

Project Title and Location: Manufacturing Plant, Quincy, Massachusetts.

Scope of Services Demonstrated by this Project: MCP Site Assessment, Method 3 Risk Characterization, Activity and Use Limitation.

Project Description: An investigation, conducted as part of due diligence prior to a real estate transaction, identified MCP reportable concentrations of zinc and arsenic in soil and bromomethane in a groundwater sample at a manufacturing facility in Quincy, Massachusetts. Vineyard was subsequently contracted to perform additional soil and groundwater sampling to further evaluate the extent of zinc, arsenic and bromomethane. The results of the additional sampling indicated that the zinc was localized and likely associated with the fill material. The exposure point concentration for zinc in soil was below the applicable Method 1 Risk Standards for S-1 soil, and no impact to groundwater was detected. The occurrence of zinc was, therefore, not considered a significant risk to human health or the environment.



In addition, groundwater samples were collected from the monitoring well from where bromomethane was initially detected to further characterize the presence of bromomethane. The additional sampling did not detect bromomethane, and in the absence of VOCs in a soil sample obtained from the same location and no known source, the initial detection of bromomethane was considered an anomaly. Regardless, the average EPC for bromomethane in groundwater at the monitoring well did not exceed the applicable Method 1 Risk Standard. Based on the above findings, the levels of bromomethane detected at the site were not considered a significant risk to human health and the environment. The occurrence of zinc and bromomethane did not require any remedial action to achieve a level of No Significant Risk, and no site use restrictions were

necessary to maintain a level of No Significant Risk. As such, the requirements for a Class B-1 Response Action Outcome were achieved for these two compounds of concern.

To address the reportable concentrations of arsenic, Vineyard collected 55 soil samples from borings installed in the area of the initial detection of arsenic and four sediment samples from an abutting river. The results of the additional sampling indicated that the arsenic was localized to the northeast portion of the facility and likely associated with fill material deposited on that portion of the site in the early 1900's. Groundwater samples collected during the due diligence investigation revealed no significant levels of arsenic that would indicate an adverse impact to groundwater or the nearby surface water.

The results of these analyses and data obtained from the due diligence investigation were used in a Method 3 risk characterization to evaluate potential risk to human health and the environment. The Method 3 risk assessment concluded that the chemicals of concern at the disposal site do not pose a significant risk under current site conditions. This conclusion was contingent on maintaining the pavement and/or concrete beneath the plant facilities to limit exposure to the arsenic-impacted soil. Therefore, an AUL was used to maintain a level of NSR and satisfy the requirements for a Class B-2 Response Action Outcome.