

**FIELD REPORT, BUILDING 615 FORT TOTTEN EXPLORATORY  
INVESTIGATION  
30-31 OCTOBER 2006**

**Introduction**

A two day exploratory investigation at Building 615, Fort Totten, Bayside, Queens was completed from 30 to 31 October 2006. Present during the investigation were: James Gatherer (EA), Helen Kim (US ACE), and Sal Messina, Chris Zito, Manuel Garcia, Oscar Hernandez, Neptali Garcia, Jay Warner (Terry Contracting). The purpose of the exploratory investigation was to determine the discharge point of the floor drain, and complete soil sampling to determine the presence/absence of mercury-impacted soils at potential discharge points. The following activities were completed at the site:

- Exploratory excavation of the section of parking area south of Bldg 615 covered by an existing AST.
- Soil Sampling of possible discharge points of floor drain

**Activities**

Indoor activities included:

- Sampling and abatement of asbestos containing floor tile (performed 27 October)
- Excavation of Detective Robert Capozziello's office to uncover T-joint at 15-ft location
- Sampling of soil surrounding upstream and downstream bell joints
- Restoration of office space - resurfacing of floor with new floor tile

On 30 October, this area was excavated using a 6-inch concrete coring device. Two cores were completed: one to intersect the downstream bell joint location; one to intersect the upstream bell joint location. Two layers of concrete were encountered and removed: the first top layer was 6-inches thick while the bottom layer was 4-in thick. The underlying soil was subsequently excavated to uncover the drain-line. The depth to the mid-line of the drain-line was 2.5-ft below the floor.

Prior to the excavation on 30 October, floor tile and associated mastic was sampled to determine if it was asbestos containing. According to Detective Capozziello, he had the floor re-tiled about two years ago. Detective Capozziello reported that there was a second layer of tile below the recently installed tile. Both layers of tile plus the mastic were sampled and analyzed for asbestos. The bottom layer of floor tile was found to be asbestos containing. The subsequent abatement was completed on 27 October 2006 as a minor project (i.e. less than 10 square feet) as per NYC DEP requirements.

Outdoor activities included:

- The AST was re-located to a temporary location.
- The concrete pavement was removed.
- The area was excavated
- Excavated soils were stored in a lined 20-yard roll-off container
- Soil sampling at potential discharge areas and downgradient of drain-line discharge point
- At the conclusion of outdoor activities, the excavation was covered by road plates; the roll-off was covered.

## **Findings**

Two septic tanks were excavated by hand digging. The septic tanks were constructed of two courses of brick and were in-line and upstream from the septic tank uncovered during the 9 May 2006 investigation. Septic tank #1 were dug out to a depth of 5-ft below the top of the brick. There was evidence of the tank being filled in. There was a layer of soil with brick and concrete debris from 3 to 4 feet below the top of the tank, suggesting the lid of the tank had been punched in and subsequently filled in. This probably occurred during the activities of Pete the Plumber. Figure 1 shows the location of the three septic tanks.

Septic tank #1 was excavated to a depth of 5-ft below the top of the tank. Soils at this point began to approach saturation, so excavation did not proceed any deeper. No bottom was encountered. It remains doubtful whether there is any bottom at all to these structures.

The live sewer line exits the building wall and lies across the 3 septic tanks. At one point, it most likely discharged into septic tank #1, the tank closest to the building. However, the sewer line has been hooked up the municipal sewer system. The old sewer line and more recent sewer line were joined about 2-ft out from the building wall. There is a leak in the old sewer line just as it exits the building wall.

During excavation activities, water was periodically introduced into the floor drain to determine if any discharge points (i.e. wet soil) could be located. Wet soil was encountered at the upstream bell joint at the 15-ft T-joint location, but nowhere else.

The apparent end of the drain-line was discovered. It appeared to be of the same material and diameter as the drain-line observed at the 15-ft T-joint. The end was flush with the footing wall. There was a 2-in metal pipe stuck inside it (Photo 1). This may have been used at one time to plug the drain-line. The top of the drain-line was 0.6-ft below the top lip of the footing wall.

It appears the drain-line never did drain into any of the septic tanks, but instead drained into the surrounding soil at the point of discharge at the footing wall (Photo 2). The evidence for this conclusion is based on:

- The end of the drain-line was flush with the building footing wall which implies it never extended beyond this point.
- Also, the drain-line's elevation as it exits the footing is below the top of the brick of the septic tanks.
- There were no perforations along the walls of the septic tank.

### Soil Sampling

Soils were not collected between the tank#1 and the footing; there was less than 6-inches between the walls. Soils were also not collected to the west of the septic tanks since the tanks abut the sea wall. Elsewhere, soil samples were collected according to the rationale presented in the table below:

Sample ID	Sampling Location	Sampling Rationale	Soil Description	Headspace (ppm)	Analyses
SB06FUDS04-2.5	Soils adjacent to bell joint downstream of T-joint	To determine the presence/absence of mercury-impacted soils at bell joint (a potential discharge point)	Tan brown medium sand, dry	0	Mercury
SB06FUDS05-2.7	Soils adjacent to bell joint upstream of T-joint	To determine the presence/absence of mercury-impacted soils at bell joint (a potential discharge point)	Tan brown medium sand, moist-wet <sup>1</sup>	0	Mercury
SB06FUDS06-5.0	1-ft below drain-line discharge point at footing wall	To determine the presence/absence of mercury-impacted soils of apparent terminal discharge point of drain-line	Dark grey f-c sand/fine gravel (coal ash-like material), moist	0	TCL VOC, SVOC, Pest/PCB, TAL Metals, TCLP
SB06FUDS07-4.0	4-ft south of drain-line discharge, approximately level with drain-line discharge point	To determine the presence/absence of mercury-impacted soils downgradient of drain-line discharge point	Dark grey f-c sand/fine gravel (coal ash-like material), moist	0	Mercury
SB06FUDS08-4.2	8-ft south of drain-line discharge, approximately level with drain-line discharge point	To determine the presence/absence of mercury-impacted soils downgradient of drain-line discharge point	Dark grey f-c sand/fine gravel (coal ash-like material), moist	0	Mercury
SB06FUDS09-4.4	12-ft south of drain-line discharge, approximately level with drain-line discharge point	To determine the presence/absence of mercury-impacted soils downgradient of drain-line discharge point	Dark grey f-c sand/fine gravel (coal ash-like material), moist	0	Mercury
SB06FUDS10-4.8	Soils in septic tank #1, 4.8-ft below top of tank, just above the shit line, but below where there was evidence of pete the plumber filled it in	To determine the presence/absence of mercury-impacted soils in septic tank #1	Brown f sand/silt, little m-c sand, fine gravel, moist- wet	3.5	Mercury
SB06FUDS11-4.0	Soils in septic tank #2 below where there was evidence of pete the	To determine the presence/absence of mercury-impacted soils in	Brown f sand/silt, moist	0.2	Mercury

Sample ID	Sampling Location	Sampling Rationale	Soil Description	Headspace (ppm)	Analyses
	plumber filled it in	septic tank #2			
SP06FUDS12	Stockpiled soils in 20-yard roll-off container	To characterize soils for soil-disposal purposes	---	---	Mercury, TCLP, RCRA Characteristics
Notes: (1) Soil was wet probably due to the introduction of water to the floor drain and subsequent seepage through the upstream bell joint.					

Photo 1 - Probable End of Drain-line

