. Leaks or other defects discovered during pressure testing shall be repaired prior to use.

(h) Water used for hydrostatic pressure testing shall be discharged in a manner that does not result in a discharge to waters of the Commonwealth unless approved by the Department.

(i) Temporary pipelines shall be inspected prior to and during each use. Inspection dates and any defects and repairs to the temporary pipeline shall be documented and made available to the Department upon request.

(j) Temporary pipelines not in use for more than seven days shall be emptied and depressurized.

(k) Flammable materials shall not be transported through a temporary pipeline.

(l) Temporary pipelines must be removed in accordance with the required restoration timeline of the well site it serviced under section § 78.65.

(m) An operator must keep records regarding the location of all temporary pipelines, the type of fluids transported through those pipelines, and the approximate period of time that the pipeline was installed. Such records must be made available to the Department upon request.

§78.69. Water management plans.

(a) WMPs for unconventional well operators. An unconventional well operator shall obtain a Department approved WMP pursuant to section 3211 (m) of the act (58 Pa. C.S. § 3211(m)) prior to withdrawal or use of water sources for drilling or completing an unconventional well.

(b) Implementation. The requirements imposed by the Susquehanna River Basin Commission pertaining to:

(1) posting of signs at water withdrawal locations,

(2) monitoring of water withdrawals or purchases,

(3) reporting of withdrawal volumes, in-stream flow measurements and water source purchases and,

(4) record keeping shall be implemented in the Ohio River Basin. Reports required in all river basins of the Commonwealth shall be submitted electronically to the Department.

(c) Reuse plan. An unconventional well operator submitting a WMP application shall develop a reuse plan for fluids that will be used to hydraulically fracture wells. A wastewater source reduction strategy in compliance with 25 Pa. Code Chapter 95.10(b) will satisfy the reuse plan requirement. An unconventional well operator shall make the reuse plan available for review by the Department upon request.

(d) When applicable, the requirements of this section are presumed to be achieved for those portions of a WMP for which there is an approval from the Susquehanna River Basin Commission, the Delaware River Basin Commission or the Great Lakes Commission. Nothing in this subparagraph shall effect the requirement in (a) for a WMP approved by the Department.

(e) Expiration. Individual water sources within a WMP are valid for 5 years.

(f) Renewal. A WMP renewal application shall be submitted at least six months prior to the expiration of the five year term for withdrawal or use of a water source under a WMP.

(g) Suspension and revocation. The Department may suspend or revoke an approved water source within a WMP for failure to comply with the WMP or for any reasons contained in sections 3252, 3259 and 3211(m) of the act (58 Pa. C.S. §§ 3252, 3259, 3211(m)).

(h) Termination. A WMP holder may terminate approval of any water source within an approved WMP by submitting a letter to the Department's Oil and Gas District Office requesting termination of the water source approval.

(i) Denial. The Department may deny approval of a WMP for any of the following reasons:

(1) The WMP application is administratively incomplete.

(2) The WMP will adversely affect the quantity or quality of water available to other users of the same water sources.

(3) The WMP will not protect and maintain the designated and existing uses of the water sources.

(4) The WMP will cause an adverse impact to water quality in the watershed as a whole.

§ 78.70. Road-spreading of brine for dust control and road stabilization.

(a) Road-spreading of brine from oil and gas wells for dust suppression and road stabilization shall only be conducted pursuant to a plan approved by the Department and shall not result in pollution of the waters of the Commonwealth. Only production brines from conventional wells, not including coalbed methane wells, may be used for dust suppression and road stabilization pursuant to this section. The use of drilling, hydraulic fracture stimulation flowback, plugging fluids, or production brines mixed with well servicing or treatment fluids, except detergents, may not be used for dust suppression and road stabilization.

(b) Road-spreading of brine for dust control and road stabilization shall only be conducted on unpaved roads.

(c) Road-spreading plans shall be submitted annually to the Department for approval and shall include the following:

(1) The name, address and telephone number of the plan applicant and of each person who will conduct the actual road-spreading.

(2) The license plate number of each road-spreading truck.

(3) An original signed and dated statement from the person that owns or maintains the roads where road-spreading will be conducted authorizing the use of brine on roads and that that person will supervise the frequency of road-spreading.

(4) A national wetland inventory map identifying the following:

(i) roads where the road-spreading be conducted,

(ii) any brine storage areas not located on a well site,

(iii) bodies of water and watercourses within 150 feet of the roads identified in (i).

(5) A description of how road-spreading will be conducted, including the equipment to be used and the method for controlling the rate of application of the brine.

