



Oil and Gas Management

Section 2: Site Restorations and PCSM's

Office of Oil and Gas Management
Oil and Gas Industry Training
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Site Restoration Regulations

- Act 13- § 3216(a) The Oil and Gas Act
- 25 Pa. Code 78.65 Oil and Gas Wells Regulations
- 25 Pa. Code 102.22(a)- Site Stabilization
- 25 Pa. Code 102.7 Permit termination (NOT)
- 25 Pa. Code 102.8 Post Construction Storm Water Management Plans (PCSM)



Restoration Requirements- § 3216

Pursuant to § 3216(a) of the Oil and Gas Act, each oil or gas well owner or operator must restore the land surface within the area disturbed in siting, drilling, completing and producing a well. This requirement is applicable within all areas of disturbance identified as part of the well site in the project's E&S Plan and PCSM Plan.



Restoration Requirements- § 3216(c)

Restoration after Drilling

- Pursuant to § 3216(c) of the Oil and Gas Act, within **9 months** after completion of drilling of any well, the owner or operator must restore the well site, remove or fill all pits used to contain produced fluids or industrial wastes and remove all drilling supplies and equipment not needed for production.
- Drilling supplies and equipment not needed for production may be stored on the well site if express written consent of the surface landowner is obtained.



Defining Completion of Drilling- § 3216(c)

- Particular attention should be paid to the fact that the **9 month** restoration period begins after total depth (TD) is reached which is the date of the **completion of drilling**.
- Hydraulic Fracturing, flow back periods, and other related well completion activities are **not** defined as drilling activities.



Restoration and Multi-Well Pads

When multiple wells are drilled on a single well site, the Department interprets **§3216** of Act 13 The Oil and Gas Act to mean that post drilling restoration is required within **9 months** after *completion of drilling* of all permitted wells on the well site and/or the expiration of all existing well permits on the well site, whichever occurs later in time.



Restoration of Centralized Impoundments

- Post drilling restoration includes the restoration of any centralized wastewater or freshwater impoundments.
- Centralized impoundments must be restored within 9 months *after the final well serviced by the impoundment is drilled or the last valid permit has expired.*



Restoration of Borrow Pits

- Restoration of Borrow Pits is not required until **9 months** after the *final well serviced with material obtained from the borrow pit is drilled or the last valid permit has expired.*



Restoration after Plugging

- Pursuant to § 3216(d) of the Oil and Gas Act, within **9 months** after plugging a well, the owner or operator shall remove all production or storage facilities, supplies and equipment and restore the well site.



Restoration after Plugging- Multiple Wells

- When multiple wells are plugged on a single well site, the Department interprets § 3216 of the Oil and Gas Act to mean that the 9 month timeframe for permanent restoration begins after plugging the final well on that site.



Restoration and PCSM Plans

- Under to 25 Pa. Code § 102.8(n), the portion of a site restoration plan that identifies PCSM BMPs to manage stormwater from Oil and Gas Activities permitted in accordance with Chapter 78 may be used to satisfy § 102.8's PCSM Plan requirements if the PCSM/Site Restoration Plan meet the requirements of § 102.8 and the following 8 subsections:



Restoration and PCSM Plans

(b) General PCSM planning and design-

1. Preserve the integrity of stream channels and maintain and protect the physical, biological and chemical qualities of the receiving stream
2. Prevent an increase in the rate of stormwater runoff.
3. Minimize any increase in stormwater runoff volume.
4. Minimize impervious areas.



Restoration and PCSM Plans

- (b) General PCSM planning and design- (cont.)
5. Maximize the protection of existing drainage features and existing vegetation.
 6. Minimize land clearing and grading.
 7. Minimize soil compaction
 8. Utilize other structural or nonstructural BMP's that prevent or minimize changes in stormwater runoff.



Restoration and PCSM Plans

- (c) Consistency with existing E&S Plan- The PCSM Plan must be planned, designed and implemented to be consistent with the existing E&S Plan. The plans should not contradict one another.



Restoration and PCSM Plans

- (e) PCSM Plan preparer requirements- The PCSM plan must be prepared by a person trained and experienced in PCSM design methods.
- (f) PCSM Plan contents- The PCSM Plan must contain drawings and a narrative consistent with the requirements of Chapter 102. (See Chapter 102.8(f) for details).



