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SUMMARY REPORT OF FINDINGS

SUPPLEMENTAL REMEDIAL INVESTIGATIONS

FARMINGDALE PLAZA
450 MAIN STREET
FARMINGDALE, NASSAU COUNTY, NEW YORK

Submitted to:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2
Eastern New York Remediation Section
290 Broadway, 26th Floor
New York, New York 10007-1866

Prepared for:

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.
470 Chestnut Ridge Road
Woodcliff Lake, New Jersey 07677

Prepared by:

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Whitestone Project #WJ03-6263
September 2004

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September 24, 2004

via Federal Express

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2
Eastern New York Remediation Section
290 Broadway, 26th Floor
New York, New York 10007-1866

Attention: Lorenzo Thantu
Remedial Project Manager

Regarding: **SUPPLEMENTAL REMEDIAL INVESTIGATIONS**
FARMINGDALE PLAZA
450 MAIN STREET
FARMINGDALE, NASSAU COUNTY, NEW YORK
WHITESTONE PROJECT NO.: WJ03-6263

Dear Mr. Thantu:

Whitestone Associates, Inc. is pleased to submit for your review the attached *Summary Report of Findings - Supplemental Subsurface Investigations* for the above-referenced property.

Please do not hesitate to contact us at (908) 668-7777 or tuzzo@whitestoneassoc.com or ktockman@whitestoneassoc.com with any questions regarding these matters.

Sincerely,

WHITESTONE ASSOCIATES, INC.

Thomas K. Uzzo, P.E.A.
Principal

Keith Tockman, C.P.G.
Professional Geologist

Keith T. D'Ambrosio, P.E.
Director, Environmental Services

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SUPPLEMENTAL REMEDIAL INVESTIGATIONS
Farmingdale Plaza
450 Main Street
Farmingdale, Nassau County, New York

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SUPPLEMENTAL REMEDIAL INVESTIGATIONS
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450 Main Street
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SECTION 1.0
Executive Summary

Whitestone Associates, Inc. (Whitestone) was retained by The Great Atlantic & Pacific Tea Company, Inc. (A&P) to perform supplemental subsurface sampling and analyses efforts at the Farmingdale Plaza site at 450 Main Street in Farmingdale, Nassau County, New York (hereinafter referred to as the "site" or the "subject property"). These activities were undertaken as a follow-up to the soil gas vapor sampling activities conducted by the United States Environmental Protection Agency (USEPA) in May 2004 which had identified two anomalous soil gas vapor "hot-spots" at the site. Accordingly, Whitestone conducted the following activities to investigate further the USEPA soil gas vapor anomalies:

- Whitestone installed borings at USEPA soil vapor "hot-spots" DC-1/DC-5, DC-4, SG-47 and SG-56. Additional borings were installed immediately to the east of DC-4 and between USEPA sample points SG-49 and SG-50.

- Soil and/or groundwater samples were collected from each of these borings and submitted to a State-certified laboratory for volatile organic compound (VOC) analyses.

The results of these August 2004 investigations along with a review of historic on-site and off-site data revealed:

- USEPA issued a document entitled *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway for Groundwater and Soils* in 2002. Appendix E of the USEPA's guidance document discourages the use of slam bar methodology as these techniques are prone to impacts from surface air during slam bar removal and placement of the sampling equipment. Furthermore, Appendix E indicates that the air should be purged/flushed from the sampling line before sample extraction. Whitestone observed that USEPA's initial soil gas samples from the Plaza Cleaners dry cleaning facility and Waldbaum's supermarket were collected using the slam bar method and that the individual sample points were not purged prior to sample collection. Accordingly, USEPA did not adhere to the Agency's sampling protocol as presented in the draft guidance document. Whitestone was not on site during the subsequent Summa canister sampling, therefore, cannot comment on the supplemental sampling procedures.

- An ambient air sample (DC-0) appears to have been collected by USEPA from adjacent to the dry cleaning unit on May 8, 2004. The results provided by USEPA revealed PCE levels of 15.2 ppbv (103 ug/m^3). USEPA should clarify the manner in which this ambient air sample was collected as the Agency's guidance document advises collection of a 24-hour sample during which time equipment use and site activities inducing pressure differences be avoided. This air sampling was not observed by Whitestone, however, it is unlikely that a 24-hour sample was collected during the test period.

- Whitestone's August 2004 supplemental soil sampling revealed a tetrachloroethene (PCE) concentration of 1.52 parts per million in sample B2-2 which was collected beneath the dry cleaning

facility at a depth of 6.0 fbgs to 8.0 fbgs in boring 6263-B2 (USEPA soil gas vapor hot-spot DC-1/DC-5). Additionally, a PCE detection of 2.45 ppm was reported for soil sample B3-2 which was collected beneath the dry cleaners at 5.0 fbgs to 7.0 fbgs in boring 6263-B3 (USEPA soil gas vapor hot-spot DC-4). Both of these concentrations marginally exceed the New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objective of 1.4 ppb for PCE. However, soil samples collected at deeper intervals in both of these borings did not encounter detectable VOCs, therefore, these minor exceedances are confined to the upper portions of the vadose zone approximately 12 feet to 13 feet above the groundwater interface. Furthermore, a groundwater sample from adjacent boring 6263-B4 did not exhibit VOC concentrations exceeding NYSDEC's Groundwater Standards/Criteria, therefore, evidence of a PCE source from the dry cleaners impacting groundwater was not encountered.

- Low levels of VOC constituents below NYSDEC groundwater standards/criteria occur in the groundwater at locations throughout and adjacent to the Farmingdale Plaza site. The presence of these constituents at opposite property boundaries along with central portions of the site suggest that the VOC occurrences likely are related to an area-wide, background groundwater contaminant condition rather than a site-specific incident or condition. The most recent USEPA analytical results for the September 2003 groundwater sampling event indicated that the only exceedance of NYSDEC's Groundwater Standards/Criteria was 16 parts per billion (ppb) of PCE in MW-4A which slightly exceeds the groundwater objective of 5.0 ppb. Similarly, the only NYSDEC groundwater exceedance encountered in Whitestone's August 2004 sampling was 18.2 ppb of PCE at location 6263-B1(GW-1) which is situated immediately adjacent to USEPA well MW-2A. The most recent USEPA well sampling of MW-2A in September 2003 had encountered only 1.0 ppb of PCE.

- A negative correlation between the historic groundwater sampling and analyses results and May 2004 USEPA soil gas vapor sampling data also exists in the area of monitor well MW-4A in the driveway area from Fulton Street. This well historically has shown the highest PCE levels in groundwater, however, USEPA soil gas survey results for samples SG-9 and SG-12 did not contain significantly elevated PCE levels. Accordingly, the soil gas vapor results do not correlate to the previous groundwater monitoring data at MW-4A.

- Groundwater contour maps constructed using USEPA gauging data for wells on and immediately adjacent to Farmingdale Plaza have indicated a northeasterly flexure in the groundwater flow direction from the southerly flow reported in the USEPA and NYSDEC documents. This flexure further suggests that the VOC concentrations in wells MW-4A and MW-22A are related to a source other than the subject property or Plaza Cleaners. The flexure was observed in five of the six groundwater gauging events between September 2000 and September 2003.

Whitestone's findings along with pertinent conclusions and recommendations are provided in the sections that follow.

SECTION 2.0
Introduction

2.1 SITE LOCATION/DESCRIPTION

The subject property currently is occupied by the Farmingdale Plaza shopping center which includes a Waldbaum's Supermarket and three adjoining retail units to the south. The retail units are occupied from north to south by Farmingdale Plaza Cleaners (Plaza Cleaners), Lucky House Chinese Restaurant, and Main Street Cards and Gifts. The Plaza Cleaners is the specific location of the site designated by NYSDEC as a Class 2 site based apparently on USEPA's previous assumption that the Plaza Cleaners was the source of PCE contamination in certain groundwater wells, as discussed further in Section 2.5 of this report. The supermarket comprises approximately 33,000 square feet (footprint) of the masonry structure. Asphalt paved parking lot and driveway areas are situated to the east and south of the site building. The site encompasses an approximately four acre parcel comprising Lots 245, 250 and 269 of Block 102, Section 49 in the Village of Farmingdale, Town of Oyster Bay, Nassau County, New York. A *Site Location Map* is attached as Figure 1. A *Site Plan and Sample Location Map* also is attached as Figure 2.

The Farmingdale Plaza shopping center reportedly was constructed in the 1980's and currently is serviced by subsurface natural gas, electricity and municipal sanitary sewer and water lines. An underground heating oil storage tank (UST) reportedly was closed-in-place at the site in 1999. Additionally, one 500 gallon No. 2 heating oil aboveground storage tank (AST) formerly was located in the loading dock area. Adjacent properties include:

- Island Garden Apartments, a dental office, 7-Eleven convenience store, McDonald's restaurant and Fulton Street to the south with the Liberty Industrial Finishing NPL site located beyond Fulton Street;
- Hardscrabble Apartments, a residence, United States Post Office and Prospect Street to the north;
- Main Street Laundromat, Aerus, a CPA office, Spendless French Cleaners, a second hand store, Amy Nails, Step by Step dance studios, Classic Vaux Studios, Main Street Mail Center, Country Cupboard, Freedom Hair, an office complex and a Avanti Furniture to the east; and
- Hardscrabble Apartments, Milestone Apartments, Wild Bird Feed Barn, Weiden Street and residential properties to the west.