(6) The proposed rate and frequency of application.

(7) The name of each well and the associated geologic formation from which the brine is produced.

(8) A chemical analysis of the brine using parameters provided by the Department. A representative sample of the brine may be used, provided that the operator demonstrates that the representative sample is equivalent to the brine being used for road-spreading.

(d) Plans approved under this section will expire on December 31st of each year.

(e) Road-spreading shall be conducted according to the following:

(1) The application of production brine to unpaved roads shall be performed in accordance with the Department approved plan.

(2) The brine shall only be applied at a rate and frequency necessary to suppress dust and stabilize the road, but in no event at a rate or frequency greater than the rate and frequency contained in the approved plan.

(3) The road-spreading shall prevent direct infiltration to groundwater.

(4) Brine shall not enter bodies of water or water courses.

(f) Application rates: The road shall initially be spread at a rate up to one-half gallon per square yard. The road shall subsequently be spread at a rate of up to one-third gallon per square yard. The application rate for race tracks and mining haul roads should be determined for each site and shall not exceed one gallon per square yard.

(g) Requirements for road-spreading. Road-spreading shall meet the following:

(1) Free oil shall be separated from the brine before spreading.

(2) Brine shall not be applied within 150 feet of bodies of water or watercourses.

(3) Brine must be spread by use of a spreader bar with shut off controls in the cab of the truck.

(4) Brine shall not be spread on roads or sections of roads which have a grade in excess of ten percent (10%).

(5) Brine shall not be spread on wet or frozen roads, during precipitation events, or when precipitation is imminent.

(h) Trucks utilized to spread brine shall have signs identifying plan applicant's name and business address on both sides of the vehicle. The signs shall have lettering that is at least six inches in height.

(i) A copy of the current Department approved road-spreading plan shall be kept in the road-spreading vehicle any time road-spreading is being conducted and shall be made available to the Department upon request.

(j) Except for storage at the well site, all storage of brine shall be in tanks in a manner that complies with the requirements set forth in 25 Pa. Code Chapter 299.

(k) The Department shall be notified at least 24 hours before road-spreading will begin. This notice shall be submitted electronically to the Department through its website and include the date the road-spreading will occur and where the activity will occur. If the date of road-spreading changes, the operator shall re-notify the Department in accordance with this paragraph.

(l) The person identified on the road-spreading plan shall submit a monthly report to the Department on forms provided by the Department listing the locations, frequency and amounts of brine spread during the previous month. Monthly brine spreading reports must be received by the Department on the 15th day of the month that follows the month the brine was spread. These reports must be submitted to the Department on a monthly basis even if no road-spreading of brine took place during the previous month.

(m) Any changes to the approved road-spreading plan must be submitted to the Department for approval. Approval must be obtained from the Department in writing prior to deviating from the plan or implementing any revisions to the plan.

(n) Failure to comply with this section may result in the Department rescinding the plan approval.

(o) Persons conducting road-spreading of brine for dust control and road stabilization activities shall be deemed to have a residual waste permit by rule if those activities comply with the requirements of this section.

§ 78.70a Pre-wetting, anti-icing and de-icing.

(a) Use of brine from oil and gas wells for pre-wetting, anti-icing and de-icing shall only be conducted pursuant to a plan approved by the Department and shall not result in pollution of the waters of the Commonwealth. Only production brines from conventional wells, not including coalbed methane wells or wells drilled in hydrogen sulfide areas, may be used for pre-wetting, anti-icing and de-icing pursuant to this section. The use of drilling, hydraulic fracture stimulation flowback, plugging fluids, or production brines mixed with well servicing or treatment fluids, except detergents, may not be used for pre-wetting, anti-icing and de-icing activities.

(b) Use of brine for pre-wetting, anti-icing and de-icing shall only be conducted on paved roads to address winter driving conditions.

(c) Plans required by subsection (a) shall be submitted annually to the Department for approval and shall include the following:

(1) The name, address and telephone number of the plan applicant and of each person who will conduct the actual road-spreading.

(2) The license plate number of each road-spreading trucks.

(3) An original signed and dated statement from the person that owns or maintains the roads where road-spreading will be conducted authorizing the use of brine on roads and that that person will supervise the frequency of road-spreading.

(4) A national wetland inventory map identifying the following:

(i) roads where the road-spreading be conducted,

(ii) any brine storage areas not located on a well site,

(iii) bodies of water and watercourses within 150 feet of the roads identified in (i).