Restoration and PCSM Plans

- (h) PCSM Implementation for special protection waters- To satisfy the anti-degradation implementation requirements in 93.4c(b) the permittee must evaluate non-discharge alternatives unless non-discharge alternatives do not exist for the project. If non-discharge alternatives do not exist ABACT BMP's should be implemented as listed in the *Pennsylvania Stormwater Best Management Practices Manual No. 363-0300-002*.



Restoration and PCSM Plans

(i) Complaint or site inspection- Upon complaint or site inspection, the Department or conservation district may require that the PCSM Plan be submitted for review and approval to ensure compliance with this chapter.



Restoration and PCSM Plans

(l) Final Certification- The permittee shall include with the notice of termination “Record Drawings” with a final certification statement from a licensed professional. (See Chapter 102.8(l) for the final certification statement verbatim)



Restoration and PCSM Plans

(m) PCSM long-term operation and maintenance requirements (when applicable)

- Generally this section ensures that long-term PCSM are maintained by the permittee or co-permittee or and that they are responsible to record an instrument with the recorder of deeds which will assure that the long-term PCSM BMP’s are managed into the future indefinitely. (See Chapter 102.8(m) for a more detailed explanation)



When is a site restored?

The Department considers a well site to be restored under § 3216 of Act 13 when the operator meets the following criteria:

- All permanent post construction stormwater control features as identified in the PCSM/Site Restoration Plan are in place.



When is a site restored?

- Remaining impervious areas are minimized. See 25 Pa. Code § 102.8(b)(4). Impervious areas include but are not limited to 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 a synthetic or other type of impermeable liner.



When is a site restored?

All areas of the site not needed for production are restored to approximate original conditions including preconstruction contours and land uses. The Department considers the following areas as needed for production:



Areas needed for production?

- Areas used for truck access (area should be no larger than needed for trucks to access the site and turn around to leave the site)
- Areas used for storage tanks and secondary containment facilities
- Area used for well head(s) and appurtenant processing facilities



Areas needed for production?

- Area used for any necessary safety buffer
- Area used to store any supplies or equipment consented to by the surface land owner
- Area used for implementation and management of long term PCSM BMPs



Areas needed for production?

- Pursuant to 25 Pa. Code § 102.8(m)(1) the permittee or co-permittee shall be responsible for long-term operation and maintenance of PCSM BMPs unless a different person is identified in the Notice of Termination and has agreed to long-term operation and maintenance of the PCSM BMPs.
- Long Term Responsibility for the maintenance for PCSM BMP's shall be recorded in the deed.



What else needed for Restoration?

70% Perennial Vegetative Cover

- The disturbed area is covered with a minimum uniform **70%** perennial vegetative cover with a density capable of resisting accelerated erosion and sedimentation or an acceptable BMP which permanently minimizes accelerated erosion and sedimentation.
- (See DEP Erosion and Sedimentation Control Manual for details on determining appropriate vegetative cover)



What else needed for Restoration?

Restoration Plan Drawings

- Areas needed for production and the proposed final site layout including driveways, storage tanks, locations of wellheads and appurtenant gas processing facilities, safety buffer, equipment consented to by the surface owner and permanent PCSM BMPs should be shown on the site restoration plan drawings. The site should be organized in the most spatially efficient manner practicable to minimize any unrestored area.



Restoration Extensions?

According to 3216 the current 9 month well site restoration requirement may be extended by the department for **an additional 2 years** upon a determination of the following:

- The extension will result in less earth disturbance, increased water reuse or more efficient development of the resource; or
- Site restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor



Restoration Extensions:

If a demonstration is made that an extension will result in less earth disturbance, increased water reuse or more efficient development of the resource, the operator shall do all of the following:



Restoration Extensions:

Provide a site restoration plan that provides for the following:

- Timely removal or fill of all pits used to contain fluids or industrial wastes;
- Removal of all drilling supplies and equipment not needed for production;



Restoration Extensions:

Provide a site restoration plan that provides for the following: (cont.)

- Stabilization of the well site, including post-construction storm water management best management practices; or
- Other measures to minimize accelerated erosion and sedimentation



Restoration Extensions: (cont.)