2.2 PHYSICAL SETTING

Site topography generally is flatlying, and the property is situated at an elevation of approximately 65 feet above mean sea level (msl). The site is located within the Atlantic Coastal Plain Physiographic Province of southeastern New York. The area generally is underlain by unconsolidated Cretaceous marine and alluvial

clay, silt, sand, and gravel which have been subjected to Pleistocene glaciation. Soils encountered during subsurface investigations at the subject site include fine to coarse sand with some gravel.

Subsurface investigations completed at the site by Whitestone, Malcolm Pirnie, Inc. (MPI) and USEPA have encountered groundwater in the unconsolidated sediments at depths ranging from approximately 17 feet below ground surface (fbgs) to 20 fbgs.

2.3 PREVIOUS MPI AND WHITESTONE ACTIVITIES (2000 TO 2001)

Phase I Environmental Site Assessment (ESA) and Phase II Site Investigations were conducted by Whitestone and MPI at the subject property in 2000 and 2001. These activities included the initial Phase I ESA by MPI in 2000 along with supplemental soil and groundwater sampling by MPI in 2000 and Whitestone in 2001. The results of these investigations (including summaries of analytical data) were incorporated into Whitestone's November 7, 2003 document entitled *Summary Report of Findings, Historical Site Use & Environmental Regulatory Compliance Evaluation*. This summary report was prepared for Cuddy & Feder, LLP, however, a copy of the document also was provided to USEPA in November 2003. As previously presented in the November 2003 report, the key findings related to the 2000 and 2001 MPI and/or Whitestone activities are summarized as follows:

- The September 25, 2000 *Phase I Environmental Site Assessment* (ESA) by MPI concluded that no recognized environmental conditions (RECs) associated with on- or off-site conditions were identified at or in the vicinity of the property. Subsequent amendments to MPI's Phase I ESA report included an acknowledgment that six on-site groundwater monitor wells had been installed at the site by the USEPA as part of an off-site evaluation of the Liberty Industrial Finishing NPL site.

- MPI reported that no VOC concentrations exceeding NYSDEC soil cleanup guidelines were encountered, however, benzene levels in groundwater from one of the on-site monitor wells slightly exceeded NYSDEC groundwater standards. This well, which was designated as MW-1 by MPI, corresponds to USEPA well MW-3A and WAI well MW-3. The well and sample locations are shown on Figure 2.

- Whitestone's February 19 and 20, 2001 sampling activities consisted of collection and analyses of soil and groundwater samples from six borings and groundwater sample collection/analyses from six existing site wells. No VOC constituents were reported in the soil samples in excess of NYSDEC soil cleanup objectives. VOC concentrations detected in select groundwater samples only marginally exceeded NYSDEC standards/criteria.

- Whitestone's April 2001 supplemental sampling activities were undertaken to: 1) further evaluate if current or past site operations had impacted subsurface conditions; 2) establish soil and groundwater conditions at reported upgradient and downgradient locations; and 3) further assess if groundwater contamination migrating to the Liberty Industrial Finishing NPL site (1/8 mile to 1/4 mile to the south of the Waldbaum's store) potentially had emanated from the subject property.

- The April 18, 2001 investigations included collection of three discrete groundwater samples at distinct horizons within each of four new borings (B-7 to B-10). PCE concentrations exceeding NYSDEC's groundwater standards/criteria were reported at only two boring locations. Detectable VOC concentrations below NYSDEC groundwater criteria also were identified in groundwater samples. The results of the groundwater sampling activities indicated detectable VOC concentrations in the groundwater underneath the site including apparent upgradient and cross-gradient of the current on-site dry cleaner. The VOC levels range from slightly below NYSDEC standards to marginal exceedances (within one order of magnitude or less) of applicable groundwater criteria.

2.4 USEPA ACTIVITIES PREDATING 2002

As discussed in Whitestone's November 2003 report, miscellaneous documents obtained from USEPA and NYSDEC pursuant to Freedom of Information Act requests suggest that at least 70 monitor wells have been installed as part of the investigations associated with the Liberty Industrial Finishing site which is located approximately 1,000 feet south of the site.

As indicated in Section 2.3 above, the on-site wells have been sampled by MPI and Whitestone in 2000 and 2001. Similarly, data obtained from USEPA and NYSDEC indicate that select wells also were sampled by EarthTech, Inc. and Dames & Moore between 1998 and 2001. The EarthTech and Dames & Moore data for the on-site and adjacent property wells were included in Whitestone's November 2003 report, a copy of which was provided to USEPA and NYSDEC. The historic groundwater sampling results are summarized in Table 1.

The regulatory sampling data through 2001 indicated PCE and/or TCE exceedances of NYSDEC groundwater quality standards/criteria in USEPA designated wells WMW-1, MW-8A, MW-4A, MW-5B, MW-22A and MW-22B. Generally, the reported concentrations during this timeframe marginally exceeded or were within one order of magnitude of NYSDEC groundwater standards. However, PCE levels of 3,600 ppb in USEPA MW-4A (February 7, 2001) and 1,100 ppb in MW-22A (August 17, 1999) were reported during select sampling rounds. These locations are situated approximately 200 feet to 350 feet from the Plaza Cleaners facility. The intermediate area displayed significantly lower VOC concentrations, thereby, suggesting a separate contaminant source (other than the Plaza Cleaners) for the PCE levels at USEPA MW-4A, and USEPA MW-22A.

This information collected through 2001 also indicated that water levels in USEPA wells MW-4A, MW-22A and MW-22B (located to the south of the main Farmingdale Plaza property) were higher than the static levels in WMW-1, MW-1A, MW-1B, MW-2A and/or MW-3A during the September 2000 to February 2001 measurement events. This indicates a northeasterly flexure in the groundwater flow direction from the southerly flow reported in the USEPA and NYSDEC documents. This flexure further suggests that the elevated VOC concentrations in wells MW-4A and MW-22A are related to a source other than Plaza Cleaners. This apparent shift in groundwater flow direction was displayed in four of the contour maps which were provided in Whitestone's November 2003 report.

2.5 USEPA OCTOBER 2002 AND SEPTEMBER 2003 GROUNDWATER SAMPLING

USEPA conducted supplemental groundwater sampling at the Liberty Industrial Finishing site and adjacent properties (including Farmingdale Plaza) in October 2002 and September 2003. The results of these sampling efforts were presented in USEPA's report December 2, 2003 document entitled *Sampling Report and Data Presentation, Liberty Industrial Finishing, Farmingdale, Long Island, New York, Groundwater Sampling September 15 - 19, 2003.* A copy of this report was obtained from Mr. Lorenzo Thantu of USEPA. The key information presented in the sampling report received by USEPA on March 3, 2004 included:

- The monitor wells on and immediately adjacent to Farmingdale Plaza sampled by USEPA in September 2003 included WMW-1, MW-1A, MW-1B, MW-2A, MW-3A, MW-4A, MW-5B, MW-8A, MW-22A and MW-22B. USEPA also sampled an additional 18 wells in September 2003 on and adjacent to the Liberty Industrial Finishing site to the south of Farmingdale Plaza. The December 2003 USEPA report also reported that wells WMW-1, MW-1A, MW-1B, MW-2A, MW-3A, MW-4A, MW-8A, MW-22A and MW-22B were sampled in October 2002.

- USEPA's laboratory data for September 2003 revealed low levels of chlorinated solvents in monitor wells WMW-1, MW-1A, MW-1B, MW-2A, MW-3A, MW-5B, MW-8A, MW-22A and MW-22B. These levels were below NYSDEC groundwater quality standards/criteria. However, in September 2003, a PCE concentration of 16.0 ppb at MW-4A, which is situated more than 200 feet to the southwest of the Plaza Cleaners facility, slightly exceeded NYSDEC's groundwater standard of 5.0 ppb.

- USEPA's December 2003 report indicated that a majority of the wells had displayed a decrease in VOC concentrations between the October 2002 and September 2003 sampling episodes. The results of USEPA's October 2002 and September 2003 sampling activities were listed in the Agency's December 2003 report and are summarized herein in Table 1.

- The groundwater contour map for the September 2003 sampling episode, which is attached as Figure 3, indicates a southerly groundwater flow direction with a flexure to the north-northeast in the vicinity of monitor wells MW-4A, MW-22A and MW-22A. The USEPA groundwater measurements reportedly were collected over a five-day interval, however, the gauging data and resulting contour map suggest that MW-4A, MW-22A and MW-22B are upgradient of select wells near the southern boundary of the main Farmingdale Plaza tract.

- The chlorinated solvent concentrations in the September 2003 USEPA groundwater samples collected from the main Liberty Industrial Finishing site reach one to two orders of magnitude higher than the levels for the wells sampled on and immediately adjacent to the Farmingdale Plaza property.