(5) A description of how the brine will be applied including the equipment to be used and the method for controlling the rate of application of the brine.

(6) The proposed rate and frequency of the application.

(7) The name of each well and the associated geologic formation from which the brine is produced.

(8) A chemical analysis of the brine for the parameters required by subsection (e). A representative sample of the brine to be spread may be used, provided that the operator demonstrates that the representative sample is equivalent to the brine being used for pre-wetting, anti-icing and de-icing.

(d) All plans will expire on June 30th of each year.

(e) Brines used for pre-wetting, anti-icing, and de-icing activities shall meet the following:

<u>Allowable Level</u> <u>Pre-wetting</u>	<u>Parameter</u>	<u>Allowable Level</u> <u>Anti-icing/De-icing</u>
<u>>170,000 mg/l</u>	<u>TDS</u>	<u>>170,000 mg/l</u>
<u>>80,000 mg/l</u>	<u>Chloride</u>	<u>>80,000 mg/l</u>
<u>>40,000 mg/l</u>	<u>Sodium</u>	<u>>40,000 mg/l</u>
<u>>20,000 mg/l</u>	<u>Calcium</u>	<u>>20,000 mg/l</u>
<u>5 to 9.5</u>	<u>pH</u>	<u>5 to 9.5</u>
<u><500 mg/l</u>	<u>Iron</u>	<u><500 mg/l</u>
<u><100 mg/l</u>	<u>Barium</u>	<u><30 mg/l</u>
<u><10 mg/l</u>	<u>Lead</u>	<u><5 mg/l</u>
<u><1,000 mg/l</u>	<u>Sulfate</u>	<u><400 mg/l</u>
<u><15 mg/l</u>	<u>Oil & Grease</u>	<u><15 mg/l</u>
<u><0.5 mg/l</u>	<u>Benzene</u>	<u><0.5 mg/l</u>
<u><0.7 mg/l</u>	<u>Ethylbenzene</u>	<u><0.7 mg/l</u>
<u><1 mg/l</u>	<u>Toluene</u>	<u><1 mg/l</u>
<u><1 mg/l</u>	<u>Xylene</u>	<u><1 mg/l</u>

(f) The application rates for use of the natural gas well brines shall be limited to 10 gallons per ton for pre-wetting use, less than 50 gallons per lane per mile for anti-icing use, and less than 100 gallons per lane per mile for de-icing.

(g) Brines shall not be mixed with other types of solid wastes except bottom ash from the combustion of coal.

(h) Brine shall only be applied to the antiskid material immediately prior to roadway application. Application of brine to uncontained antiskid storage piles is prohibited.

(i) Anti-icing, de-icing and the spreading of pre-wetted antiskid material shall not be conducted on wooden or grated deck bridges.

(j) Brine shall not enter bodies of water or water courses.

(k) Except for storage at the well site, all storage of brine shall be in tanks in a manner that complies with the requirements set forth in 25 Pa. Code Chapter 299.

(l) Every three years each source of brine used for pre-wetting, anti-icing, and de-icing shall be analyzed for the parameters in subsection (e) prior to submittal of the plan required by subsection (a). The analysis shall be for each individual well utilized or it may be a composite of one or more samples of brines from wells, which produce gas from the same formation. The well permit number and producing formations shall be submitted with the analysis. If the brines used are obtained from a permitted brine treatment facility, the analysis of a representative composite sample shall be submitted along with the facility's NPDES permit number.

(m) For each new source of brine, the applicant shall submit an analysis of a representative sample of the brine including all parameters in subsection (e) to the Department. The brine analysis shall be submitted no less than thirty days prior to use. The applicant may utilize the brine in accordance with this section 30 days after submittal of the brine analysis unless otherwise instructed by the Department.

(n) Records of the analytical evaluations conducted on brine pursuant to subsections (e) and (l) shall be maintained by the applicant for a minimum of five years at the applicant's place of business and shall be available to the Department for inspection. At a minimum, these records shall include information on the dates of testing, each parameter tested, the results, the laboratory sampling procedures, analytical methodologies and the chain of custody.

(o) Trucks utilized to spread brine or pre-wetted antiskid material shall have signs identifying the person's name and business address on both sides of the truck. The signs shall have lettering that is at least six inches in height. Controls for spreading brine and pre-wetted anti-skid material shall be located in the cab of the truck.

(p) A copy of the current Department approved plan shall be kept in the spreading truck any time brine or pre-wetted antiskid material spreading is being conducted and shall be made available to the Department upon request.

