VOLUNTARY CLEANUP PROGRAM
DECISION DOCUMENT

KeySpan - Former Hempstead Intersection Street
Manufactured Gas Plant Site
Hempstead (V), Nassau County, New York
Site No. 1-30-086

MARCH 2008

Statement of Purpose and Basis

This Voluntary Cleanup Program (VCP) Draft Decision Document presents the remedy approved by the New York State Department of Environmental Conservation (the Department) for the Former Hempstead Intersection Street Manufactured Gas Plant (MGP) Site (the site). The approved remedial program was chosen in accordance with guidance relative to the remedy selection in the VCP.

Description of the Site

The former Hempstead Intersection Street MGP site is approximately 7.5 acres in size and is located primarily within the Village of Garden City, while a small area of the southern portion of the site is located within the Village of Hempstead. The site is generally flat and secured by a perimeter fence. An active gas regulator station is situated on the western portion of the site. A portion of the east end of the site is used as a parking lot for car dealership vehicle storage.

The surrounding area is a densely populated urban area of mixed commercial, industrial and residential land use. An automobile dealership and commercial businesses are located east of the site along Franklin Avenue and residential properties are located to the north along Second Street. Intersection Street and the parking lot for a medical building are located immediately south of the site. Commercial/manufacturing businesses including fuel oil loading facility and an inactive fuel oil storage are located southeast of the site. The attached Figure 1 shows the site boundary and immediate surrounding area, including the extent of soil and groundwater contamination.

Nature and Extent of Contamination: The gas manufacturing process produced a dark, oily liquid waste known as coal tar. Over the years, coal tar have leaked or was released from the former holders and other structures resulting in the contamination of soil and groundwater. Coal tar was predominantly observed in areas around the former MGP structures and areas of operation. The tar has contaminated the soil, and the groundwater which flows through the soil to the south, both beneath the site itself and in some adjacent areas. Figure 1 also identifies the extent of the contamination.

Coal tar has been observed at depths, primarily from the surface to approximately 34 feet below ground surface (bgs) at on-site locations. However, stringers of coal tar have migrated vertically to depths of about 60-70 feet at isolated areas on-site and immediately south of the site boundary.

The shallow groundwater is encountered at approximately 25 to 30 feet bgs at the site. As with soil, the highest groundwater contaminations is found in the vicinity of the former MGP structures.

Contaminated groundwater plume extends in a southerly direction and is approximately 3,800 feet long. By about 1500 feet from the site, the plume has begun to sink to about 70 feet bgs leaving a layer of 10 to 50 feet of clean groundwater, over the contaminated groundwater water. The plume has sunk further at the tail end to about 100 feet bgs. The MGP constituent concentrations are relatively lower within the down-gradient groundwater plume. Figure 1 also identifies the extent of the soil and groundwater contamination.

The Village of Garden City has two municipal water supply wells located immediately west of the site and public water supply wells are also located side-gradient of the plume in the Village of Hempstead. The Remedial Investigation determined that these wells are not impacted by MGP related contaminants. In addition, soil vapor intrusion data collected at site and surrounding areas to date has not shown any MGP-related soil vapor intrusion issues.

Contamination of soil and groundwater identified during the Remedial Investigation of this site represents a threat to public health and the environment requiring implementation of a remedy, as identified below.

Description of Selected Remedy

Based on the results of Remedial Action Plan and the alternative analysis presented in the plan, the NYSDEC has selected a remedy for this site. The selected remedy includes excavation of shallow source soil, recovery of liquid tar, in-situ solidification/stabilization (ISS) of deeper soils and bioremediation of the dissolved phase plume. The detailed elements of the selected remedy are as follows:

1. Excavation and off-site treatment of shallow source material at the site to an approximate depth of 8 feet bgs. In addition, all former MGP structures remaining within the excavation and ISS treatment area will be removed;

2. In-place solidification/stabilization of source material to a minimum depth of 34 feet bgs will follow the excavation. Where feasible, and based on mixing equipment capabilities, those areas determined to contain deeper source material will be treated to a depth of up 60-70 feet bgs. The depth of treatment will be determined based on additional data collected during the design phase of the project;