2.6 USEPA SOIL GAS SURVEY (MAY 2004)

USEPA conducted a soil gas survey at the Farmingdale Plaza site and adjacent properties in May 2004. At the request of A&P, a Whitestone representative was on site on May 3, 2004 and May 8, 2004 to assist with site access and observe USEPA's sampling activities in portions of the dry cleaning and Waldbaum's

facilities. The results of USEPA's May 2004 activities were presented in the Agency's June 29, 2004 draft document entitled *Liberty Industrial Finishing Superfund Site, Farmingdale, New York - Soil Gas Results.*

Samples initially were collected by USEPA in early May 2004 using Tedlar bags. Sampling was accomplished by coring through the asphalt or concrete and then extending the hole to an approximate depth of 4.0 feet below ground surface (fbgs) with a slam bar device. The slam bar equipment was removed from the hole, and a steel sampling rod with attached tubing was inserted into the boring. The soil gas was then drawn into the Tedlar bag which subsequently was analyzed at a mobile GC lab that had been established on the Liberty Industrial Finishing site to the south. Whitestone was on site for the initial sampling in the dry cleaning and Waldbaum's facilities.

A total of 13 supplemental soil gas vapor samples along with a trip blank and replicate were collected by USEPA after the Agency's review of the initial Tedlar bag sampling results. These supplemental soil gas vapor samples along with apparent ambient air samples in the Plaza Cleaners and at an undisclosed location reportedly were collected by USEPA with Summa canisters. The canisters reportedly were submitted to Lockheed Martin for VOC analyses by Method TO-15. These supplemental sampling activities were not observed by Whitestone.

USEPA has proposed that the data suggest a PCE "hot-spot" adjacent to the Plaza Cleaners which is mapped as extending beneath portions of the Waldbaum's store. Based on the analytical results, USEPA mapped a second hot-spot which is located to the southeast of the building in the vicinity of USEPA monitor well MW-2A. The reported USEPA soil gas vapor sampling locations are shown on Figure 4, however, field verification of certain USEPA sample locations suggests that certain soil gas sample points may not be depicted accurately on USEPA's sample plan.

2.7 CURRENT SCOPE OF WORK

As discussed in Section 2.6, USEPA conducted a soil gas vapor survey at the site in May 2004. Draft results for the soil gas survey were provided to A&P and Whitestone by USEPA on June 29, 2004. Whitestone subsequently initiated the following investigations at the site to supplement the USEPA soil gas survey results:

- Whitestone installed borings at USEPA soil vapor "hot-spots" DC-1/DC-5, DC-4, SG-47 and SG-56. Additional borings were installed immediately to the east of DC-4 and between USEPA sample points SG-49 and SG-50.

- Soil and/or groundwater samples were collected from each of these borings and submitted for VOC analyses.

The results of these supplemental investigations are discussed in Section 3.0

SECTION 3.0
Supplemental Subsurface Sampling and Analyses

3.1 SUPPLEMENTAL SOIL SAMPLING

Six borings were installed at the site on August 2, 2004 and August 6, 2004 with Geoprobe equipment contracted from Zebra Environmental Corporation. These borings were installed at select locations primarily to investigate further the soil gas vapor "hot-spots" reported by USEPA in May 2004 and as documented in the Agency's June 29, 2004 draft summary entitled *Liberty Industrial Finishing Superfund Site, Farmingdale, New York - Soil Gas Results*. As listed on Table 2, soil samples were collected at specific depths within each boring and submitted to Integrated Analytical Laboratories, LLC (NY Certified Lab #11402) for VOC analyses by Method 8260/5035. The locations of the borings are shown on Figure 4 with boring logs provided in Appendix 1.

Boring 6263-B1 was installed at USEPA location SG-47, situated near the southern property boundary and monitor well MW-2. The draft USEPA results indicated that the May 2004 soil gas vapor sample collected at SG-47 had exhibited 3,810 parts per billion by volume (ppbv) of tetrachloroethene (PCE) at a depth of 4.0 feet below ground surface (fbgs). Whitestone subsequently installed boring 6263-B1 at this location on August 2, 2004 to further investigate this soil gas vapor anomaly reported by USEPA. Continuous soil samples were collected to a depth of 20 fbgs. As listed in Table 3, five soil samples from this boring were submitted for VOC analyses with the laboratory results revealing no detectable VOC concentrations. The formal laboratory report is provided in Appendix 2. Groundwater sampling of this boring is discussed in Section 3.2.

Boring 6263-B2 was installed at the approximate location of USEPA samples DC-1 and DC-5 adjacent to dry cleaning equipment in the Plaza Cleaners. The draft USEPA results had revealed soil gas vapor PCE concentrations of 37,500 ppbv (field GC analysis) in sample DC-1 along with >17,292 ppbv (field GC analysis) and 39,000 ppbv (laboratory analysis) in sample DC-5. This boring was extended to a depth of 17 fbgs at which point further Geoprobe advancement was prohibited by binding sands. As listed in Table 2, four soil samples were collected by Whitestone at select intervals in corresponding boring 6263-B2. The analytical results summarized in Table 3 and Appendix 2 identified PCE concentrations of 0.248 parts per million (ppm) in 6263-B2-1 (depth 2.0 fbgs to 4.0 fbgs) and 1.52 ppm in 6363-B2-2 (depth interval of 6.0 fbgs to 8.0 fbgs). The PCE concentration of 1.52 ppm in 6263-B2-2 slightly exceeds NYSDEC's Recommended Soil Cleanup Objective of 1.4 ppm. The underlying intervals sampled in 6263-B2-3 (depth interval of 12.0 fbgs to 14.0 fbgs) and 6263-B2-4 (depth interval of 15.0 fbgs to 17.0 fbgs) did not contain detectable VOC constituents.

Boring 6263-B3 was installed at the approximate location of USEPA samples DC-4 in the walkway area within the Plaza Cleaners facility. The draft USEPA results had revealed soil gas vapor PCE concentrations

of 7,133 ppbv (field GC analysis) in sample DC-1. This boring was extended to a depth of 17 fbgs at which point further Geoprobe advancement was prohibited by binding sands. As listed in Table 2, four soil samples were collected by Whitestone at select intervals in corresponding boring 6263-B3. The analytical results summarized in Table 3 and Appendix 2 identified PCE concentrations of 1.05 parts per million (ppm) in 6263-B3-1 (depth 1.0 fbgs to 3.0 fbgs) and 2.45 ppm in 6363-B3-2 (depth interval of 5.0 fbgs to 7.0 fbgs). The PCE concentration of 2.45 ppm in 6263-B3-2 slightly exceeds NYSDEC's Recommended Soil Cleanup Objective of 1.4 ppm. The underlying intervals sampled in 6263-B3-3 (depth interval of 10.0 fbgs to 12.0 fbgs) and 6263-B3-4 (depth interval of 14.0 fbgs to 16.0 fbgs) did not contain detectable VOC constituents.

Boring 6263-B4 was installed by Whitestone on August 6, 2004 immediately to the east of the dry cleaners entrance (approximately 10 feet east of USEPA location DC-4). This boring was installed with heavier truck-mounted Geoprobe equipment able to exceed the 17 fbgs depth limitation encountered with restricted access geoprobe equipment used inside the building at location 6263-B3. Soil gas vapor samples had not been collected at this specific location by USEPA in May 2004, however, this boring is within 10 feet of USEPA sample DC-4 which had exhibited PCE concentrations of 7,133 ppbv. As listed in Table 3 and Appendix 3, the soil sample collected from this boring on August 6, 2004 did not exhibit detectable VOC constituents. Groundwater sampling at boring 6263-B4 is discussed in Section 3.2.

Boring 6263-B5 was installed by Whitestone on August 6, 2004 between USEPA locations SG-49 and SG-50. USEPA did not collect a soil gas vapor sample at this location in May 2004. As listed in Table 2 and Appendix 3, the soil sample collected from this boring on August 6, 2004 did not exhibit detectable VOC constituents. Groundwater sampling at boring 6263-B5 is discussed in Section 3.2.

Boring 6263-B6 was installed by Whitestone on August 6, 2004 at USEPA location SG-56 which reportedly had exhibited a soil gas vapor PCE concentration of 1,850 ppbv at depth of a 4.0 fbgs in May 2004. As listed in Table 3 and Appendix 3, the soil sample collected from this boring on August 6, 2004 did not exhibit detectable VOC constituents. Groundwater sampling at boring 6263-B6 is discussed in Section 3.2.

3.2 SUPPLEMENTAL GROUNDWATER SAMPLING

Temporary wellpoints were established at borings 6263-B1, 6263-B4, 6263-B5 and 6263-B6 to facilitate the collection of groundwater samples that subsequently were submitted for VOC analyses by Method 8260. Groundwater sampling information is summarized in Table 4 with analytical results provided in Appendices 2 and 4. Refusal at 17 fbgs was encountered in borings 6263-B2 and 6263-B3 due to binding sand, thereby preventing groundwater sample collection at these two locations.