(q) The Department shall be notified at least 24 hours before brine or pre-wetted antiskid material spreading will begin. This notice shall be submitted electronically to the Department through its website and include the date the activity will occur and the location where the activity will occur. If the date changes, the operator shall re-notify the Department in accordance with this paragraph.

(r) The responsible person identified on the approved plan shall submit a monthly report to the Department on forms provided by the Department listing the locations, frequency and amounts of brine or pre-wetted antiskid material spread during the previous month. Monthly brine spreading reports must be received by the Department on or before the 15th day of the month that follows the month production brine was spread. These reports must be submitted to the Department on a monthly basis even if no activity took place in the previous month.

(s) Any changes to the approved plan must be submitted to the Department for approval. Approval must be obtained from the Department in writing prior to deviating from the plan or implementing any revisions to the plan.

(t) Failure to comply with this section may result in the Department rescinding the plan approval.

(u) Persons using brine for pre-wetting, anti-icing and de-icing activities in accordance with this section shall be deemed to have a residual waste permit by rule.

* * *

§ 78.72. Use of safety devices—blow-out prevention equipment.

* * *

(i) Well drilling and completion operations requiring pressure barriers, as identified by the operator under § 78.55(b) (relating to **[control and disposal plan] planning and emergency response**), shall employ at least two mechanical pressure barriers between the open producing formation and the atmosphere that are capable of being tested. The mechanical pressure barriers shall be tested according to manufacturer specifications prior to operation. If during the course of operations the operator only has one functioning barrier, operations must cease until additional barriers are added and tested or the redundant barrier is repaired and tested. Stripper rubber or a stripper head may not be considered a barrier.

§ 78.73. General provision for well construction and operation.

(a) The operator shall construct and operate the well in accordance with this chapter and ensure that the integrity of the well is maintained and health, safety, environment and property are protected.

(b) The operator shall prevent gas, oil, brine, completion and servicing fluids, and any other fluids or materials from below the casing seat from entering fresh groundwater, and shall otherwise prevent pollution or diminution of fresh groundwater.

(c) Orphaned or abandoned wells identified pursuant to section 78.52a that likely penetrate a formation intended to be stimulated shall be visually monitored during stimulation activities. The operator shall immediately notify the Department of any change to the orphaned or abandoned well being monitored and take action to prevent pollution of waters of the Commonwealth or discharges to the surface.

(d) An operator that alters an orphaned or abandoned well by hydraulic fracturing shall plug the orphaned or abandoned well.

[(c)] (e) After a well has been completed, recompleted, reconditioned or altered the operator shall prevent surface shut-in pressure and surface producing back pressure inside the surface casing or coal protective casing from exceeding the following pressure: 80% multiplied by 0.433 psi per foot multiplied by the casing length (in feet) of the applicable casing.

[(d)] (f) After a well has been completed, recompleted, reconditioned or altered, if the surface shut-in pressure or surface producing back pressure exceeds the pressure as calculated in subsection **[(c)] (d)**, the operator shall take action to prevent the migration of gas and other fluids from lower formations into fresh groundwater. To meet this standard the operator may cement or install on a packer sufficient intermediate or production casing or take other actions approved

by the Department. This section does not apply during testing for mechanical integrity in accordance with State or Federal requirements.

[(e)] (g) Excess gas encountered during drilling, completion or stimulation shall be flared, captured or diverted away from the drilling rig in a manner that does not create a hazard to the public health or safety.

[(f)] (h) Except for gas storage wells, the well must be equipped with a check valve to prevent backflow from the pipelines into the well.

..*

§ 78.75. Alternative methods.

(a) A well operator may request approval from the Department to use an alternative method or material for the casing, plugging or equipping of a well under section **[211] 3221** of the act **[(58 P. S. § 601.211)] (58 Pa.C.S. § 3221)**.

..*

§ 78.76. Drilling within a gas storage reservoir area.

* * *

(b) The storage operator may file an objection with the Department to the drilling, casing and cementing plan or the proposed well location within 15 days of receipt of the notification and request a conference in accordance with section **[501] 3251** of the act **[(58 P. S. § 601.501)] (58 Pa.C.S. § 3251)**.

* * *

§ 78.87. Gas storage reservoir protective casing and cementing procedures.

* * *

(b) A request by an operator for approval from the Department to use an alternative method or material for the casing, plugging or equipping of a well drilled through a gas storage reservoir under section **[211] 3221** of the act **[(58 P. S. § 601.211)] (58 Pa.C.S. § 3221)** shall be made in accordance with § 78.75 (relating to alternative methods).

