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Pennsylvania Department of Environmental Protection

321 North State Street
North Warren, PA 16365
September 12, 2008

Warren District Office

814-723-3273
Fax: 814-723-0964

CERTIFIED MAIL NO. [REDACTED]

[REDACTED]
[REDACTED]

Re: CID NO. 257185

[REDACTED]
Act 223 Section 208 Determination
Hamilton Township, McKean County

Dear [REDACTED]

Section 208 of the Oil and Gas Act requires that the Department make a determination concerning the possible contamination of your water supply by recent oil/gas activities within forty-five (45) days of your request for an investigation. This determination is based upon water analyses collected from the spring that serves as a water supply to both of your residences and which were collected by the Department and G and C Coal Analysis Lab., Inc. as contracted by Seneca Resources. The determination is also based upon a review of Seneca Resources' oil/gas well development schedule, drilling logs, well records, and a hydrogeology review of the geology influencing your spring.

This investigation has determined that your water supply was influenced by recent oil/gas well development upslope of your spring. Water chemistry indicated slightly elevated Chlorides, Total Dissolved Solids, Sodium, Specific Conductivity and Hardness at the initial sampling on July 30, 2008, indicative of a dilute brine solution and suggesting a contamination to the shallow ground water by frac water. Barium, Magnesium, Manganese and Calcium were also present at levels exceeding EPA's drinking water standards. Within 24 hours of the initial sampling, further samples showed a 50% reduction in these parameters. Continued weekly monitoring has indicated that your spring is returning to pre-drill conditions as all parameters are now within the drinking water standards established by the EPA.

During the course of the Department's samplings, there have been no detections of Total Petroleum Hydrocarbons or methane/ethane, as such, eliminating the potential of a petrogenic source of the contamination. Throughout this incident, Seneca Resources has supplied you with a temporary source of household water and bottled water for drinking.

At this time, the Department recommends that Seneca Resources continues to conduct water analysis of the spring to insure this trend continues. The Department will also conduct samplings to



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monitor these results. As of the Department's sampling of your spring conducted on September 4, 2008, all parameters were within EPA's drinking water standards. Following a recommended disinfection of your spring and water system, you may resume using this source as potable water supply.

Enclosed, you will find copies of the laboratory analyses and an interpretive fact sheet to help you understand your water quality reports. Also enclosed is the hydrogeology report of your spring system used in this investigation.

If you have any questions, please feel free to contact me at 814-723-3273.

Sincerely,



Brian B. Ayers
Water Quality Specialist
Oil and Gas Management

Enclosures

cc: NWRO
WDO
Tim Curry, O&G Inspector
Seneca Resources
[REDACTED]

BBA:br:rm