As summarized in Table 4, the analytical results for a groundwater sample collected on August 2, 2004 from the piezometric surface in 6263-B1 (sample GW-1) contained 0.555 parts per billion (ppb) of trichloroethene (TCE) and 18.2 ppb of PCE. The PCE concentration marginally exceeds NYSDEC's Groundwater Standard/Criteria of 5.0 ppb. This boring is in the vicinity of USEPA monitor well MW-2A. The most

recent USEPA groundwater sample collected from MW-2A in September 2003 (reported December 2, 2003) contained a PCE concentration of 1.0 ppb.

Groundwater sample GW-4 was collected from boring 6263-B4 on August 6, 2004. This boring was located immediately to the east of USEPA sample location DC-4 which had exhibited a soil gas vapor PCE concentration of 7,133 ppbv in May 2004. As summarized in Table 4, the only VOC detected in GW-4 was PCE at a concentration 0.503 ppb which is below NYSDEC's Groundwater Standard/Criteria of 5.0 ppb.

Groundwater sample GW-5 was collected from a temporary wellpoint established at boring 6263-B5 on August 6, 2004. This boring is situated between USEPA locations SG-49 and SG-50. As listed in Table 4 and Appendix 3, no detectable VOCs were reported for groundwater sample GW-5.

Groundwater sample GW-6 was collected from boring 6263-B6 on August 6, 2004. This boring was installed at the approximate location of USEPA sample point SG-56 which had exhibited a soil gas vapor PCE concentration of 1,850 ppbv in May 2004. As summarized in Table 4, the only VOC detected in GW-4 was PCE at a concentration 2.84 ppb which is below NYSDEC's Groundwater Standard/Criteria of 5.0 ppb.

SECTION 4.0
Conclusions and Recommendations

The following conclusions and recommendations are based on the historical documentation and environmental regulatory information reviewed to date by Whitestone along with available results of remedial investigation efforts:

- USEPA issued a document entitled *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway for Groundwater and Soils* in 2002. Appendix E of the USEPA's guidance document discourages the use of slam bar methodology as these techniques are prone to impacts from surface air during slam bar removal and placement of the sampling equipment. Furthermore, Appendix E indicates that the air should be purged/flushed from the sampling line before sample extraction. Whitestone observed that USEPA's initial soil gas samples from the Plaza Cleaners dry cleaning facility and Waldbaum's supermarket were collected using the slam bar method and that the individual sample points were not purged prior to sample collection. Accordingly, USEPA did not adhere to the Agency's sampling protocol as presented in the draft guidance document. Whitestone was not on site during the subsequent Summa canister sampling, therefore, cannot comment on the supplemental sampling procedures.

- An ambient air sample (DC-0) apparently was collected by USEPA from an area adjacent to the dry cleaning unit on May 8, 2004. The results provided by USEPA revealed PCE levels of 15.2 ppbv (103 ug/m^3). USEPA should clarify the manner in which this ambient air sample was collected as the Agency's guidance document advises collection of a 24-hour sample during which time equipment use and site activities inducing pressure differences be avoided. This air sampling was not observed by Whitestone, however, it appears unlikely that a 24-hour sample was collected during the test period.

- Whitestone's August 2004 supplemental soil sampling revealed a tetrachloroethene (PCE) concentration of 1.52 parts per million in sample B2-2 which was collected beneath the dry cleaning facility at a depth of 6.0 fbgs to 8.0 fbgs in boring 6263-B2 (USEPA soil gas vapor hot-spot DC-1/DC-5). Additionally, a PCE detection of 2.45 ppm was reported for soil sample B3-2 which was collected beneath the dry cleaners at 5.0 fbgs to 7.0 fbgs in boring 6263-B3 (USEPA proposed soil gas vapor hot-spot DC-4). Both of these soil concentrations only marginally exceed the New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objective of 1.4 ppm for PCE. However, soil samples collected at deeper intervals in both of these borings did not encounter detectable VOCs. Accordingly, these minor exceedances are confined to the upper portions of the vadose zone approximately 12 feet to 13 feet above the groundwater interface. Furthermore, a groundwater sample from adjacent boring 6263-B4 did not exhibit VOC concentrations exceeding NYSDEC's Groundwater Standards/Criteria. Therefore, evidence of a PCE source from the Plaza Cleaners impacting groundwater was not encountered.

- Low levels of VOC constituents below NYSDEC groundwater standards/criteria occur in the groundwater at locations throughout and adjacent to the Farmingdale Plaza site. The presence of these constituents at opposite property boundaries along with central portions of the site suggest that

the VOC occurrences likely are related to an area-wide, background groundwater contaminant condition rather than a site-specific incident or condition. The most recent USEPA analytical results for the September 2003 groundwater sampling event indicated that the only exceedance of NYSDEC's Groundwater Standards/Criteria was 16 parts per billion (ppb) of PCE in MW-4A which slightly exceeds the groundwater objective of 5.0 ppb. Similarly, the only NYSDEC groundwater exceedance encountered during Whitestone's August 2004 sampling was 18.2 ppb of PCE at location 6263-B1(GW-1) which is situated immediately adjacent to USEPA well MW-2A. The most recent USEPA well sampling of MW-2A in September 2003 had encountered only 1.0 ppb of PCE.

- A negative correlation between the historic groundwater sampling and analyses results and May 2004 USEPA soil gas vapor sampling data also exists in the area of monitor well MW-4A in the driveway area from Fulton Street. This well historically has shown the highest PCE levels in groundwater, however, USEPA soil gas survey results for samples SG-9 and SG-12 did not contain significantly elevated PCE levels. Accordingly, the soil gas vapor results do not correlate to the previous groundwater monitoring data at MW-4A.

- Groundwater contour maps constructed using USEPA gauging data for wells on and immediately adjacent to Farmingdale Plaza have indicated a northeasterly flexure in the groundwater flow direction from the southerly flow reported in the USEPA and NYSDEC documents. This flexure further suggests that the VOC concentrations in wells MW-4A and MW-22A are related to a source other than the subject property or Plaza Cleaners. The flexure was observed in five of the six groundwater gauging events between September 2000 and September 2003.

In light of these findings, a direct correlation between discharges from the Plaza Cleaners and the chlorinated organic groundwater plume at the nearby Liberty Industrial NPL site has not been established. Furthermore, the historical and current site investigation data compiled on behalf of USEPA and A&P do not indicate that discharges have occurred from the Plaza Cleaners site which have resulted in the chlorinated volatile organic plume currently observed at the off-site Liberty Industrial Finishing NPL facility. In summary, Whitestone offers the following summarized data and information which further support the contention that the Plaza Cleaners is not the source of USEPA's Plume B:

- The data gathered by USEPA during its soil gas vapor sampling and analyses effort are suspect in that standard operating procedures recommended by USEPA were not followed and could have resulted in cross communication of conditions both above and below the concrete floor slab, resulting in inaccurate soil gas concentrations.

- Despite the apparently elevated soil gas "hot spots" identified by USEPA, no apparent residual source of PCE contamination in soil was detected. The two minor PCE detections recorded in shallow subsurface soils were 12 feet to 13 feet above the static groundwater level and at concentrations marginally exceeding NYSDEC soil criteria.

- Historic groundwater data have fluctuated significantly between 2000 and 2003 with no apparent consistency or discernable source of PCE or other VOCs identified.

- The highest groundwater contaminant concentrations detected at the Farmingdale Plaza site have occurred at MW-4A (more than 200 feet southwest of the Plaza Cleaners), which, in five out of six groundwater monitoring events, correlates to an apparent upgradient source not attributable to the Plaza Cleaners site. This apparent flexture in groundwater contour gradients suggests a separate possible off-site or historic source of PCE contamination other than the dry cleaning facility.

- A regional chlorinated volatile organic contaminant condition persists in groundwater in the vicinity of the subject property and does not appear to be isolated to a suspected source emanating from the subject property. Moreover, the concentrations of PCE and other chlorinated volatile organics observed at the Liberty Industrial Finishing NPL site to the south are significantly higher than those documented both currently or historically at the Farmingdale Plaza property.

WHITESTONE ASSOCIATES, INC.