3. Coal tar removal from the subsurface will continue, using the recovery wells installed as part of the interim remedial measure implemented at the site, until the ISS implementation begins;

4. Bioremediation of the dissolved phase groundwater plume will follow the excavation and ISS of the source area. The bioremediation will include the injection of oxygen in the groundwater plume area to stimulate the naturally occurring microorganisms in order to enhance aerobic biodegradation of contaminants of concern in groundwater;

5. Restoring the site with 4 to 8 feet of backfill soil, meeting the restricted residential soil cleanup objectives, over the solidified soils in the ISS treatment area. A minimum of two feet of soil meeting the restricted residential soil cleanup objectives will be placed over the

ground surface of the site where soil levels exceed the SCOs., unless buildings or pavement will provide the cover;

6. Expanded groundwater monitoring for, in addition to the site contaminants of concern, dissolved oxygen, nitrate, nitrite, sulfate, iron, methane, ethane, alkalinity, oxidation-reduction potential, pH, temperature and conductivity sampling and analysis in order to monitor the effectiveness of the bioremediation and assess the need for additional injections.

7. Since the remedy results in contamination above unrestricted levels remaining at the site, an institutional control in the form of an environmental easement will be required for the site. The environmental easement will:
(a) restrict the use of the site to restricted residential use, which will also allow commercial or industrial use. Any specific future development of the site must comply with local laws and regulations;
(b) restrict the use of groundwater at the site;
(c) require the management of the site in accordance with the provisions of the site management plan, to be approved by the Department; and
(d) require the property owner to complete and submit to the Department a periodic certification.

8. A site management plan (SMP) will be developed and implemented following the completion of the site remedy. The SMP will identify the institutional controls and engineering controls (IC/ECs) required for the remedial action plan (RAP) and detail their implementation. The SMP for the RAP will include:
(a) an IC/EC control plan to establish the controls and procedures necessary to; (i) manage remaining contaminated soils that may be excavated from the site during future activities, including procedures for soil characterization, handling, health and safety of workers and the community as well as, disposal/reuse in accordance with applicable NYSDEC regulations and procedures; (ii) evaluate the potential for vapor intrusion for any buildings developed on the site, including mitigation of any impacts identified; (iii) maintain use restrictions regarding site development or groundwater use identified in the environmental easement; and (iv) require the property owner to provide the Department an institutional control/engineering control (IC/EC) certification on a periodic basis;
(b) a monitoring plan to monitor the effectiveness of the bioremediation of contaminated groundwater and the ISS as well as the trend of contaminants concentrations in the groundwater; and
(c) an operation and maintenance plan to provide the detailed procedures necessary to operate and maintain the remedy, including the bioremediation injections and coal tar recovery program. The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable, no longer necessary or not feasible.