* * *

§ 78.91. General provisions.

(a) Upon abandoning a well, the owner or operator shall plug the well under §§ 78.92—78.98 or an approved alternate method under section **[211] 3221** of the act **[(58 P. S. § 601.211)] (58**

Pa.C.S. § 3221) to stop the vertical flow of fluids or gas within the well bore unless one of the following applies:

- (1) The Department has granted inactive status under §§ 78.101—78.105 (relating to inactive status).
- (2) The well is part of a plugging schedule that has been approved by the Department and the operator is complying with that schedule, and the schedule takes into account potential harm that the well poses to the environment or public health and safety.
- (3) The Department has approved the identification of the well as an orphan well under section **[203] 3213** of the act **[(58 P. S. § 601.203)] (58 Pa.C.S. § 3213)**, and the Department has not determined a prior owner or operator received economic benefit after April 18, 1979, from this well other than economic benefit derived only as a landowner or from a royalty interest.

* * *

§ 78.101. General provisions.

Upon application, the Department will grant inactive status for 5 years for a permitted or registered well if the application meets the requirements of section **[204] 3214** of the act **[(58 P. S. § 601.204)] (58 Pa.C.S. § 3214)** and §§ 78.102—78.105. The Department may require information to demonstrate that the conditions imposed by § 78.102 (relating to criteria for approval of inactive status) are satisfied.

* * *

§ 78.103. Annual monitoring of inactive wells.

The owner or operator of a well granted inactive status shall monitor the integrity of the well on an annual basis and shall report the results to the Department. The owner or operator shall give the Department 3 [working] **business** days prior notice of the annual monitoring and mechanical integrity testing. For wells that were drilled in accordance with the casing and cementing standards of §§ 78.81—78.86 (relating to casing and cementing), the operator shall monitor the integrity of the well by using the method described in § 78.102(2)(ii)(A), (B), (D) or (E) (relating to criteria for approval of inactive status), as appropriate. For a well that was not drilled in accordance with the casing and cementing standards, the wells shall be monitored in accordance with § 78.102(1). To qualify for continued inactive status, the owner or operator shall demonstrate, by the data in the monitoring reports, that the condition of the well continues to satisfy the requirements of § 78.102. The owner or operator shall submit the report by March 31 of the following year.

* * *

§ 78.105. Revocation of inactive status.

The Department may revoke inactive status and may order the immediate plugging of a well if one of the following applies:

- (1) The well is in violation of the act or regulations administered by the Department.
- (2) The operator of the inactive well has become insolvent, to the extent that the plan provided under § 78.102 (relating to criteria for approval of inactive status) is no longer viable to return the well to active status, or the operator otherwise demonstrates a lack of ability or intention to comply with applicable laws and regulations.
- (3) The condition of the well no longer satisfies the requirements of section **[204] 3214** of the act **[(58 P. S. § 601.204)] (58 Pa.C.S. § 3214)** and §§ 78.102—78.104 (relating to criteria for approval of inactive status; annual monitoring of inactive wells; and term of inactive status).

* * *

§ 78.121. Production reporting.

(a) The well operator shall submit an annual production and status report for each permitted or registered well on an individual basis, on or before February 15 of each year. **[The operator of a well permitted to produce gas from the Marcellus shale formation] Each operator of an unconventional well** shall submit a production and status report for each well on an individual basis, on or before February 15 and August 15 of each year. Production shall be reported for the preceding calendar year or in the case of an an [Marcellus shale] **unconventional** well, for the preceding **[6 months] reporting period**. When the production data is not available to the operator on a well basis, the operator shall report production on the most well-specific basis available. The annual production report must include information on the amount and type of waste produced and the method of waste disposal or reuse. Waste information submitted to the Department in accordance with this subsection is deemed to satisfy the residual waste biennial reporting requirements of § 287.52 (relating to biennial report).

§ 78.122. Well record and completion report.

(a) For each well that is drilled or altered, the operator shall keep a detailed drillers log at the well site available for inspection until drilling is completed. Within 30 calendar days of cessation of drilling or altering a well, the well operator shall submit a well record to the Department on a form provided by the Department that includes the following information:

* * *

(11) Whether methane was encountered in other than a target formation.

(12) The country of origin and manufacture of tubular steel products used in the construction of the well.

(13) The borrow pit used for well site development, if any.

[(11)] **(14)** Other information required by the Department.

