

PEOPLES NATURAL GAS
(Dubuque, Iowa)

GENERAL DESCRIPTION

The 10-acre site is located in downtown Dubuque, in the W 1/2 of the SE 1/4 of Section 19, T89N, R3E, Dubuque County, Iowa, and is bordered by East Eleventh Street, Kerper Boulevard, and the Soo Line Railroad. The site is co-owned by the city of Dubuque and the state of Iowa. The previous site owner was Peoples Natural Gas. Midwest Gas is the responsible party for the cleanup of the site. The site was entered on the Registry in August 1989. The EPA placed the site on the National Priorities List (NPL) in August 1990.

SITE CLASSIFICATION

In 2010 the site is re-classified "d" in accordance with 455B.427.3.

TYPE AND QUANTITY OF HAZARDOUS WASTE

A manufactured gas plant operated at the site from the early 1900s until 1954. During its operation, coal tar sludges, cyanide-bearing iron oxide waste, and other associated gasification wastes were generated. Some of these wastes were disposed of at the site. The city of Dubuque operates a Public Works Garage (with leaking underground storage tanks) on the eastern part of the site. The disposed wastes at the site are in contact with groundwater.

TABLE 1 Groundwater Contamination			
Compound	Highest Value (ug/L)	Compound	Highest Value (ug/L)
Benzene	4,400	Anthracene	180
Toluene	2,000	Fluoranthene	220
Styrene	1,300	Pyrene	170
Phenol	9,800	Benzo(a)anthracene	100
Cresols	30,000	Chrysene	78
2,4-Dimethylphenol	25,000	Benzo(a)fluoranthene	92
Naphthalene	5,800	Benzo(a)pyrene	75
2-Methylnaphthalene	830		
Acenaphthylene	630	Cyanide	4,700
Acenaphthene	220	Arsenic	57
Fluorene	300	Lead	670
Penanthrene	520	Iron	120,000

Values in Bold exceed Iowa Land Recycling Program standards for protected ground water

SUMMARY OF PUBLIC HEALTH AND ENVIRONMENTAL CONCERNS

- **The Primary public health concern at this site is the protection of public drinking water. The primary environmental concern is for protection of surface water of the Mississippi and associated fish and wildlife.**

The city's municipal water wells are located about 1.6 miles north of the site. The Mississippi River is about 2000 feet east and Dove Harbor is about 500 feet east of the site. The Upper Mississippi River Wildlife and Fish Refuge is located 1.5 miles downstream of the site.

SUMMARY OF ASSESSMENT, MONITORING OR REMEDIAL ACTIONS

The EPA is the lead agency for the site.

Following discovery of coal tar residues at the site, the EPA began investigating the site in 1986. The results from samples collected from monitoring wells in 1987 showed groundwater contamination with several hazardous substances above state action levels. The highest concentrations found for these substances appear in Table 1. These substances also were found in high concentrations in on-site soil samples.

The EPA issued a CERCLA 106 Consent Order in 1989 calling for further evaluation of the site. The evaluation led to the selection and implementation of a removal action in September 1990 requiring both a removal action and a Remedial Investigation/Feasibility Study (RI/FS). The removal action included the excavation of contaminated soils. In November 1990 the excavation from the upper 22 feet of the site was completed. During the removal action, additional contamination was discovered 22 feet below grade beneath tar and ammonia tanks. A supplemental work plan was submitted for review in January 1991. This plan included soil removal, groundwater collection and treatment, and bioremediation to address contaminants not affected by the soil removal.

A Record of Decision (ROD) was completed in September 1991 for Remedial Action at the eastern portion of the site that included soil excavation, incineration and groundwater remediation. The final Remedial Design work plan was submitted for EPA approval in October 1992. The EPA approved a revised work plan, which was submitted in December 1992. Total Site excavation started after a 1992 Consent Order between EPA and Mid West Gas.