9. The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submission will:

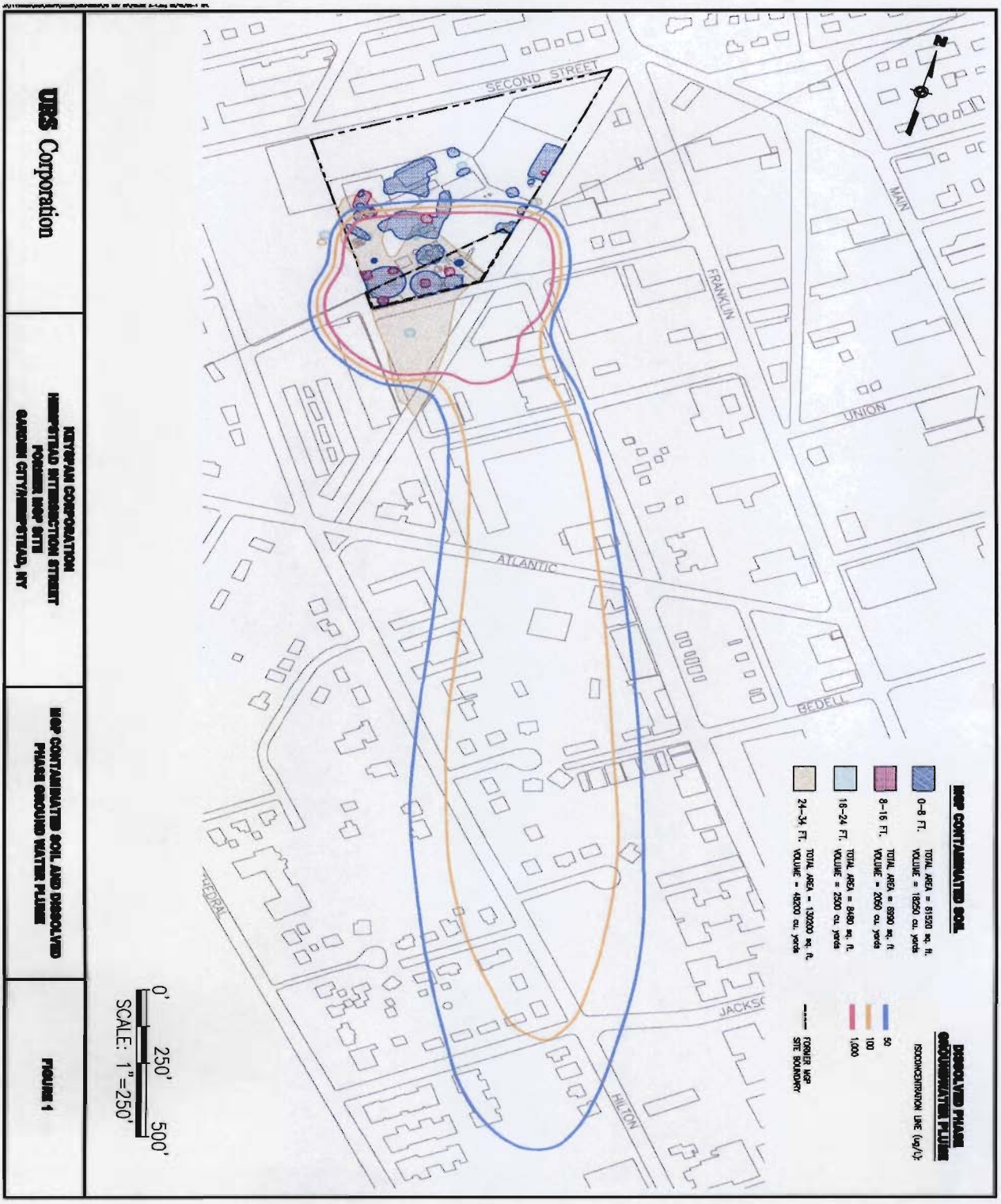
(a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications;
(b) allow the Department access to the site; and
(c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action and will allow for the identified use of the site. This remedy utilizes permanent solutions and alternative treatment to the maximum extent practicable, and satisfies the preference for remedies that reduce, remove or otherwise treat or contain sources of contamination and protection of groundwater.

MARCH 20, 2008
Date

Robert W. Schick, P.E.
Director,
Remedial Bureau C
Division of Environmental Remediation


MGP CONTAMINATED SOIL
0-8 FT. TOTAL AREA = 81520 sq. ft. VOLUME = 18250 cu. yards
8-16 FT. TOTAL AREA = 8990 sq. ft VOLUME = 2050 cu. yards
16-24 FT. TOTAL AREA = 8480 sq. ft. VOLUME = 2500 cu. yards
24-34 FT. TOTAL AREA = 132000 sq. ft. VOLUME = 48200 cu. yards
DISSOLVED PHASE GROUNDWATER PLUME
ISOCONCENTRATION LINE (ug/L):
50
100
1,000
FORMER MGP SITE BOUNDARY
SECOND STREET
MAIN
FRANKLIN
UNION
ATLANTIC
FEDERAL
JACKSON
HILTON
0'
250'
500'
SCALE: 1"=250'
UBS Corporation
KEYSPAN CORPORATION
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
GARDEN CITY/HEMPSTEAD, NY
MGP CONTAMINATED SOIL AND DISSOLVED PHASE GROUND WATER PLUME
FIGURE 1