TABLES 1 through 4

TABLE 1 Summary of Historical Groundwater Monitoring Data				
Well #	**Date Sampled**	**PCE (ppb)**	**TCE (ppb)**	**cis-1,2-DCE (ppb)**
MW-1(W)/WMW-1(E)	8/3/00 (E)	**36**	4.1	2.2
	9/28/00 (E)	**15**	3	5
	2/7/01 (E)	**18**	4	7
	2/20/01 (W)	**12**	ND	4.3
	10/24/01 (E)	**10**	1.6	4
	10/02 (E)	4.6	0.87	2.1
	9/03 (E)	1.2	ND	ND
MW-2(W)/MW-8A(E)/ MW-3(M)	9/28/00 (E)	3	2	9
	11/30/00 (M)	0.6	ND	0.5
	2/8/01 (E)	**20**	**8**	47
	2/20/01 (W)	**38**	**16**	100
	10/24/01 (E)	**14**	**6.5**	37
	10/02 (E)	0.63	0.25J	0.47J
	9/03 (E)	0.89	ND	ND
MW-3(W)/MW-3A(E)/ MW-1(M)	9/28/00 (E)	4	0.6	1
	11/30/00 (M)	0.6	ND	0.6
	2/8/01 (E)	0.9	ND	0.7
	2/20/01 (W)	ND	ND	ND
	10/24/01 (E)	3.8	0.75	ND
	10/02 (E)	**21**	3.2	3.0
	9/03 (E)	0.18J	ND	ND
MW-4(W)/MW-2A(E)	9/28/00 (E)	ND	ND	ND
	2/7/01 (E)	ND	ND	ND
	2/20/01 (W)	ND	ND	ND
	10/24/01 (E)	ND	0.75	ND
	10/02 (E)	0.45J	ND	ND
	9/03 (E)	1.0	ND	ND
MW-5(W)/MW-1B(E)	9/28/00 (E)	2	ND	ND
	2/8/01 (E)	3	ND	ND

TABLE 1 (Continued) Summary of Historical Groundwater Monitoring Data				
Well #	**Date Sampled**	**PCE (ppb)**	**TCE (ppb)**	**cis-1,2-DCE (ppb)**
	2/20/01 (W)	ND	ND	ND
	10/24/01 (E)	3.1	ND	ND
	10/02 (E)	2.6	0.17J	ND
	9/03 (E)	2.4	ND	ND
MW-6(W)/MW-1A(E)	9/28/00 (E)	ND	ND	ND
	2/7/01 (E)	ND	ND	ND
	2/20/01 (W)	ND	ND	ND
	10/24/01 (E)	ND	ND	ND
	10/02 (E)	ND	ND	ND
	9/03 (E)	0.24J	ND	ND
MW-4A(E)	9/28/00 (E)	**610**	**21**	28
	2/7/01 (E)	**3,600**	ND	130
	10/24/01 (E)	**330**	**41**	46
	10/02 (E)	**71**	**21**	18
	9/03 (E)	**16**	4.8	15
MW-5B(E)	9/28/00 (E)	**7**	2	3
	2/9/01 (E)	**6**	ND	ND
	10/24/01 (E)	**12**	2.9	3.1
	10/02 (E)	NS	NS	NS
	9/03 (E)	2.2	0.51	0.33J
MW-22A(E)	4/15/98 (D)	ND	ND	ND
	8/17/98 (D)	ND	ND	ND
	1/27/99 (D)	**18**	3	18
	7/27/99 (D)	**810**	**510**	510
	8/17/99 (D)	**1,100**	**840**	980
	8/4/00 (E)	**240**	**72**	96
	9/28/00 (E)	**100**	**23**	23

TABLE 1 (Continued)
Summary of Historical Groundwater Monitoring Data

Well #	Date Sampled	PCE (ppb)	TCE (ppb)	cis-1,2-DCE (ppb)
	2/9/01(E)	**460**	**270**	340
	10/24/01 (E)	**55**	**8.6**	6.3
	10/02 (E)	**6.7**	1.9	1.1
	9/03 (E)	3.6	0.9	ND
MW-22B(E)	4/15/98 (D)	**11**	4	8
	8/17/98 (D)	4	1	0.8
	1/27/99 (D)	**20**	**8**	9
	7/27/99 (D)	**37**	**11**	21
	8/17/99 (D)	**26**	**7.6**	18
	8/4/00 (E)	3.5	1.2	4.7
	9/28/00 (E)	4	2	34
	2/8/01(E)	ND	ND	ND
	10/24/01 (E)	2	0.5	ND
	10/02 (E)	0.23J	ND	0.23J
	9/03 (E)	0.25J	ND	ND

Notes:

PCE	Tetrachloroethene
TCE	Trichloroethene
DCE	Dichloroethene
NS	Not sampled
ppb	parts per billion
W	Whitestone well designation or sample
E	USEPA well designation or sample
D	Dames & Moore sample
M	Malcolm Pirnie sample
ND	Not detected
Bold	**Values shown in bold exceed NYSDEC groundwater standards/criteria**

TABLE 2
Supplemental Soil Sampling Summary
August 2004

Whitestone Boring #	Corresponding USEPA Location	Date Sampled	Total Depth (fbgs)	Depth to Groundwater (fbgs)	Interval Sampled & Sample # (feet)	Analysis
6263-B1	SG-47	8/2/04	20	18	0 to 4.0 (B1-1) 4.0 to 8.0 (B1-2) 8.0 to 12.0 (B1-3) 12.0 to 16.0 (B1-4) 16.0 to 20.0 (B1-5)	V V V V
6263-B2	DC-1/DC-5	8/2/04	17	NE	2.0 to 4.0 (B2-1) 6.0 to 8.0 (B2-2) 12.0 to 14.0 (B2-3) 15.0 to 17.0 (B2-4)	V V V V
6263-B3	DC-4	8/2/04	17	NE	1.0 to 3.0 (B3-1) 5.0 to 7.0 (B3-2) 10.0 to 12.0 (B3-3) 14.0 to 16.0 (B3-4)	V V V V
6263-B4	East of DC-4	8/6/04	20	20	4.0 to 6.0 (B-4)	V
6263-B5	Between SG-49 and SG-50	8/6/04	20	19	4.0 to 6.0 (B-5)	V
6263-B6	SG-56	8/6/04	20	19	4.0 to 6.0 (B-6)	V

Notes:
fbgs feet below ground surface
V Volatile organic compounds by Method 8260/5035
NE Not encountered

TABLE 3
Supplemental Soil Sampling & Analysis Data Summary
August 2004

Whitestone Boring #	Whitestone Sample #	Sample Depth (feet)	Detected Compound/ Concentration (ppm)	Corresponding USEPA Soil Gas Vapor Sample Location	USEPA May 2004 Soil Gas PCE Concentration (ppbv)
6263-B1	B1-1	0 to 4.0	ND	SG-47	3,810
	B1-2	4.0 to 8.0	ND		
	B1-3	8.0 to 12.0	ND		
	B1-4	12.0 to 16.0	ND		
	B1-5	16.0 to 20.0	ND		
6263-B2	B2-1	2.0 to 4.0	Tetrachloroethene - 0.248	DC-1/DC-5	>17,292 to 39,000
	B2-2	6.0 to 8.0	**Tetrachloroethene - 1.52**		
	B2-3	12.0 to 14.0	ND		
	B2-4	15.0 to 17.0	ND		
6263-B3	B3-1	1.0 to 3.0	Tetrachloroethene - 1.05	DC-4	7,133
	B3-2	5.0 to 7.0	**Tetrachloroethene - 2.45**		
	B3-3	10.0 to 12.0	ND		
	B4-4	14.0 to 16.0	ND		
6263-B4	6263-B4	4.0 to 6.0	ND	East of DC-4	NS
6263-B5	6263-B5	4.0 to 6.0	ND	Between SG-49 and SG-50	NS
6263-B6	6263-B6	4.0 to 6.0	ND	SG-56	1,850

Notes:
ppm parts per million
ppbv parts per billion by volume
ND Not detected
NS Not sampled
Bold **Exceeds NYSDEC Recommended Soil Cleanup Objective**

TABLE 4
Supplemental Groundwater Sampling & Analysis Data Summary
August 2004

Whitestone Boring #	Whitestone Sample #	Detected Compound/ Concentration (ppb)	Corresponding USEPA Soil Gas Vapor Sample Location	USEPA May 2004 Soil Gas PCE Concentration(ppbv)
6263-B1	GW-1	Trichloroethene - 0.555 **Tetrachloroethene - 18.2**	SG-47	3,810
6263-B4	GW-4	Tetrachloroethene - 0.503	East of DC-4	NS
6263-B5	GW-5	ND	Between SG-49 and SG-50	NS
6263-B6	GW-6	Tetrachloroethene - 2.84	SG-56	1,850

Notes:
ppb parts per billion
ppbv parts per billion by volume
ND Not detected
NS Not sampled
Bold **Exceeds NYSDEC Groundwater Standard/Criteria**

WHITESTONE
ASSOCIATES, INC.

FIGURE 1
Site Location Map

TITLE:	**Site Location Map**						
CLIENT:	THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.						
PROJECT:	Farmingdale Plaza 450 Main Street Farmingdale, Nassau County, New York	PROJECT #: WJ03-6263	BY: Delorme	PROJ. MGR. TKU	DATE: 9/1/04	SCALE: 1"=1,500'	FIGURE: 1

WHITESTONE ASSOCIATES, INC.
786 MOUNTAIN BOULEVARD, SUITE 200
WATCHUNG, NEW JERSEY 07069
908.668.7777 ✦ 908.754.5936 FAX

WHITESTONE
ASSOCIATES, INC.