(b) Within 30 calendar days after completion of the well, **when the well is capable of production,** the well operator shall **arrange for the [submit] submission of** a completion report to the Department on a form provided by the Department that includes the following information:

* * *

(6) Stimulation record which includes the following:

(i) A descriptive list of the chemical additives in the stimulation fluid, including any acid, biocide, breaker, brine, corrosion inhibitor, crosslinker, demulsifier, friction reducer, gel, iron control, oxygen scavenger, pH adjusting agent, proppant, scale inhibitor and surfactant.

(ii) The percent by **[volume] mass** of each chemical additive in the stimulation fluid.

(iii) **[A list of the chemicals in the Material Safety Data Sheets, by name and chemical abstract service number, corresponding to the appropriate chemical additive.] The trade name, vendor and a brief descriptor of the intended use or function of each chemical additive in the stimulation fluid.**

(iv) **[The percent by volume of each chemical listed in the Material Safety Data Sheets.] A list of the chemicals intentionally added to the stimulation fluid, by name and chemical abstract service number.**

(v) The maximum concentration, in percent by mass, of each chemical intentionally added to the stimulation fluid.

[(v)] **(vi)** The total volume of the base fluid.

[(vi)] **(vii)** A list of water sources used under an approved water management plan and the volume of water used from each source.

[(vii)] **(viii)** The total volume of recycled water used.

[(viii)] **(ix)** The pump rate and pressure used in the well.

(7) Actual open flow production and shut in surface pressure.

(8) Open flow production and shut in surface pressure, measured 24 hours after completion.

(9) The freshwater and centralized impoundment, if any, used in the development of the well.

(c) When the well operator submits a stimulation record, it may designate specific portions of the stimulation record as containing a trade secret or confidential proprietary information. The Department will prevent disclosure of the designated confidential information to the extent permitted under the Right-to-Know Law (65 P. S. §§ 67.101—67.3103) **or other applicable state law.**

[(d) In addition to submitting a stimulation record to the Department under subsection (b), and subject to the protections afforded for trade secrets and confidential proprietary information under the Right-to-Know Law, the operator shall arrange to provide a list of the chemical constituents of the chemical additives used to hydraulically fracture a well, by chemical name and abstract service number, unless the additive does not have an abstract service number, to the Department upon written request by the Department.]

§ 78.123. Logs and additional data.

(a) If requested by the Department within 90 calendar days after the completion **[of drilling]** or recompletion **of drilling [of a well]**, the well operator shall submit to the Department a copy of the electrical, radioactive or other standard industry logs run on the well.

(b) In addition, if requested by the Department within 1 year of the completion **[of drilling]** or recompletion **of drilling [a well]**, the well operator shall file with the Department a copy of the drill stem test charts, formation water analysis, porosity, permeability or fluid saturation measurements, core analysis and lithologic log or sample description or other similar data as compiled. No information will be required unless the operator has had the information described in this subsection compiled in the ordinary course of business. No interpretation of the data is to be filed.

[(b)] (c) Upon notification by the Department prior to drilling, the well operator shall collect additional data specified by the Department, such as representative drill cuttings and samples from cores taken, and other geological information that the operator can reasonably compile. **Interpretation of the data is not required to be filed.**

[(c)] (d) **[The information requested by the Department] Data required** under subsections **[(a)] (b)** and **[(b)] (c)** shall be **retained by the well operator and filed with [provided to] the Department [by the operator, within] no more than** 3 years after completion of the well, **[unless the Department has granted an extension or unless the Department has requested information as described in subsection (d). If the Department has granted an extension, the information shall be submitted in accordance with the extension, but in no case may the extension exceed 5 years from the date of completion of the well.] Upon request, the Department shall extend the deadline up to five years from the date of completion of the well.**

[(d)] (e) **[In accordance with the request of the Department, the operator shall submit the information described in this section for use in investigation or enforcement proceedings, or in aggregate form for statistical purposes.] The department shall be entitled to utilize information collected under this subsection in the enforcement proceedings, in making**

designations or determinations under section 1927-A of The Administrative Code of 1929 and in aggregate form for statistical purposes.

* * *

Subchapter G. BONDING REQUIREMENTS

Sec.

- 78.301. Scope.
- 78.302. Requirement to file a bond.
- 78.303. Form, terms and conditions of the bond.
- 78.304. Terms and conditions for surety bonds.
- 78.305. Terms and conditions for collateral bonds—general.
- 78.306. Collateral bonds—letters of credit.
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- 78.308. Collateral bonds—negotiable bonds.
- [78.309. Phased deposit of collateral.]**
- 78.310. Replacement of existing bond.
- 78.311. Failure to maintain adequate bond.
- 78.312. Forfeiture determination.
- 78.313. Incapacity of operators.
- 78.314. Preservation of remedies.

