PROJECT UPDATE

Former IBM Manassas Facility

Environmental Investigation and Remediation

Introduction

IBM Corporation (IBM) has been conducting environmental investigations and remediation activities at its former facility in Manassas, Virginia (the Site) for over 30 years to assess and remediate volatile organic compounds (VOCs) present below ground at the Site and in the vicinity. The VOCs are associated with historical manufacturing operations at the Site. These investigation and remediation activities have been and continue to be conducted under the oversight of the United States Environmental Protection Agency (USEPA) and the Virginia Department of Environmental Quality (VDEQ). This fact sheet provides a summary of the investigation and remediation activities completed to date and planned future activities.

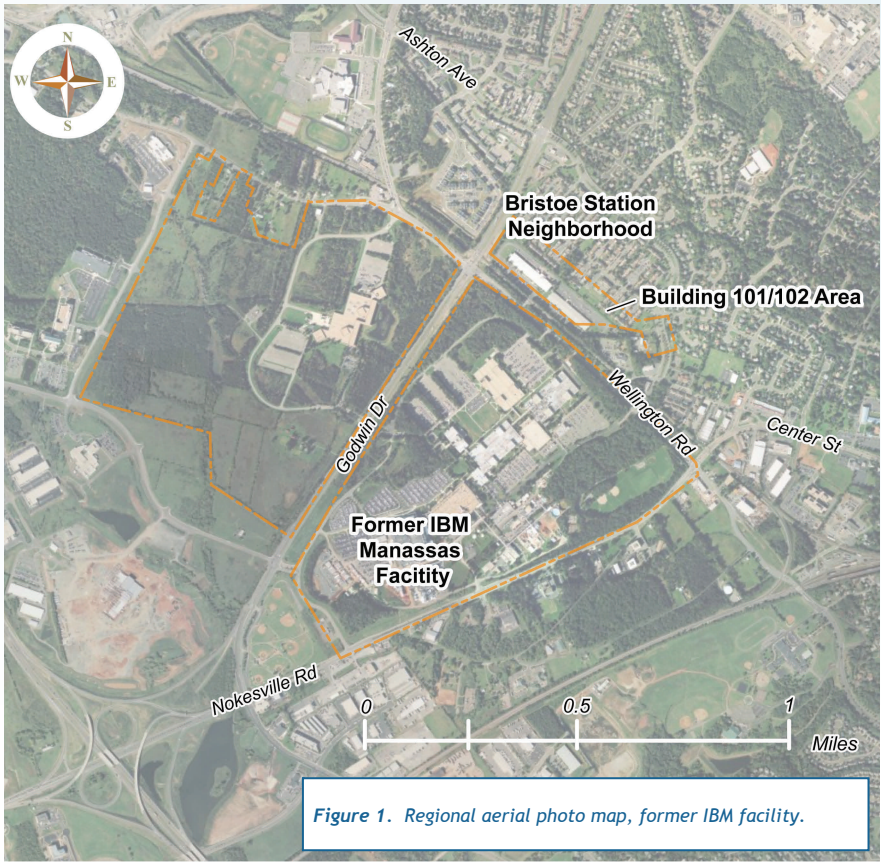

Figure 1. Regional aerial photo map, former IBM facility.

Site History

IBM formerly owned and operated the approximately 600-acre facility located in the City of Manassas and Prince William County, as shown on Figure 1. Starting in 1968, the Site was used for the design and manufacture of semiconductors, and for the development of electronic defense systems. Buildings 101 and 102, located along Wellington Road, were used for electronic manufacturing and related support functions. IBM sold the Site in the mid-1990s but retained the responsibility for the environmental investigation and remediation program.

Building 101 was used for electronic component manufacturing from 1969 until 1975. The primary chemical used in manufacturing was tetrachloroethene (also referred to as perchloroethene, PCE, or perc). During the 1960s and 1970s, PCE was commonly used in many industrial processes. At Building 101, PCE was stored in aboveground tanks located adjacent to the building. In 1975, the manufacturing equipment and storage tanks were removed and the building was converted to office space.

The part of the Site located south of Wellington Road was developed over several years beginning in the early 1970s and continuing through the mid 1980s, and included office, manufacturing and support buildings. The current property owners continue to use these buildings for similar purposes.

Environmental Investigation and Remediation History

In 1978, IBM voluntarily began a monitoring program at the Site to determine if VOCs (such as PCE) were present in soil or groundwater. Upon detecting VOCs in the soil and groundwater, IBM conducted numerous investigations under the oversight of USEPA and VDEQ over the next several years to determine the nature and extent of VOC impacts below ground. The source of VOCs was primarily the former Building 101 storage tank area and, to a lesser extent, underground wastewater tanks and pipelines located south of Wellington Road. PCE-containing soils were found in the area around the former PCE tank area. The soils were removed and properly disposed of at an off-site disposal facility. PCE was detected in groundwater both on-Site and in off-Site monitoring locations. It is important to note that drinking water in this area does not come from groundwater, and is not impacted by the presence of PCE.