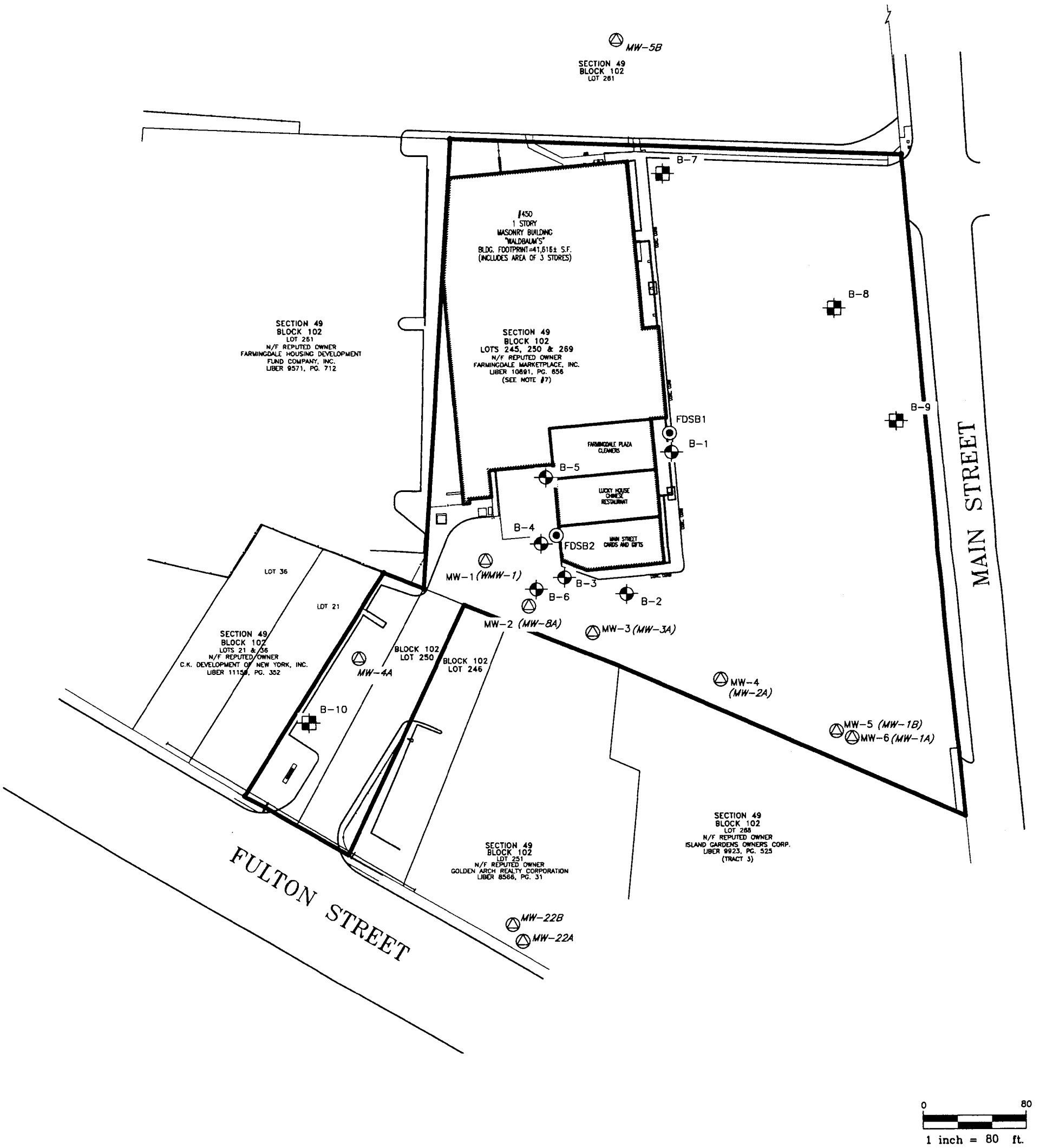
FIGURE 2
Site Plan and Sample Location Map

LEGEND

B-1	BORING LOCATION CONDUCTED BY WHITESTONE ASSOCIATES, INC. (02/19/01 AND 02/20/01)
B-1	BORING LOCATION CONDUCTED BY WHITESTONE ASSOCIATES, INC. (04/18/01)
FDSB1	BORING LOCATION CONDUCTED BY MALCOLM PIRNIE
MW-4	MONITOR WELL
MW-5B	ITALICS DENOTES USEPA WELL #

REFERENCE

THIS PLAN IS BASED UPON AN AUGUST 16, 2000 (REVISED AUGUST 22, 2001) ALTA/ACSM LAND TITLE SURVEY PREPARED BY CONTROL POINT ASSOCIATES, INC.



TITLE:

SITE PLAN AND SAMPLE LOCATION MAP

CLIENT: THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.

PROJECT: FARMINGDALE PLAZA
450 MAIN STREET
FARMINGDALE, NASSAU COUNTY, NEW YORK

WHITESTONE ASSOCIATES, INC.
786 Mountain Boulevard, Suite 200
Watchung, New Jersey 07069
Phone (908) 668-7777 Fax (908) 754-5936

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE:
WJ03-6263	MG	TKU	10/14/03	1"=80'	2

WHITESTONE
ASSOCIATES, INC.

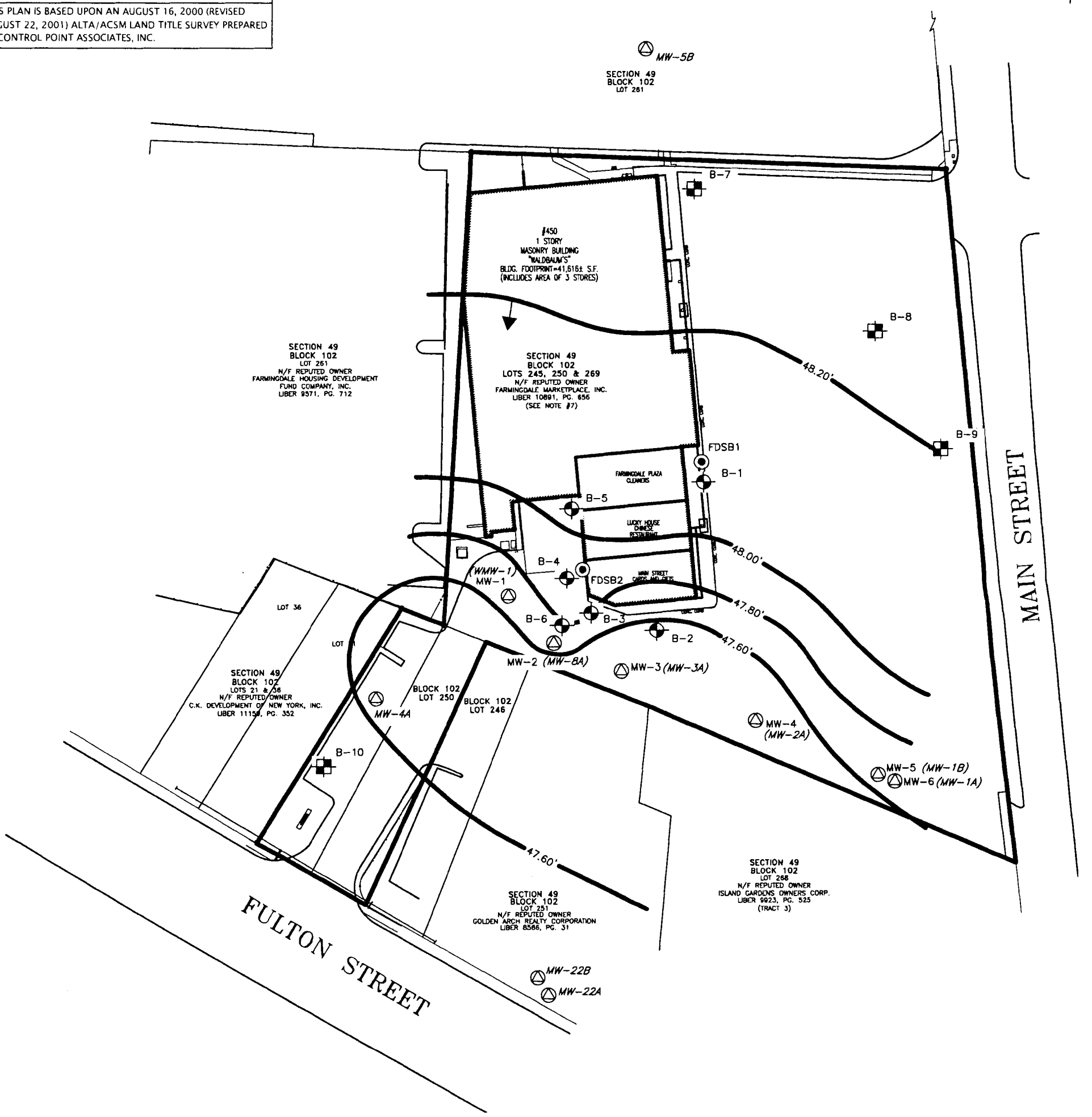
FIGURE 3
Groundwater Contour Map
(Measured September 2003)

LEGEND

47.60'	GROUNDWATER CONTOUR
→	FLOW DIRECTION
B-1	BORING LOCATION CONDUCTED BY WHITESTONE ASSOCIATES, INC. (02/19/01 AND 02/20/01)
B-1	BORING LOCATION CONDUCTED BY WHITESTONE ASSOCIATES, INC. (04/18/01)
FDSB1	BORING LOCATION CONDUCTED BY MALCOLM PIRNIE
MW-4	MONITOR WELL
MW-5B	ITALICS DENOTES USEPA WELL #

REFERENCE

THIS PLAN IS BASED UPON AN AUGUST 16, 2000 (REVISED AUGUST 22, 2001) ALTA/ACSM LAND TITLE SURVEY PREPARED BY CONTROL POINT ASSOCIATES, INC.



