MWH

BUILDING A BETTER WORLD

September 29, 2011

Ms. Diana Engeman
Remedial Project Manager
Superfund Division
U.S. Environmental Protection Agency, Region VII
901 N. 5th Street
Kansas City, KS 66101

MWH #1011180.0102

RE: Pilot Test Plan
Peoples Natural Gas Site
Dubuque, Iowa

Dear Ms. Engeman:

As we have discussed, MidAmerican Energy Company (MidAmerican) is proposing to conduct pilot testing activities at the former Peoples Natural Gas site in Dubuque, Iowa. The proposed pilot testing activities consist of a 96-hour constant discharge aquifer test to determine aquifer parameters for design of a hydraulic containment system, and groundwater sampling from the pumping well for laboratory analysis to assess the viability of direct discharge to the City of Dubuque's (City's) Water Pollution Control Plant (WPCP) through the sanitary sewer system.

Extraction Well Installation Activities

A 6-inch inner diameter (ID) extraction well constructed of polyvinyl chloride (PVC) will be installed upgradient of P-112. The proposed extraction well will be installed approximately 15 feet from TP-102, as shown in Figure 1. The proposed extraction well will be used during the planned pilot testing and is expected to be used in the full-scale groundwater extraction system for hydraulic containment of the plume in the P-112 area. Cahoy Well and Pump Service (Cahoy) will drill and install the well using hollow-stem auger drilling techniques. Continuous soil sampling will be conducted prior to well installation to determine the proper screened interval for the well. The well will be screened through the full thickness of the silty sand aquifer at an anticipated total depth of approximately 40 feet below ground surface. Soil cuttings will be containerized in 55-gallon drums and stored on the PNG site. Following well development, a specific capacity test will be conducted on the well to aid in determining the aquifer test flow rate. Water from decontamination and well development/capacity testing activities will be discharged to the City sanitary sewer system on site.

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Proposed Well Abandonments

As approved by the United States Environmental Protection Agency (EPA), two existing monitoring wells (W-20 and W-119) will be abandoned following installation of the proposed extraction well. W-20 and W-119 were observed to have corroded black steel casings, creating a potential conduit for shallow contamination to migrate to deeper zones. Cahoy will abandon these two wells in accordance with the requirements of Iowa Administrative Code (IAC) Chapter 39. MWH personnel will oversee the well abandonment work. MWH will prepare and submit well abandonment forms to EPA, the Iowa Department of Natural Resources, and the local well permitting agency for the two wells. Replacement of these two wells is not required at this time; however, future placement of an alluvial aquifer well in the vicinity of W-20 will likely be required following installation of the hydraulic containment system in the P-112 area.

Aquifer Testing and Analysis

MWH proposes to conduct a 96-hour constant-discharge aquifer test to assess the hydrogeologic properties of the silty sand aquifer in the P-112 area. The selected pumping rate from the pilot test well will be based on drawdown measurements collected during development of the pilot test well and specific capacity calculations. It is estimated the discharge rate during the aquifer test will be up to 9 gallons per minute, yielding a total of up to approximately 52,000 gallons for the entire aquifer test.

In preparation of aquifer testing, MWH will contract with a licensed electrician for installation of electrical power to the P-112 area. This will include installation of two power poles by Alliant Energy, installation of a meter, and a temporary circuit breaker panel. The electrical service, power poles, and meter will be installed to accommodate future full-scale hydraulic containment of the plume in the P-112 area.

During the pumping phase of the aquifer test, a Grundfos Redi-Flo3 well pump will be used to pump water from the pilot test well. This pump is capable of maintaining appropriate discharge for the duration of the aquifer test and is suitable for continued use as a remediation pump upon full-scale implementation. The discharge rate will be controlled by a gate valve and regularly checked via a flow totalizer and timed fillings of graduated containers.