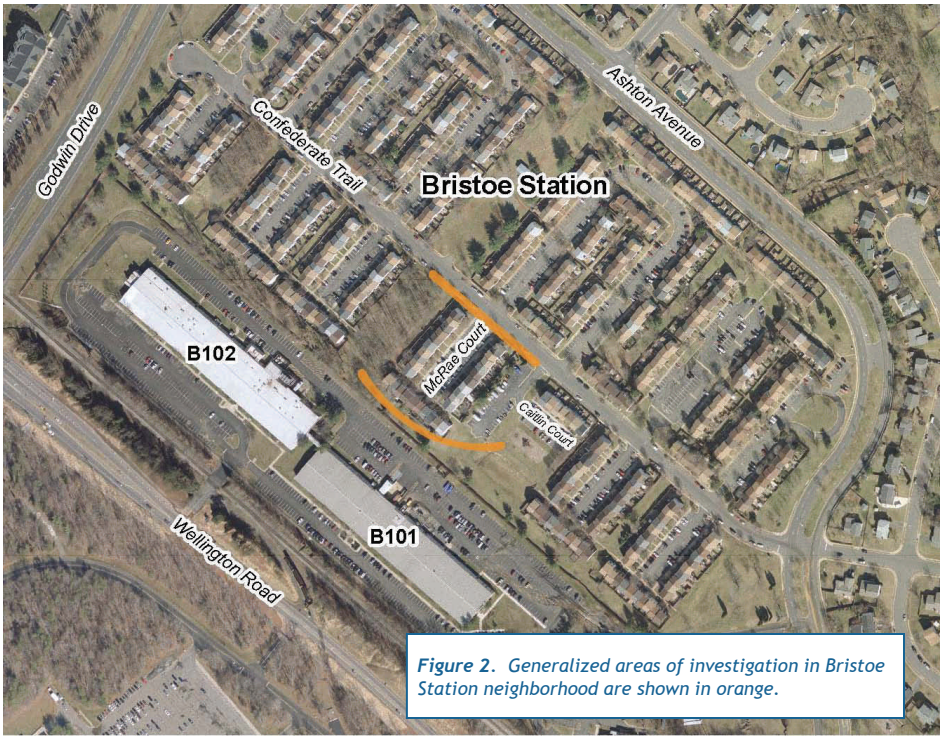

Figure 2. *Generalized areas of investigation in Bristoe Station neighborhood are shown in orange.*

Concurrent with the environmental investigations, IBM completed the removal or closure of inactive underground pipelines and tanks, and also excavated soil from former storage tank areas. Beginning in 1985, IBM began constructing and operating several on-Site and off-Site groundwater pumping wells and treatment systems to remove VOCs from groundwater. In 1989, IBM began operating a vapor extraction system at the former Building 101 storage tank area to remove VOCs from the soil and rock above the groundwater.

Substantial quantities of VOCs have been and continue to be removed from groundwater, soil and subsurface air as the result of the remediation activities over the past 25 years. The pumping wells continue to prevent the spread of VOCs in groundwater.

Vapor Intrusion Investigations

IBM has been investigating the potential for "vapor intrusion" at the Building 101 area of the Site for several years, given the detection of PCE and other VOCs on-site. The term "vapor intrusion" is used to describe how VOCs can migrate under certain conditions from subsurface soil/rock and groundwater up to the ground surface, potentially entering buildings (through cracks in building foundations, for instance). Scientific understanding of vapor intrusion is still evolving.

Subsurface Groundwater

Vapor intrusion is less likely when the groundwater is deep below the ground surface. Although groundwater in the vicinity of the Site is relatively deep (typically more than 50 feet below ground surface), IBM has collected and analyzed groundwater samples from several

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Vapor Intrusion Investigations

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on-Site and off-Site monitoring wells to assess the probability of this condition since VOCs in groundwater can nevertheless still be a source for vapor intrusion. The nearest groundwater monitoring well (in the direction of groundwater movement) is located within two blocks of the Site. PCE was not detected in the upper 5 to 10 feet of groundwater in this area, which lies approximately 70 feet below the surface. This "clean" upper groundwater layer provides a barrier to VOCs transferring from the deeper groundwater layer to subsurface air.

Subsurface Vapor

In addition to collecting groundwater samples, IBM over the past three years has collected subsurface vapor samples at various locations and depths along the entire Site property line. The purpose of this testing has been to understand the probability for vapor intrusion in the vicinity of the property line.

USEPA has established generic screening levels for VOCs in subsurface vapor. These levels are one of several considerations that may prompt additional investigations. Currently, the USEPA is re-evaluating the levels. However, for perspective, PCE concentrations in vapor samples collected at depths of 5 to 10 feet below the surface exceeded current screening levels in 6 of the 103 samples. These 6 samples were located along a 150 foot section of the Site property boundary. Based on these observations, IBM plans to begin some off-Site investigation work as a follow-up.

Upcoming Investigation Activities

IBM plans to conduct additional investigations in the area immediately north of the former IBM Manassas facility to determine the presence of VOCs in the soil, groundwater and subsurface air, and to assess whether vapor intrusion is likely to occur in areas adjacent to the former IBM facility. The work is planned for a limited geographic area immediately north of the Site near Building 101 (see Figure 2), in a portion of the Bristoe Station residential area. As with all

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What Can You Expect to See?

