Harrison Township, New Jersey

Preliminary Redevelopment Investigation

Block 40, Lot 2.01

May 23, 2014

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Acknowledgements

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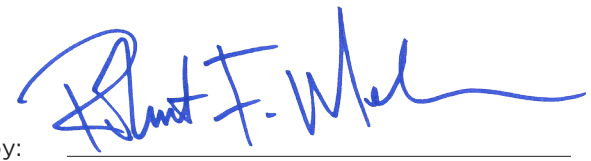

prepared by:

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January 16, 2014

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1.0 Introduction

1.1. Study Authorization

Harrison Township through Resolution No. 095-2014 has requested that Group Melvin Design perform a Preliminary Investigation into Block 40, Lot 2.01 to ascertain whether this area qualifies under N.J.S.A. 40A:12A-5 as an "Area in Need of Redevelopment"

Map 1 identifies the location and surrounding environs of the Investigation Area

1.2. Summary of Findings

Block 40, Lot 2.01 meets statutory criterion D and should be designated an Area in Need of Redevelopment. The previous use of the site as a gasoline station constitutes a deleterious land use which has contaminated the site and the surrounding area with benzene, MTBE (methyl-t-butyl ether), and Lead. The RT Environmental Services report, published in 2006, demonstrates that these contaminations have moved off site and are present in high enough concentrations as to be a threat to the safety, health, morals, or welfare of the community.

1.3. Non Condemnation

Block 40, Lot 2.01 shall be a "Non-Condemnation Redevelopment Area."

As of 2013, the Legislature requires that Preliminary Investigations state whether the redevelopment area determination shall authorize the municipality to use all those powers provided by the Legislature for use in a redevelopment area, including eminent domain. Those Redevelopment Areas where the municipality declares it will not use eminent domain are referred to as "Non-Condemnation Redevelopment Areas."

Map 1. Aerial of Site

2.0 Redevelopment Law

2.1. Purpose of the Act

New Jersey's Local Redevelopment and Housing Law (LRHL), empowers municipalities and local governments with the ability to initiate a process that transforms underutilized or poorly designed properties into healthier, more vibrant, or economically productive land areas. The process has been used successfully across New Jersey to creatively improve properties meeting statutory redevelopment criteria. Projects approved for redevelopment are often eligible for certain types of technical and financial assistance from the State.

2.2. Redevelopment Procedure

The LRHL requires municipalities to perform a number of steps before it may exercise its Redevelopment powers. This process is meant, in part, to ensure that the Governing Body acts in concert with the goals and objectives of the Township's Master Plan. Recognizing the Planning Board's role as the steward of the Master Plan, these steps require the Planning Board to make recommendations to the Township Council. The required steps are as follows:

A. The Governing Body must adopt a resolution directing the Planning Board to perform a preliminary investigation to determine whether a specified area is in need of redevelopment according to criteria set forth in the LRHL (N.J.S.A. 40A:12A-5).

B. The Planning Board must prepare and make available a map delineating the boundaries of the proposed redevelopment area, specifying the parcels to be included in it. This map should be accompanied by a statement setting forth the basis of the investigation.

C. The Planning Board must then conduct the investigation and produce a report presenting the findings. The Board must also hold a duly noticed hearing to present the results of the investigation and to allow interested parties to give testimony. The Planning Board then may adopt a resolution recommending a course of action to the Governing Body.

D. The Governing Body may act on this recommendation by adopting a resolution designating the area an "Area in Need of Redevelopment". The Governing Body must make the final determination as to the Redevelopment Area boundaries.

E. A Redevelopment Plan must be prepared establishing the goals, objectives, and specific actions to be taken with regard to the "Area in Need of Redevelopment."

F. The Governing Body may then act on the Plan by passing an ordinance adopting the Plan as an amendment to the Township's Zoning Ordinance.

Only after completion of this process is the Township able to exercise the powers granted to it under the State Redevelopment Statute.

3.0 Existing Conditions

3.1. Description of Site Area

Block 40, Lot 2.01 encompasses 1.37 acres and fronts NJ Route 45 and Cedar Road (Gloucester County Route 667). The street address of the property is 211 North Main Street, Mullica Hill.

The study area is currently a vacant field. The site had previously been utilized as a gasoline fueling station but has since been vacated and cleared. Adjacent uses are primary commercial.

3.2. Wetlands

Wetlands and wetland buffer areas do not occur on or within 150' of the property. The property occurs outside of the FEMA designated 100-year flood area.

4.0 Statutory Criteria

A study area qualifies as being an "Area in Need of Redevelopment" if it meets at least one of the eight statutory criteria listed in Section 40A:12A-5 of the Local Redevelopment and Housing Law:

A. The generality of buildings are substandard, unsafe, unsanitary, dilapidated, or obsolescent, or poses any of such characteristics, or are so lacking in light, air, or space, as to be conducive to unwholesome living or working conditions.

B. The discontinuance of the use of buildings previously used for commercial, manufacturing, or industrial purposes; the abandonment of such buildings; or the same being allowed to fall into so great a state of disrepair as to be untenable.

C. Land that is owned by the municipality, the county, a local housing authority, redevelopment agency or redevelopment entity, or unimproved vacant land that has remained so for a period of ten years prior to adoption of the resolution, and that by reason of its location, remoteness, lack of means of access to developed sections or portions of the municipality, or topography, or nature of the soil, is not likely to be developed through the instrumentality of private capital.

