



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF REGULATORY AND RESOURCES ENHANCEMENT

August 13, 2012

Rich O'Brien
D.A. Nolt, Inc.
53 Cross Keys Road
Berlin, NJ 08009

RE: D.A. Nolt, Inc. Well Pad Containment & Storage System

Dear Mr. O'Brien:

The Department would like to thank you for the opportunity to allow our engineers to review the construction design plans of your company's gas well pad containment and storage system at our central office in Harrisburg on January 12, 2012 and to also allow for our field staff to be present at your field demonstration in Bradford County on May 10, 2012.

While the Department does not have particular gas well pad design specifications or permits actual gas well pad designs, it is always interested in reviewing new and innovative well site designs that allow for greater protection of the environment by various means.

Specifically, your well pad containment and storage system allows for the reduction of truck traffic by capturing precipitation underneath the surface of the well pad for later use. This practice also reduces the need to withdraw freshwater from the Waters of the Commonwealth. This is especially beneficial in times of drought. The subsurface storage of fresh water also allows for a smaller footprint of earth disturbance, since the well pad will not need to accommodate massive amounts of fresh water storage on its surface during the well drilling and stimulation processes. Additionally, this subsurface containment and storage system could provide protection to the surrounding environment throughout the lifetime of the well site.

As you are aware, Pennsylvania Act 13 of 2012 strengthened environmental protective measures for the drilling of unconventional gas formations. In particular, it is required in Chapter 32, Section 3218.2(a) that an unconventional gas well site meets specific requirements as noted:

Pa. C.S. § 3218.2. Containment for unconventional wells.

- (a) **Sites.**--Unconventional well sites shall be designed and constructed to prevent spills to the ground surface or spills off the well site. Containment practices shall meet all of the following:
- (1) Be instituted on the well site during both drilling and hydraulic fracturing operations.
 - (2) Be sufficiently impervious and able to contain spilled material or waste until it can be removed or treated.
 - (3) Be compatible with the waste material or waste stored or used within the containment.

The D.A. Nolt gas well pad containment and storage system incorporates a subsurface liner system that will prevent spills from leaving a well site and it should meet the three containment practices that are required in Act 13 of 2012 for unconventional well sites. The D.A. Nolt electric potential differential method to test for any leaks in the subsurface liner system should ensure the liner's integrity to act as secondary containment if a spill occurs.

The Department always welcomes the opportunity to evaluate new approaches, designs and technologies that are being implemented by industry to protect the Commonwealth's resources. The Department is encouraged with your company's commitment to meeting that goal. If you have any additional questions or concerns, please contact me by e-mail at sbrokenshi@pa.gov or by telephone at 717.783.9893.

Sincerely,

A handwritten signature in blue ink that reads "Stephen D. Brokenshire". The signature is written in a cursive style with a large, prominent initial 'S'.

Stephen D. Brokenshire
Mineral Resources Program Specialist
Bureau of Regulatory and Resources Enhancement