The monitoring wells and vapor implants will be drilled and installed using truck and tractor mounted equipment. You will notice that underground utilities will be marked in advance of the drilling. The drilling and initial sampling program will last approximately two months. Residents living in the homes abutting the work areas will be notified with flyers before work begins.

The work will be conducted Monday through Friday during normal business hours, and the areas around the drilling locations and equipment will be marked and restricted to trained project personnel, as a normal safety procedure. Access to homes will not be affected. Any property disturbed during drilling will be restored to its original condition to the extent possible.

After the drilling is complete, technicians will monitor the implants and wells on a periodic basis and will access the locations on foot with hand-held equipment.

When will the Work be Performed?

The investigation is expected to begin in [TBD] 2010. Drilling and initial monitoring will be conducted over about two months, followed by one year of ongoing monitoring.

How and When Will the Findings Be Communicated?

The findings of this work will be communicated on a regular basis to the USEPA and VDEQ. Findings will also be communicated to the homeowners and residents of Bristoe Station through reports and fact sheets to be provided to the Bristoe Station Homeowners Association, and through fact sheets, such as this one, that will be issued periodically. The findings will be communicated on a regular basis beginning about two months after the initial phase of drilling and monitoring.

For More Information

Questions should be directed to a local Project Information Line hosted by IBM at:

571-377-9840

The information line operation hours are from 8 AM through 5 PM Monday through Friday. Calls will be returned during regular business hours. Project documents can also be viewed at the document repository [location TBD].

You can also contact the USEPA or VDEQ representatives:

Mike Frankel
Communications Coordinator
Land and Chemicals Division
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029
Phone: 215-814-2665
Fax: 215-814-3114
Frankel.Michael@epa.gov

Bill Hayden
Public Affairs Director
Virginia Department of Environmental Quality
Phone: (804) 698-4447
Cell: (804) 305-2538
Fax: (804) 698-4346
wphayden@deq.virginia.gov

Upcoming Investigation Activities

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prior work, these investigations will be conducted under the oversight of the USEPA and the VDEQ. These activities are the next logical steps in a sequence of investigations and testing to assess the probability for vapor intrusion. The specific activities of the planned investigations are described below and shown on Figure 3.

Scope of Investigation Work In Bristoe Station Neighborhood

Vapor monitoring implants (devices used to collect air samples) will be installed at depths of approximately 4 to 6 feet below ground surface at locations along Confederate Trail and in common areas owned by the Bristoe Station Homeowners Association. The general areas of investigation are located around McRae Court and Caitlin Court, as shown on Figure 2. These implants will be monitored for the presence of selected VOCs.

Groundwater monitoring wells will be installed at locations along Confederate Trail, and will be used for monitoring of groundwater levels and quality.

Vapor monitoring implants with measurement points at several depths will be installed in the common areas around the three townhome buildings on McRae Court.

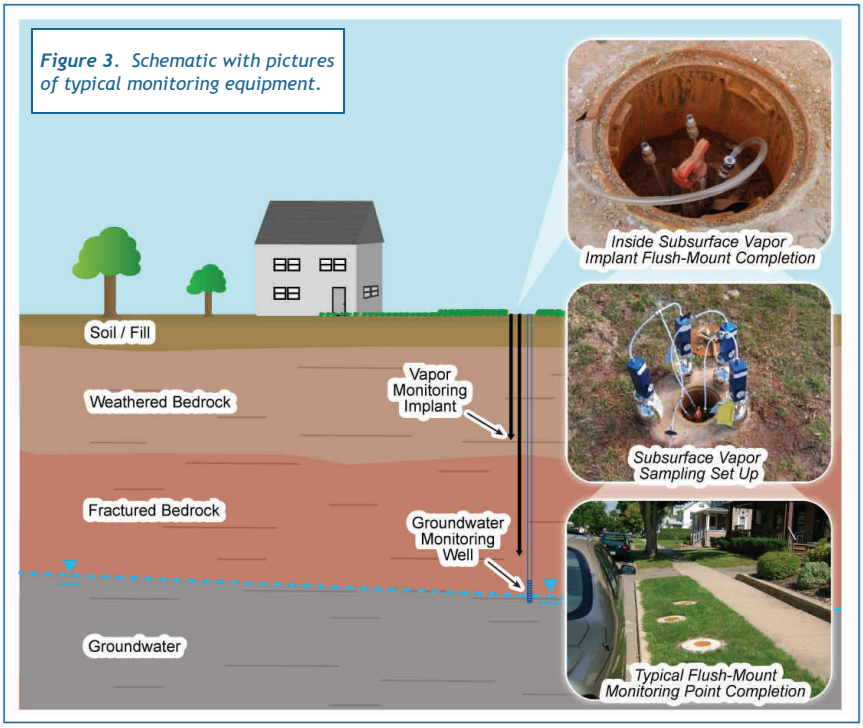

Figure 3. *Schematic with pictures of typical monitoring equipment.*