§ 78.301. Scope.

In addition to the requirements of section [215] 3225 of the act [(58 P. S. § 601.215)] **(58 Pa.C.S. § 3225) and Section 1606-E of The Fiscal Code (72 P.S. § 1606-E)**, this subchapter specifies certain requirements for surety bonds, collateral bonds, replacement of existing bonds, maintaining adequate bond and bond forfeiture.

§ 78.302. Requirement to file a bond.

For a well that has not been plugged, the owner or operator shall file a bond or otherwise comply with the bonding requirements of section [215] 3225 of the act [(58 P. S. § 601.215)] **(58 Pa.C.S. § 3225), and Section 1606-E of The Fiscal Code (72 P.S. § 1606-E)** and this chapter. A bond or bond substitute is not required for a well drilled before April 18, 1985.

§ 78.303. Form, terms and conditions of the bond.

(a) The following types of security are approvable:

(1) A surety bond as provided in § 78.304 (relating to terms and conditions for surety bonds).

(2) A collateral bond as provided in §§ 78.305—78.308. For individuals who meet the requirements of section [215(d.1)] 3225(d.1) of the act, a phased deposit of collateral bond as provided in § 78.309(b) (relating to phased deposit of collateral).

* * *

(d) The person named in the bond or other security shall be the same as the person named in the permit.

[(e) The bond amounts required under section [215] 3225 of the act are as follows:

(1) Two thousand five hundred dollars for a single well.

(2) Twenty-five thousand dollars for a blanket bond.]

* * *

[§ 78.309. Phased deposit of collateral.

(a) *Operators.*

(1) *Eligibility.* An operator who had a phased deposit of collateral in effect as of November 26, 1997, may maintain that bond for wells requiring bonding, for new well permits and for wells acquired by transfer.

(i) operator may not have more than 200 wells.

(ii) Under the following schedule, an operator shall make a deposit with the Department of approved collateral prior to the issuance of a permit for a well or the transfer of a permit for a well, and shall make subsequent annual deposits and additional well payments. For the purpose of calculating the required deposit, all of the operator's wells are included in the number of wells.

<i>Number of Wells</i>	<i>Annual Deposit</i>	<i>Per Additional Well</i>
1-10 with no intention to operate more than 10	\$50/well	N.A.
11-25 or 1-10 and applies for additional well permits	\$1,150	\$ 150
26-50	\$1,300	\$ 400
51-100	\$1,500	\$ 400
101-200	\$1,600	\$1,000

(iii) An operator shall make the phased deposits of collateral as required by the bond.

(2) *Termination of eligibility.* An operator is no longer eligible to make phased deposits of collateral when one or more of the following occur:

(i) The operator shall fully bond the wells immediately, if an operator has more than 200 wells.

(ii) If the operator misses a phased deposit of collateral payment, the operator shall do one of the following:

(A) Immediately submit the appropriate bond amount in full.

(B) Cease all operations and plug the wells covered by the bond in accordance with the plugging requirements of section 210 of the act (58 P. S. § 601.210).

(b) *Individuals.*

(1) *Eligibility.*

(i) An individual who seeks to satisfy the collateral bond requirements of the act by submitting phased deposit of collateral under section 215(d.1) of the act (58 P. S. § 601.215(d.1)), may not drill more than ten new wells per calendar year. A well in which the individual has a financial interest is to be considered one of the wells permitted under this section. A partnership, association or corporation is not eligible for phased deposit of collateral under this subsection.

(ii) The individual shall deposit with the Department \$500 per well in approved collateral prior to issuance of a new permit.

(iii) The individual shall deposit 10% of the remaining amount of bond in approved collateral in each of the next 10 years. Annual payments shall become due on the anniversary date of the issuance of the permit, unless otherwise established by the Department. Payments shall be accompanied by appropriate bond documents required by the Department.

(iv) The individual shall make the phased collateral payments as required by the bond.

(2) *Termination of eligibility.* If the individual misses a phased deposit of collateral payment, the individual will no longer be eligible to make phased deposits of collateral and shall do one of the following:

(i) Immediately submit the appropriate bond amount in full.

(ii) Cease operations and plug the wells covered by the bond in accordance with the plugging requirements of section 210 of the act.

