# **Remediation and Field Reclamation Day**

#### presented by Penn State Marcellus Center for Outreach and Research

#### May 13, 2013 8:00 a.m. - 5:00 p.m.

### Pennsylvania College of Technology, Williamsport, PA

This short course will be useful to engineers, ecologists, consultants, energy company representatives and field construction contractors.

#### **Topics to be covered:**

- Pennsylvania regulatory update
- Use of best management practices
- Evolving technologies
- Methods to minimize environmental and habitat impacts.

#### Why attend?

- Shale energy resources have been described as a "game changer" with potential to reduce our carbon footprint, stimulate economic development and promote energy independence. Development of this resource also has raised concerns about how to protect natural resources including water, land and air.
- This one-day course will entail a morning session of presentations by Penn State faculty involved with well site construction and reclamation practices. The afternoon will include a field trip to well pad and pipeline sites to examine realworld applications of innovative engineering and best available technologies.
- The instructors for this course have extensive expertise on economic development, shale gas research, and industry-wide best management practices issues related to the development of Marcellus Shale gas.
- This course is eligible for Professional Development Hours (PDHs) and Continuing Education Units (CEUs). All registrants will receive a set of course materials.

#### Registration

The cost for this course is \$379 or \$329 for registrations before April 29, 2013.
Space is limited to 25 participants. Register at http://www.cvent.com/d/6cq5ng.

#### **Marcellus Center for Outreach and Research**

Penn State University and the Marcellus Center for Outreach and Research have been at the forefront of shale energy development providing educational programs to thousands of Pennsylvania residents, elected officials, landowners and business groups as well as engaging in research to promote the protection of Pennsylvania's water and environmental resources from adverse impacts of resource extraction.

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Marcellus Center for Outreach and Research Short Course: Remediation and Field Reclamation Day Monday, May 13, 2013, 8 a.m. – 4 p.m. Pennsylvania College of Technology Williamsport, PA

Penn State University and the Marcellus Center for Outreach and Research have been at the forefront of shale gas development — providing educational programs to thousands of Pennsylvania residents, elected officials, landowners and business groups as well as engaging in research to promote the protection of Pennsylvania's water and environmental resources from adverse impacts of resource extraction.

Shale gas has been described as a "game changer" with the potential to reduce our carbon footprint, stimulate economic development and promote energy independence. Advancements in horizontal drilling and gas shale stimulation techniques have increased access to domestic and global shale gas reserves.

This short course will entail a morning session of presentations by Penn State faculty involved with well site construction and reclamation practices. Topics will include a Pennsylvania regulatory update, use of best management practices, evolving technologies, and methods to minimize environmental and habitat impacts. The afternoon will include a field trip to well pad and pipeline sites to examine real-world applications of innovative engineering and best available technologies.

Instructors for this course have extensive expertise in workforce and economic development, shale gas research, regional labor analysis and industry-wide best management practices. Course content will be relevant for business owners, entrepreneurs, environmental consultants, project planners and engineers, economic development officials, government officials, attorneys and more.

Instructors will include David Yoxtheimer, P.G., a College of Earth and Mineral Sciences Extension Associate. Yoxtheimer investigates water-treatment, water-quality and environmental issues related to natural resource development and specifically to the Marcellus Shale. He is an outreach liaison between Penn State, the natural gas industry, environmental organizations and local government and the public, advising stakeholders on key environmental issues.

"The remediation and field reclamation workshop is designed to provide practitioners the latest research and best engineering principles to ensure that well sites are designed and reclaimed to minimize land disturbance and wildlife habitat impacts," Yoxtheimer said.

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## Agenda

| 8:00 a.m.  | Registration   |
|------------|--|
| 8:30 a.m.  | General Overview, Introductions, Announcements   |
| 9:00 a.m.  | Soil and Surface Hydrology Impacts and BMPs (best management practices)  |
| 9:45 a.m.  | Wildlife Impact and BMPs for Restoration   |
| 10:30 a.m. | Access Road Construction   |
| 11:15 a.m. | Well Pad Liners and Other Technologies   |
| 12:00 noon | Lunch  |
| 12:45 p.m. | Field Excursion: visit a well pad and pipeline sites to see real-world applications of innovative engineering and best available technologies. |
| 4:30 p.m.  | Wrap up  |