MWH will be on site during the pumping phase of the aquifer test to collect water level data and groundwater samples, ensure proper operation of the pump, verify transducer data collection, and monitor discharge containment. Groundwater elevation measurements will be collected with data logging pressure transducers in the pumping well and nine nearby monitoring wells. Transducers will be placed in selected site wells following installation of the pilot test well and will remain in the wells until approximately 1 week after the aquifer test pumping to assess

pretest groundwater flow conditions, drawdown during aquifer pumping, and recovery following pumping, respectively. Manual groundwater elevation measurements will be collected by MWH to confirm the accuracy of transducers and to collect elevation data from eight additional site wells. Groundwater elevation measurements will be recorded at high frequency (e.g., subminute transducer measurement intervals / 30-minute manual measurement intervals) during the early portions of the aquifer test and decrease in frequency toward later portions of the test (e.g., 10-minute transducer measurement intervals / 4-hour manual measurement intervals). Monitoring wells selected for transducer / manual groundwater elevation measurements are shown in Table 1.

Water from the pumping well will be discharged into a 21,000-gallon temporary water tank located near the pumping well. Water contained in the portable water tank will be vacuum-loaded into a transport truck and transported for discharge at the WPCP. Based on anticipated discharge and storage tank capacity, the selected wastewater hauler will begin transporting discharge water on the second day of the aquifer test and will periodically transport water to the WPCP for the remainder of the test.

Groundwater samples will be collected periodically from the pumping well for analysis of groundwater quality parameters. Samples for anlaysis of the contaminants of concern (COCs) consisting of benzene, toluene, ethylbenzene, xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs) will be collected from the pump discharge at approximately 4, 24, 48, 72, and 96 hours after startup of the aquifer test. At approximately 96 hours after startup, groundwater samples will be collected for the broader list of analytes specified in the previous discharge permit (Permit No. 97-008) for the PNG site. Samples collected 96 hours into the pilot test are expected to be indicatve of the water quality that will be generated during long-term pumping and will aid in the evaluation of viability of a direct-discharge remedy. The laboratory analyses will be conducted by TestAmerica Laboratories, Inc. in Cedar Falls, Iowa.

Aquifer test data collected from transducer and manual groundwater elevation measurements will be graphed and assessed for aquifer test analysis. Drawdown and recovery data from up to four locations will be analyzed for assessment of the aquifer parameters of hydraulic conductivity and storativity using the Aqtesolv software program. Results of aquifer testing will be summarized in a technical memorandum for submittal to EPA.

Estimated Schedule

Pending EPA approval, it is anticipated the extraction well will be installed in mid-October 2011, with the aquifer testing conducted in early November 2011.

If you have any questions regarding the site, please contact Kevin Dodson of MidAmerican or me.

Sincerely,

Tim Wineland

for Kevin G. Armstrong, C.P.G.
Project Manager

/kga:vas
cc: Kevin Dodson, MidAmerican Energy Company
Dan Cook, Iowa Department of Natural Resources
Jim Rost, Iowa Department of Transportation
Barry Lindahl, City of Dubuque
Don Vogt, City of Dubuque