- Provide for returning portions of the site not occupied by production or equipment to approximate original contours capable of supporting pre-drilling existing uses



Well Site Restoration Reports- OG-0075

- Pursuant to 25 Pa. Code § 78.65(3), within **60 days** after the restoration of the well site, the operator must submit a well site restoration report to the Department. *Refer to Appendix B for copy of OG0075.*
- *The Department considers a well site to be under construction until the Department receives the well site's restoration report.*



Who reviews- OG-0075 's

- Who reviews OG0075's? – In most cases, the Water Quality Specialist will review and field verify the accuracy of the OG-75 before signing off on the Well Site Restoration Report. A *signed copy* should be provided to the operator and one copy should be kept in *each* well permit file.



What should be reviews- OG-0075 's

- Have all of the pits been restored properly?
- If cuttings were encapsulated are the signs on the surface that the free liquid fraction was not adequately removed as required in 25 Pa. Code § 78.61(a)(6) and § 78.62(a)(14)
- Ensure that the pit is backfilled to at **least 18"** over the top of the liner and graded to promote runoff and no depressions.



What should be reviewed- OG-0075 's

- Ensure that the surface area of the backfilled pit area is revegetated, or stabilized in another manner, to protect against excessive erosion.
- Ensure that all appropriate testing is done on the leachate as required by 25 Pa. Code § 78.62(b).



Is everybody doing this? - OG-0075 's

Leachate testing of cuttings:

- The test results should be evaluated by the WQS or in some cases a Solid Waste Management Specialist.
- does not exceed **50% of the maximum concentration in § 261.24 Table 1** (relating to characteristic of toxicity)
- **50 times the primary maximum contaminant level in effect under § 109.202** (relating to state maximum contaminant levels)
- See **Appendix C- for Table 1 and Primary MCL's.**



Restoration when well is not drilled

Pursuant to 25 Pa. Code § 78.65(2) 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 application by the well owner or operator for reasons of adverse weather or lack of essential fuel, equipment or labor.



ESCGP Permit Termination (NOT)

According to 25 Pa. Code § 102.7, upon completion of post drilling restoration or permanent restoration of the well site

Permitee must submit a notice of termination to the Department. The notice of termination must include the following:



What should be included in the (NOT)

1. The facility name, address and location.
2. The operator name and address.
3. The permit number.
4. The reason for permit termination.
5. Identification of the persons who have agreed to and will be responsible for long-term operation and maintenance of the PCSM BMPs in accordance with 25 Pa. Code § 102.8(m) and proof of compliance with 25 Pa. Code § 102.8(m)(2) (when applicable).



DEP Approval of the (NOT)

- Until the permittee or co-permittee has received written approval of a notice of termination, the permittee or co-permittee will *remain responsible for compliance with the permit terms and conditions including long-term operation and maintenance of all PCSM BMPs on the project site and is responsible for violations occurring on the project site.*



DEP Approval of the (NOT)

- The Department or conservation district will conduct a final inspection and approve or deny the notice of termination within 30 days.



DEP Approval of the (NOT)

***Inspection Point-** *The WQS will typically conduct these inspections to ensure that the Restoration/PCSM Plan has been implemented. In order for the NOT to be granted by the Department the WQS will ensure that all Well Site Restoration Reports for each well pad/site has been received and approved for all well pads included in the project.*



Earth Disturbance after Restoration

Scenario #1: After an OG0075 is submitted, reviewed, and signed by the WQS the operator needs to go back and disturb soil in or around the well pad. The operator can do this provided that requirements of Chapter 102 are followed. If more than 5,000 ft² are disturbed an E&S plan must be prepared and followed (The original E&S plan may suffice provided that it is updated to reflect any relevant changes like disturbed area, changes in BMP's, runoff calculations, etc...) This would apply for sites < 5 acres or if ESCGP still valid.



Earth Disturbance after Restoration

***Inspection Point-** *Once the Department approves a submitted NOT the permit is officially terminated. If the operator needs to go back in they are starting from scratch and will have to apply for a new permit if the disturbed area ≥ 5 acres. If more than 5,000 ft² but < 5 acres only an E&S plan needs to be prepared in accordance with Chapter 102 and the E&S Manual.*



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