TITLE:
GROUNDWATER CONTOUR MAP (MEASURED SEPTEMBER 2003)

CLIENT: THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.

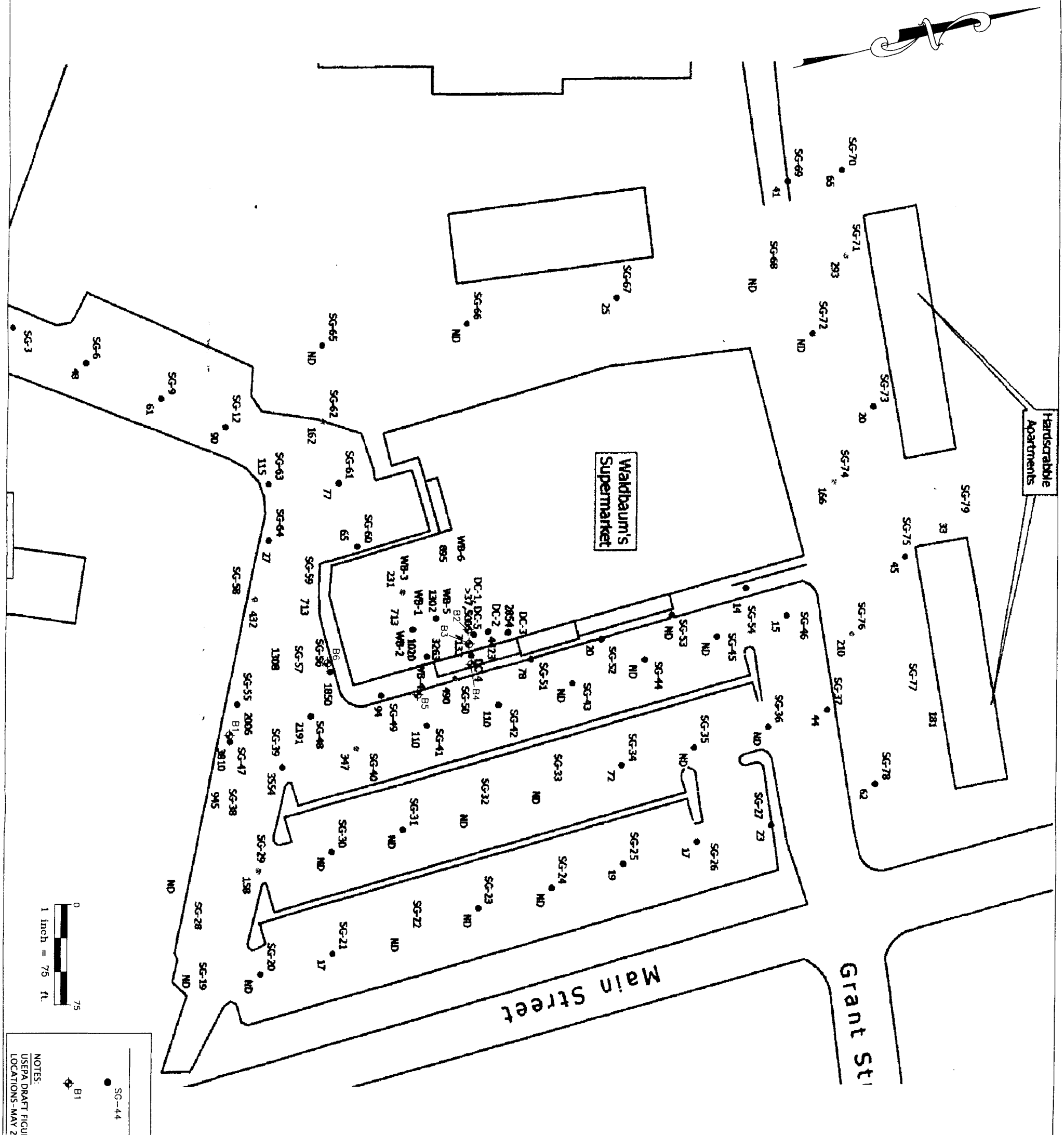
WHITESTONE ASSOCIATES, INC.
786 Mountain Boulevard, Suite 200
Watchung, New Jersey 07069
Phone (908) 668-7777 Fax (908) 754-5936

PROJECT: FARMINGDALE PLAZA
450 MAIN STREET
FARMINGDALE, NASSAU COUNTY, NEW YORK

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE:
WJ03-6263	MG	TKU	3/4/04	1"=80'	3

WHITESTONE
ASSOCIATES, INC.

FIGURE 4
USEPA Soil Gas Vapor Sample & Whitestone Boring Location Map



LEGEND

SG-44 — USEPA SOIL GAS VAPOR SAMPLE (LOCATION BASED ON USEPA DRAFT FIGURE 2 FROM JUNE 29, 2004 REPORT)

B1 — WHITESTONE BORING LOCATION (AUGUST 2004)

NOTES:
USEPA DRAFT FIGURE 2 FROM JUNE 29, 2004 REPORT (OUTDOOR SOIL GAS LOCATIONS-MAY 2004) USED AS BASE MAP

TITLE: USEPA SOIL GAS VAPOR & WHITESTONE BORING LOCATION PLAN

CLIENT: THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.

PROJECT: FARMINGDALE PLAZA
450 MAIN STREET
FARMINGDALE, NEW YORK

WHITESTONE ASSOCIATES, INC.
786 Mountain Boulevard, Suite 200
Watchung, New Jersey 07069
Phone (908) 668-7777 Fax (908) 754-5936

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE:
WJ03-6263	MG	TKU	8/27/04	1"=75'	4

WHITESTONE
ASSOCIATES, INC.

APPENDIX 1
Boring Logs

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-1

Project:	**Farmingdale Plaza**			WAI Project No.:	**WJ03-6263**
Location:	**450 Main Street; Farmingdale, Nassau County, NY**			Client:	**A&P**
Surface Elevation:	**Not Surveyed**	Date Started:	**08/02/04**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**20.0 feet bgs**	Date Completed:	**08/02/04**		
Drilling Method:	**Geoprobe**	Logged By:	**J. Chiappetta**	While Drilling:	18.0 ▼
Test Method:	**Macro-Core**	Contractor:	**Zebra**	At Completion:	15.0 ▽
		Machine:	**Track Mounted**	24 Hours:	NA ▼

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Asphalt/Subbase			0.0
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
			0.0		
			0.0		
5.0			0.0		5.0
		Brown Fine to Medium Sand	0.0		
			0.0		
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
10.0			0.0		10.0
			0.0		
			0.0		
			0.0		
			0.0		
15.0			0.0		15.0
			0.0		
			0.0		
			0.0		
			0.0		
20.0		Boring B-1 Terminated at a Depth of 20.0 Feet Below Ground Surface			20.0
		Sample B1-1 Collected @ 0.0 to 4.0 fbgs Sample B1-2 Collected @ 4.0 to 8.0 fbgs Sample B1-3 Collected @ 8.0 to 12.0 fbgs Sample B1-4 Collected @ 12.0 to 16.0 fbgs Sample B1-5 Collected @ 16.0 to 20.0 fbgs			
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-2

Project:	**Farmingdale Plaza**			WAI Project No.:	**WJ03-6263**
Location:	**450 Main Street; Farmingdale, Nassau County, NY**			Client:	**A&P**
Surface Elevation:	**Not Surveyed**	Date Started:	**08/02/04**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**17.0 feet bgs**	Date Completed:	**08/02/04**		
Drilling Method:	**Geoprobe**	Logged By:	**J. Chiappetta**	While Drilling:	NE
Test Method:	**Macro-Core**	Contractor:	**Zebra**	At Completion:	NE
		Machine:	**Track Mounted**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Concrete/Subbase			0.0
		Brown Silty Sand	0.0		
			0.0		
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
			0.0		
5.0			0.0		5.0
		Brown Fine to Medium Sand	0.0		
			0.0		
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
10.0			0.0		10.0
			0.0		
			0.0		
			0.0		
			0.0		
15.0			0.0		15.0
			0.0		
			0.0		
		Boring B-2 Terminated at a Depth of 17.0 Feet Below Ground Surface Due to Refusal			
		Sample B2-1 Collected @ 2.0 to 4.0 fbgs Sample B2-2 Collected @ 6.0 to 8.0 fbgs Sample B2-3 Collected @ 12.0 to 14.0 fbgs Sample B2-4 Collected @ 15.0 to 17.0 fbgs			
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-3

