June 2007



New York State Department of Environmental Conservation Division of Environmental Remediation



## **PROJECT UPDATE**

O&R Port Jervis Former MGP Site City of Port Jervis, Orange County, New York Site No. 3-36-049

The New York State Department of Environmental Conservation (the Department) held a public meeting on the Proposed Remedial Action Plan (PRAP) for the Orange & Rockland (O&R) Port Jervis Former Manufactured Gas Plant (MGP) Site on February 21, 2007. During the meeting and the extended public comment period, comments were received concerning a number of issues. The Department, in conjunction with the NYSDOH, continues to gather and review data to assist in developing responses to some of the comments raised relative to the remedy. While the submitted comments relative to the PRAP addressed many issues, some of the concerns voiced were related to the presence of contamination at the site and its possible impacts to the area. A discussion and response to issues such as the potential for contaminant spread due to flooding of the area and the characterization of the site are provided on subsequent pages.

To further address these and other comments and concerns relative to the site and the PRAP, in the coming weeks an Availability Session will be scheduled. The date and location of this meeting will be announced in a separate mailing. The Availability Session will provide an opportunity for residents to question Department and NYSDOH staff relative to the remedial activities conducted to date, planned actions, as well as any health-related questions and concerns Many of the comments raised during the public meeting and in written comments received during the extended comment period pertained to periodic flooding of the Delaware River and whether flood waters may have transported site-related contamination to other properties. The contaminants of concern at this site are MGP wastes. These wastes are often referred to as coal tar, a non-aqueous phase liquid or "NAPL".

Several residents and property owners in the block to the northeast of the site, bounded by King Street, Brown Street, Railroad Avenue and Pike Street, were concerned whether river flooding brought site-related contamination into their basements. For the reasons set forth below, the Department believes it is very unlikely that the MGP site affected these properties as a result of flooding.

- The Remedial Investigation performed at this site delineated the extent of the MGP wastes. Investigatory work performed after one of the recent flood events did not reveal a change from results obtained prior to the flooding.
- There have been several floods in Port Jervis since the MGP ceased operations and before the investigation was undertaken. Despite this, the investigation was able to delineate the extent of the NAPL, and the results were in keeping with what would generally be expected given the nature of NAPL and the geology of the region, thus suggesting that historic flood events did not affect the migration of the NAPL.
- The Investigation determined that the NAPL is migrating to the south, thus going away from the properties affected by recent flooding.
- There were several soil borings placed between the site and the flooded properties to the north. None of these borings indicated the presence of site-related contamination.

All this suggests that there is no reason to suspect that MGP-related contamination has directly affected the flooded properties. This observation is consistent with both the chemical and physical properties of NAPL and the geology of the site, as explained below.

- MGP-related NAPL is denser than water. As a result, it does not float on groundwater, but rather sinks through it.
- Since the NAPL is heavier than water, a rising water table would not cause NAPL to rise along with it. Therefore, during a flood event, NAPL would remain at its typical depth, about 20-30 feet below the surface in most areas at this site, which is well below the level of a typical basement.
- At this site, most of the contamination exists in a cobble/gravel geologic layer, likely due to the large pore spaces in this geologic unit relative to other geologic units. This layer is several feet below the groundwater table, even under normal conditions (i.e., periods when there is no flooding).
- Flooding would likely push the MGP-related NAPL deeper, because the increased weight of additional water above it would push it down further.

Therefore, NAPL that is below the typical water table would not tend to be affected by flooding. The only areas where NAPL is present at shallower depths are in immediate source areas on O&R property where the former MGP structures were located. The flooding could potentially affect the migration of NAPL in this area very slightly; however, it is very unlikely to cause the NAPL in this area to affect off-site properties for the following reasons:

- MGP NAPLs are less mobile than water in the subsurface. This can be evidenced by the fact that over the course of several decades the NAPL has only migrated a few hundred feet.
- MGP NAPL is more viscous (thicker) than water, which limits the mobility of the NAPL relative to water.
- As a result, the relatively short duration of the flooding events (days) would not have caused the NAPL to migrate significantly compared to how far they have moved since the MGP operated (decades).
- Areas where NAPL is located above the typical watertable are approximately 150 feet from the closest of the properties in question, therefore, it is not at all likely the NAPL migrated to the properties in question.