Field activities including monitoring well replacement, well sampling and a six-month bio-treatability study were conducted in 1993. The Preliminary Remedial Design was submitted to EPA in July 1993. The Interim Remedial Design was submitted for comments in October 1993. The draft "Aquifer Report" was submitted to EPA in August 1993. The Final Remedial Design was submitted in 1994. The Remedial Action Work plan was submitted in 1994 and approved by EPA. The in situ bioremediation field pilot study was ongoing in 1994.

Installation of a ground water extraction and treatment system was completed in 1996. A deep-aquifer monitoring program was approved. Phase II soil removal activities consisting of additional excavation were completed in 1998. An enhanced bio-treatment system began operation in 2000.

2004: In 2004 the remediation of contaminated groundwater was reevaluated. Additional assessment activities are planned related to defining the extent of free-phase coal tars and additional groundwater monitoring.

2005: EPA has completed the second five-year review for the site during the fall of 2005. During the review it was noted the current remedial efforts were not performing as desired and MidAmerican Energy Company needed to address the shortcomings. In November 2005 MidAmerican Energy submitted a Technical Impracticability Evaluation Report showing it was not practicable to recover the remaining contamination. As of December 2005 the report is under review by EPA and the IDNR.

2006: In December 2006 Mid American Energy has requested a Petition for Technical Impracticability Waiver for the site. Mid American Energy states that it is technically impracticable from an engineering perspective to comply with performance standards for the groundwater within the TI zone. The EPA is currently reviewing the waiver request.

2007: The RP continues to monitor natural attenuation parameters in the groundwater.

2008: The 5 year review was completed with no major discrepancies found. The RP will continue to monitor natural attenuation parameters in the groundwater.

2009: The RP continues to monitor natural attenuation parameters in the groundwater.

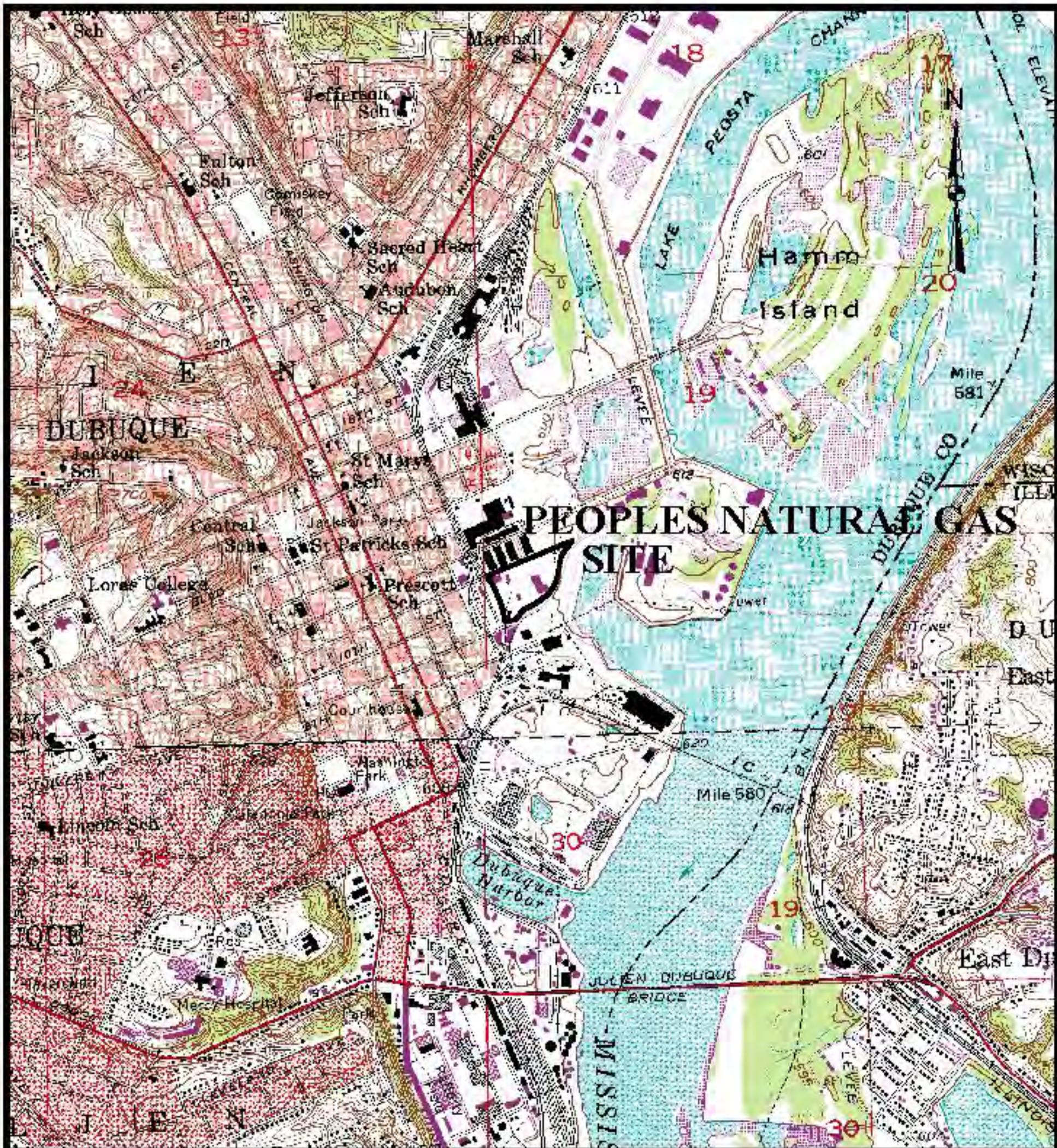
2010: The RP continues to monitor natural attenuation parameters in the groundwater. A facility adjacent to the former Peoples Manufactured Gas Plant (MPG) facility applied for a permit to install geothermal pump and dump wells just a few hundred feet of the MPG site contaminated groundwater plume. At this time the permit was on hold until further research could determine if the MPG contaminants could be drawn to the proposed geothermal wells.