(c) *Interest earned.* Interest earned by collateral on deposit by operators and individuals under this section shall be accumulated and become part of the bond amount until the operator completes deposit of the requisite bond amount in accordance with the schedule of deposit. Interest earned by the collateral shall be returned to the operator or the individual upon release of the bond. Interest may not be paid for postforfeiture interest accruing during appeals and after resolution of the appeals, when the forfeiture is adjudicated, decided or settled in favor of the Commonwealth.]

* * *

§ 78.306. Collateral bonds—letters of credit.

(a) Letters of credit submitted as collateral for collateral bonds shall be subject to the following conditions:

(2) The letter of credit shall be irrevocable and shall be so designated. However, the Department may accept a letter of credit for which a limited time period is stated if the following conditions are met and are stated in the letter:

* * *

(ii) The Department has the right to draw upon the credit before the end of its time period, if the operator fails to replace the letter of credit with other acceptable means of compliance with section **[215] 3225** of the act **[(58 P. S. § 601.215)] (58 Pa.C.S. § 32335)** within 30 days of the financial institution's notice to terminate the credit.

* * *

(b) If the Department collects any amount under the letter of credit due to failure of the operator to replace the letter of credit after demand by the Department, the Department will hold the proceeds as cash collateral as provided by this subchapter. The operator may obtain the cash collateral after he has submitted and the Department has approved a bond or other means of compliance with section **[215] 3225** of the act.

* * *

§ 78.308. Collateral bonds—negotiable bonds.

Negotiable bonds submitted and pledged as collateral for collateral bonds under section **[215(a)(3)] 3225(a)(3)** of the act **[(58 P. S. § 601.215(a)(3))] (58 Pa.C.S. § 3225(a)(3))** are subject to the following conditions:

* * *

§ 78.309. Phased deposit of collateral.

(a) Operators.

* * *

(2) Termination of eligibility. An operator is no longer eligible to make phased deposits of collateral when one or more of the following occur:

* * *

(B) Cease all operations and plug the wells covered by the bond in accordance with the plugging requirements of section [210] 3220 of the act [(58 P. S. § 601.210)] (58 Pa.C.S. § 3220).

* * *

§ 78.310. Replacement of existing bond.

(a) An owner or operator may replace an existing surety or collateral bond with another surety or collateral bond that satisfies the requirements of this chapter, if the liability which has accrued against the bond, the owner or operator who filed the first bond and the well operation is transferred to the replacement bond. An owner or operator may not substitute a phased deposit of collateral bond under section [215(d) and (d.1)] 3225(d) and (d.1) of the act [(58 P. S. § 601.215(d) and (d.1))] (58 Pa.C.S. § 3225(d), (d.1)) for a valid surety bond or collateral that has been filed and approved by the Department.

* * *

§ 78.402. Inspections by the gas storage operator.

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(c) Storage operators shall inspect the gas storage reservoir and storage protective area at least annually to discover if material changes have occurred that require an amendment or supplement of the map and data as required in section [301] 3231(a) and (b) of the act [(58 P. S. § 601.301(a) and (b))] (58 Pa. C.S. § 3231(a) and (b)). As part of that inspection, gas storage operators shall inspect known abandoned wells and plugged wells within the gas storage reservoir area and the gas storage protective area, subject to the right of entry, at the end of the injection season when the storage pressure is at its highest. The inspection record shall include observed evidence of gas leaking and other conditions that may be hazardous to the public or property.

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§ 78.403. Gas storage well integrity testing.

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(g) The Department may require the operator to perform additional tests it deems necessary after a conference is held under section [501] 3251 of the act [(58 P. S. § 601.501)] 58 Pa. C.S. § 3251.

§ 78.404. Maximum storage pressure.

A gas storage reservoir operator, who has not requested approval of a maximum storage pressure for a gas storage reservoir, shall request, by February 15, 1995, Department approval of a maximum gas storage reservoir pressure in accordance with the following:

(1) The maximum shut-in wellhead pressure (psig) may not exceed the highest shut-in wellhead pressure (psig) found to exist during the production history of the reservoir, unless a higher pressure is established through testing of caprock and pool containment. The methods used for determining the higher pressure shall be determined in conference with the Department in accordance with section [501] 3251 of the act.

* * *

§ 78.902. Policy.

(a) This statement of policy sets forth the policy of the Department in regard to inspections of oil and gas well locations, sites, property, facilities, operations or activities governed by the act, the Coal and Gas Resource Coordination Act (58 P. S. §§ 501—518) or the Oil and Gas Conservation Law (58 P. S. §§ 401—419). This policy does not create a duty or obligation upon the Department to conduct a minimum or maximum number of inspections per year or during a certain period of time.