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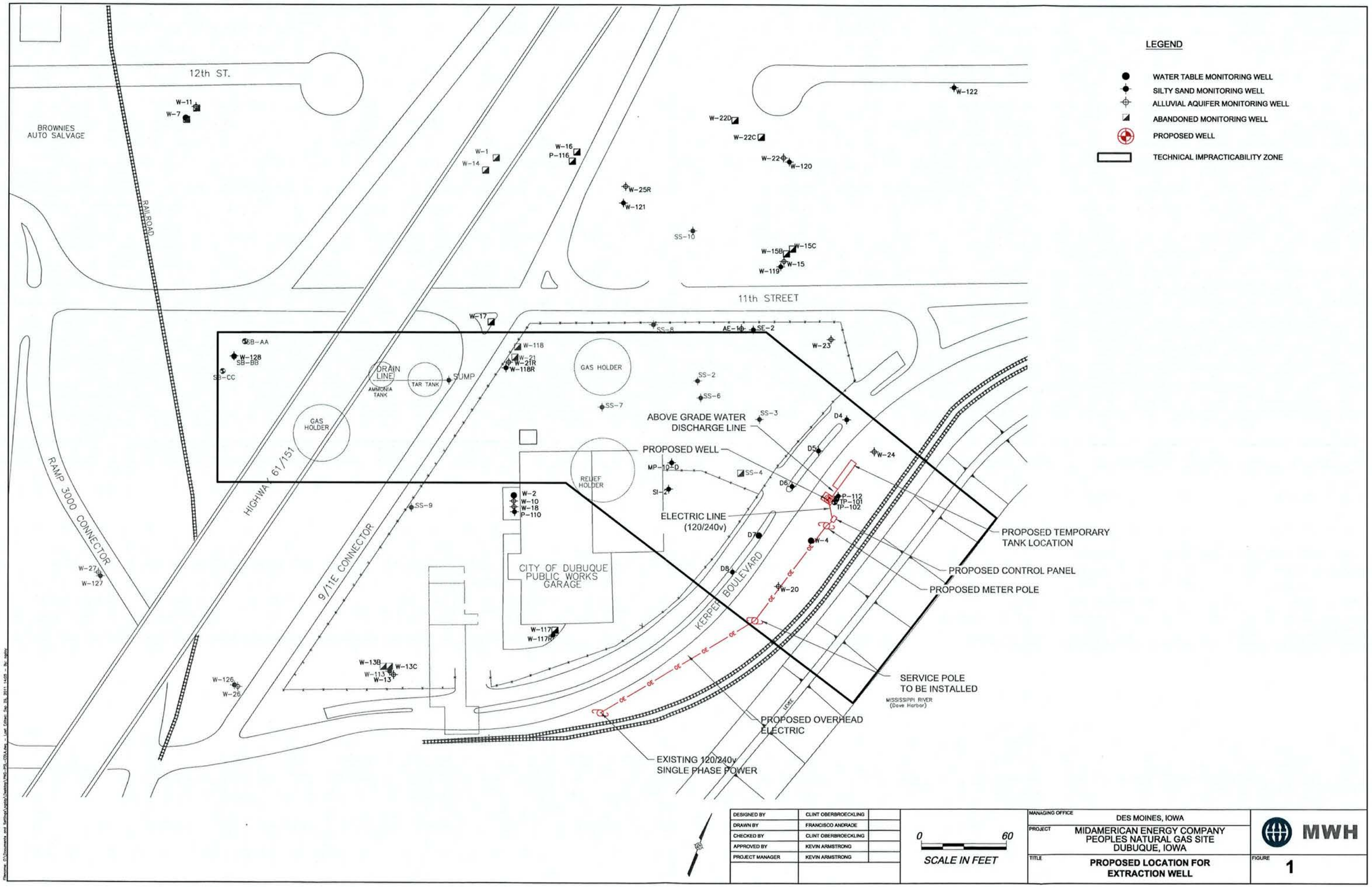
TABLE 1

MONITORING WELLS SELECTED FOR GROUNDWATER ELEVATION MEASUREMENTS
PEOPLES NATURAL GAS SITE – DUBUQUE, IOWA

Transducer Measurements	Manual Measurements
Pilot Test Well (pumping well)	W-117R
P-112	SS-6
TP-101	SS-10
TP-102	W-118R
W-24	SE-2
W-4	SS-9
D-4	W-113
D-6	W-122
D-8	
W-128	



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SCALE IN FEET

MANAGING OFFICE: DES MOINES, IOWA

PROJECT: MIDAMERICAN ENERGY COMPANY
PEOPLES NATURAL GAS SITE
DUBUQUE, IOWA

TITLE: **PROPOSED LOCATION FOR EXTRACTION WELL**

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FIGURE: 1