Project:	**Farmingdale Plaza**			WAI Project No.:	**WJ03-6263**
Location:	**450 Main Street; Farmingdale, Nassau County, NY**			Client:	**A&P**
Surface Elevation:	**Not Surveyed**	Date Started:	**08/02/04**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**16.0 feet bgs**	Date Completed:	**08/02/04**		
Drilling Method:	**Geoprobe**	Logged By:	**J. Chiappetta**	While Drilling:	NE
Test Method:	**Macro-Core**	Contractor:	**Zebra**	At Completion:	NE
		Machine:	**Track Mounted**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Concrete/Subbase			0.0
		Brown Silty Sand	0.0		
			0.0		
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
5.0			0.0		5.0
			0.0		
		Brown Fine to Medium Sand	0.0		
			0.0		
			0.0		
		Light Brown Medium to Coarse Sand and Gravel	0.0		
10.0			0.0		10.0
			0.0		
			0.0		
			0.0		
			0.0		
15.0			0.0		15.0
		Boring B-3 Terminated at a Depth of 16.0 Feet Below Ground Surface Due to Refusal			
		Sample B3-1 Collected @ 1.0 to 3.0 fbgs			
		Sample B3-2 Collected @ 5.0 to 7.0 fbgs			
		Sample B3-3 Collected @ 10.0 to 12.0 fbgs			
		Sample B3-4 Collected @ 14.0 to 16.0 fbgs			
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-4

Project:	**Farmingdale Plaza**			WAI Project No.:	**WJ03-6263**
Location:	**450 Main Street; Farmingdale, Nassau County, NY**			Client:	**A&P**
Surface Elevation:	**Not Surveyed**	Date Started:	**08/06/04**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**20.0 feet bgs**	Date Completed:	**08/06/04**		
Drilling Method:	**Geoprobe**	Logged By:	**J. Chiappetta**	While Drilling:	20.0 ▼
Test Method:	**Macro-Core**	Contractor:	**Zebra**	At Completion:	19.0 ▽
		Machine:	**Track Mounted**	24 Hours:	NA ▼

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Concrete/Subbase			0.0
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
			0.0		
			0.0		
5.0			0.0		5.0
		Brown Fine to Medium Sand	0.0		
			0.0		
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
10.0			0.0		10.0
			0.0		
			0.0		
			0.0		
			0.0		
15.0			0.0		15.0
			0.0		
			0.0		
			0.0		
			0.0		
20.0		Boring B-4 Terminated at a Depth of 20.0 Feet Below Ground Surface	0.0		20.0
		Sample B-4 Collected @ 4.0 to 6.0 fbgs			
25.0					25.0

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-5

Project:	**Farmingdale Plaza**			WAI Project No.:	**WJ03-6263**
Location:	**450 Main Street; Farmingdale, Nassau County, NY**			Client:	**A&P**
Surface Elevation:	**Not Surveyed**	Date Started:	**08/06/04**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**20.0 feet bgs**	Date Completed:	**08/06/04**		
Drilling Method:	**Geoprobe**	Logged By:	**J. Chiappetta**	While Drilling:	**19.0**
Test Method:	**Macro-Core**	Contractor:	**Zebra**	At Completion:	**19.0**
		Machine:	**Track Mounted**	24 Hours:	**NA**

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Asphalt/Subbase			0.0
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
			0.0		
			0.0		
5.0			0.0		5.0
		Brown Fine to Medium Sand	0.0		
			0.0		
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
10.0			0.0		10.0
			0.0		
			0.0		
			0.0		
			0.0		
15.0			0.0		15.0
			0.0		
			0.0		
			0.0		
			0.0		
20.0		Boring B-5 Terminated at a Depth of 20 0 Feet Below Ground Surface			20.0
		Sample B-5 Collected @ 4 0 to 6 0 fbgs			
25.0					25.0

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-6

Project:	**Farmingdale Plaza**			WAI Project No.:	**WJ03-6263**
Location:	**450 Main Street; Farmingdale, Nassau County, NY**			Client:	**A&P**
Surface Elevation:	**Not Surveyed**	Date Started:	**08/06/04**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**20.0 feet bgs**	Date Completed:	**08/06/04**		
Drilling Method:	**Geoprobe**	Logged By:	**J. Chiappetta**	While Drilling:	**19.0**
Test Method:	**Macro-Core**	Contractor:	**Zebra**	At Completion:	**19.0**
		Machine:	**Track Mounted**	24 Hours:	**NA**

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Asphalt/Subbase			0.0
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
			0.0		
			0.0		
5.0			0.0		5.0
		Brown Fine to Medium Sand	0.0		
			0.0		
		Light Brown Medium to Coarse Sand and Gravel	0.0		
			0.0		
10.0			0.0		10.0
			0.0		
			0.0		
			0.0		
			0.0		
			0.0		
15.0			0.0		15.0
			0.0		
			0.0		
			0.0		
			0.0		
20.0		Boring B-6 Terminated at a Depth of 20.0 Feet Below Ground Surface			20.0
		Sample B-6 Collected @ 4.0 to 6.0 fbgs			
25.0					25.0

WHITESTONE
ASSOCIATES, INC.

APPENDIX 2
August 2, 2004 Laboratory Analytical Data Summary (Soil and Groundwater Sampling)

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: Whitestone Associates Inc.
Project: WJ03-6263
Lab Case No.: E04-07401

Lab ID:	07401-014			07401-015			07401-016		
Client ID:	6263-GW1			FIELD BLANK			TRIP BLANK		
Matrix:	Aqueous			Aqueous			Aqueous		
Sampled Date	8/2/04			8/2/04			8/2/04		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (µg/L-ppb)									
Trichloroethene	0.555		0.520	ND		0.520	ND		0.520
Tetrachloroethene	18.2		0.350	ND		0.350	ND		0.350
TOTAL VO's:	18.8			ND			ND		

Lab ID:	07401-001			07401-002			07401-003			07401-004		
Client ID:	6263-B1-1			6263-B1-2			6263-B1-3			6263-B1-4		
Matrix:	Soil			Soil			Soil			Soil		
Sampled Date	8/2/04			8/2/04			8/2/04			8/2/04		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (mg/Kg-ppm)												
TOTAL VO's:	ND		0.498	ND		0.537	ND		0.512	ND		0.524

Lab ID:	07401-005			07401-006			07401-007			07401-008		
Client ID:	6263-B1-5			6263-B2-1			6263-B2-2			6263-B2-3		
Matrix:	Soil			Soil			Soil			Soil		
Sampled Date	8/2/04			8/2/04			8/2/04			8/2/04		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (mg/Kg-ppm)												
Tetrachloroethene	ND		0.604	0.248	J	0.536	1.52		0.573	ND		0.545
TOTAL VO's:	ND			0.248	J		1.52			ND		

Lab ID:	07401-009			07401-010			07401-011			07401-012		
Client ID:	6263-B2-4			6263-B3-1			6263-B3-2			6263-B3-3		
Matrix:	Soil			Soil			Soil			Soil		
Sampled Date	8/2/04			8/2/04			8/2/04			8/2/04		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (mg/Kg-ppm)												
Tetrachloroethene	ND		0.513	1.05		0.523	2.45		0.546	ND		0.515
TOTAL VO's:	ND			1.05			2.45			ND		

Lab ID:	07401-013			07401-017		
Client ID:	6263-B3-4			TRIP BLANK		
Matrix:	Soil			Soil		
Sampled Date	8/2/04			8/2/04		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL
Volatiles (mg/Kg-ppm)						
TOTAL VO's:	ND		0.510	ND		0.500

ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the MDL
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation.

WHITESTONE ASSOCIATES, INC.

APPENDIX 3
August 6, 2004 Laboratory Analytical Data Summary (Soil Sampling)

SUMMARY REPORT
Client: Whitestone Associates Inc.
Project: WJ03-6263
Lab Case No.: E04-07556

Lab ID:	07556-001			07556-002			07556-003			07556-004		
Client ID:	6263-B4			6263-B5			6263-B6			TB		
Matrix:	Soil			Soil			Soil			Soil		
Sampled Date	8/6/04			8/6/04			8/6/04			8/6/04		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (mg/Kg-ppm)												
TOTAL VO's:	ND		0.517	ND		0.547	ND		0.511	ND		0.500

ND = Analyzed for but Not Detected at the MDL

WHITESTONE ASSOCIATES, INC.

APPENDIX 4
August 6, 2004 Laboratory Analytical Data Summary (Groundwater Sampling)

SUMMARY REPORT
Client: Whitestone Associates Inc.
Project: WJ03-6263
Lab Case No.: E04-07558

Lab ID:	07558-001			07558-002			07558-003			07558-004		
Client ID:	6263-GW4			6263-GW5			6263-GW6			FB		
Matrix:	Aqueous			Aqueous			Aqueous			Aqueous		
Sampled Date	8/6/04			8/6/04			8/6/04			8/6/04		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (µg/L-ppb)												
Tetrachloroethene	0.503		0.350	ND		0.350	2.84		0.350	ND		0.350
TOTAL VO's:	0.503			ND			2.84			ND		

Lab ID:	07558-005		
Client ID:	TB		
Matrix:	Aqueous		
Sampled Date	8/6/04		
PARAMETER(Units)	Conc	Q	MDL
Volatiles (µg/L-ppb)			
TOTAL VO's:	ND		

ND = Analyzed for but Not Detected at the MDL