2012: EPA cleared the way for the submittal of a Technical Impracticability (TI) Evaluation Report (Amended TI Evaluation Report) that was submitted to the United States Environmental Protection Agency (USEPA) May 15, 2012. On December 1, 2006, MidAmerican Energy Company (MidAmerican) submitted a petition to the USEPA to modify the groundwater component of the remedial action by waiving compliance with performance standards for groundwater on a portion of the Site, identified as the TI Zone. In the Amended TI Evaluation Report, MidAmerican proposed a technically practicable alternative remedial strategy that is protective of human health and the environment. The alternative remedial strategy incorporates access restrictions, previous soil removal actions and site geology, hydraulic containment of the down gradient silty sand aquifer plume, and monitored natural attenuation (MNA) to achieve the Site groundwater chemical-specific Applicable or Relevant, and Appropriate Requirements (ARARs)/remediation goals outside the proposed TI Zone. IDNR approved the plan with the inclusion of an environmental covenant to help clarify any responsible party concerns in the future.

2013: Due to the Technical Impracticability (TI) waiver approval in 2012 the ROD was amended in 2013. The TI waiver will be implemented for ground water within the TI zone; ground water cleanup levels must be met outside of the TI zone, however institutional controls will prevent exposure to contaminated ground water in the TI zone, as well as exposure to contamination in subsurface soils and vapor intrusion. The selected remedy for the amended ROD includes institutional controls along with extraction wells to prevent movement of the contaminants in the ground water and monitoring natural degradation of the contaminants.

2014: Additional monitoring wells and the new extraction wells were installed according to the 2013 ROD amendment. IDNR Water Quality Bureau approved the water extraction request for the upgraded mitigation system. As part of the technical impracticability waiver approval and the ROD amendment a new groundwater monitoring plan and quality assurance project plan was submitted to and approved by EPA in October 2014.

(Peoples Natural Gas)



PEOPLES NATURAL GAS SITE



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