Some comments/concerns expressed were concerned with whether the flood waters may have contained dissolved contaminants due to the proximity of the site.

• Since the groundwater contamination at the site is emanating from areas where there is NAPL in the subsurface, and since, as discussed above, the flooding is very unlikely to have caused any appreciable shifting of these source areas, the plume of contaminated groundwater is not likely to have spread significantly during flooding. The plume of contaminated groundwater has not been found to extend to the properties in question. The levels of any contaminants in the flood waters attributable to this site would likely have been further diluted during floods due to the large volume of water involved.

Several people at the meeting requested that sampling be performed on a wider scale than previously performed during the Remedial Investigation. Some additional sampling has since been conducted, and some further work is planned, but, for the following reasons, the Department does not believe that such testing is necessary to determine the nature and extent of the contamination attributable to this site.

- The primary contaminant of concern, being the MGP waste NAPL, has been identified and delineated. There is no evidence that this contaminant plume has migrated to other areas or would be likely to move beyond its known extent, even during flooding events.
- Contaminants associated with this site are constituents of the MGP NAPL and fall into groups of chemicals called Volatile Organic Compounds (VOCs) and Polycyclic Aromatic Hydrocarbons (PAHs). The VOCs at this site are benzene, toluene, ethylbenzene and xylenes (BTEX), which are also constituents of petroleum products. PAHs are created as a result of the incomplete combustion of organic materials, including gasoline, coal, wood, charcoal, etc. These compounds are ubiquitous in older urban areas where oil burners, fireplaces, chimneys, car

exhaust and asphalt exist. In addition, ash containing PAHs was historically placed over large areas as fill material. Although flood waters would be expected to contain BETX and PAHs, the source would be unidentifiable since it could have come from any numbers of sources upstream ofor within Port Jervis, which has had a long industrial history. Most, if not all, of those industries would have produced similar contaminants.

- During the investigation, surface soil sampling performed away from the site (to determine "background" levels for the area) found levels of certain PAHs slightly above Departmental guidance values.
- Due to both the urban setting and the nature of PAHs, which do not rapidly degrade, it is likely that low levels of PAHs would be found at any property in the area, including the ones that experience flooding. However, due to the factors discussed above, such a finding would not show that the PAHs were associated with the MGP site.

Lastly, the concern was raised that certain monitoring wells installed along the riverbank were damaged and the broken wells were unsightly.

• These wells will be closed properly and the broken pieces of the wells removed and disposed of this summer during a time of low flow in the river.

In conclusion, the data collected before, during and after the Remedial Investigation does not suggest that flooding in the area has affected the impact the MGP site has had on the immediate community. The data acquired during the Remedial Investigation supports that the nature and extent of site-related contaminants has been delineated. Prior to implementation of any remedy, however, some work will need to be performed in order to place and size the remedial systems most effectively. If any new information is noted during those activities, appropriate actions will be taken.

When the remaining data concerning other comments about the PRAP is received and reviewed, the Department will hold an Availability Session in the community to discuss all the concerns raised and the Department's findings before a Record of Decision (ROD) is issued. A Fact Sheet will be sent to the site's contact list announcing the date, time and place for the session.

Copies of documents relating to the site continue to be available at the Document Repositories.

## **Document Repositories:** To view the complete PRAP and other site information:

Port Jervis Public Library 138 Pike Street Port Jervis, New York 12771 (845) 856-7313 Hours: Mon.& Thurs. 10:00 am - 9:00 pm Tues., Wed. & Fri. 10:00 am - 6:00 pm Saturday 10:00 am - 5:00 pm

NYSDEC Region 3 21 South Putt Corners Road New Paltz, New York 12561 (845) 256-3154 Hours: Mon-Fri 8:30 am - 4:45 pm NYSDEC, Remedial Bureau C 625 Broadway, 11<sup>th</sup> Floor Albany, New York 12233-7014 Contact: Joshua Cook Phone: (518) 402-9564 Hours: Mon-Fri 7:30 am - 3:45 pm

*For More Information: Call or write the following staff for more information about:* 

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