D. Areas with buildings or improvements which, by reason of dilapidation, obsolescence, overcrowding, faulty arrangement or design, lack of ventilation, light and sanitary facilities, excessive land coverage, deleterious land use or obsolete layout, or any combination of these or other factors, are detrimental to the safety, health, morals, or welfare of the community.

E. A growing lack or total lack of proper utilization of areas caused by the condition of the title, diverse ownership of the real properties therein or other similar conditions which impede land assemblage or discourage the undertaking of improvements, resulting in a stagnant and unproductive condition of land potentially useful and valuable for contributing to and serving the public health, safety and welfare, which condition is presumed to be having a negative social or economic impact or otherwise being detrimental to the safety, health, morals, or welfare of the surrounding area or the community in general.

F. Areas, in excess of five contiguous acres, whereon buildings or improvements have been destroyed, consumed by fire, demolished or altered by the action of storm, fire, cyclone, tornado, earthquake or other casualty in such a way that the aggregate assessed value of the area has been materially depreciated.

G. In any municipality in which an enterprise zone has been designated pursuant to the "New Jersey Urban Enterprise Zones Act," P.L.1983, c.303 (C.52:27H-60 et seq.) the execution of the actions prescribed in that act for the adoption by the municipality and approval by the New Jersey Urban Enterprise Zone Authority of the zone development plan for the area of the enterprise zone shall be considered sufficient for the determination that the area is in need of redevelopment pursuant to sections 5 and 6 of P.L.1992, c.79 (C.40A:12A-5 and 40A:12A-6) for the purpose of granting tax exemptions within the enterprise zone district pursuant to the provisions of P.L.1991, c.431 (C.40A:20-1 et seq.) or the adoption of a tax abatement and exemption ordinance pursuant to the provisions of P.L.1991, c.441 (C.40A:21-1 et seq.). The municipality shall not utilize any other redevelopment powers

within the urban enterprise zone unless the municipal governing body and planning board have also taken the actions and fulfilled the requirements prescribed in P.L.1992, c.79 (C.40A:12A-1 et al.) for determining that the area is in need of redevelopment or an area in need of rehabilitation and the municipal governing body has adopted a redevelopment plan ordinance including the area of the enterprise zone.

H. The designation of the delineated area is consistent with smart growth planning principles adopted pursuant to law or regulation.

N.J.S.A. 40A:12A-3 further states that "A redevelopment area may include lands, buildings, or improvements which of themselves are not detrimental to the public health, safety or welfare, but the inclusion of which is found necessary, with or without change in their condition, for the effective development of the area of which they are a part." This is commonly referred to as the "Section 3 Criteria."

According to the Redevelopment Handbook, this section allows for the inclusion of properties that do not meet the statutory criteria but are,"essential to be included in the designation to effectively redevelop the area." Examples of such properties include properties located within and surrounded by otherwise blighted area, property that are needed to provide access to an area to be redeveloped, areas needed for infrastructure or utilities, or properties that otherwise could be determined to be critical to the area's successful redevelopment.

5.0 Applicability of Statutory Criterion "D"

5.1. Introduction

5.1.a. Statutory Language

Areas with buildings or improvements which, by reason of dilapidation, obsolescence, overcrowding, faulty arrangement or design, lack of ventilation, light and sanitary facilities, excessive land coverage, deleterious land use or obsolete layout, or any combination of these or other factors, are detrimental to the safety, health, morals, or welfare of the community.

5.1.b. Summary Conclusions

Block 40, Lot 2.01 meets statutory criterion D and should be designated an Area in Need of Redevelopment. The previous use of the site as a gasoline station constitutes a deleterious land use which has contaminated the site and the surrounding area with benzene, MTBE (methyl-t-butyl ether), and Lead. The RT Environmental Services report, published in 2006, demonstrates that these contaminations have moved off site and are present in high enough concentrations as to be a threat to the safety, health, morals, or welfare of the community.

5.2. Findings: Deleterious Land Use

5.2.a. Background

In January 8, 2008, RT Environmental Services, Inc published a report that presented the conclusions of an investigation into the impact of contamination on groundwater on Block 40, Lot 2.01. TR was retained by Mullica Tex Associates to conduct remedial investigation work for site groundwater, which had been impacted due to the site's forme use as a gasoline station. (Appendix A)

The RT Environmental Service report cited a investigation by Resource Control Corporation (RCC) conducted in May of 2000. The RCC data indicated that the following exceeded NJDEP Ground Water Quality Standards (GWQS):

- benzene concentrations
- MTBE (methyl-t-butyl ether)
- Lead

In June 2001, RCC completed a door-to-door well canvass in the vicinity of the subject property to locate all permitted and unpermitted wells within approximately 1,000 feet of the estimated downgradient edge of the detected containments. Ten potable wells were identified, four of which were downgradient of the subject property. The 2001 study did not detect contaminants above Groundwater Quality Standards (GWQS) in those wells.

In July of 2006, RT conducted additional tasks to evaluate the status of groundwater. Based on their tests of on- and off-site wells the report concluded that, "it appeared that impacted groundwater was migrating off-site, as three of the four temporary well points had detections of constituents of concern (COC) above their respective NJDEP GWQS." Based on the results of their sampling, RT recommended that additional monitoring wells be installed to fully delineate the extent of the plume migrating from the subject property. At the time of this report, it is not clear whether those monitoring wells were ever put in place.

5.2.b. Benzene contamination

According to the NJDEP, Benzene is a clear, colorless liquid with a sweet Petroleum-like odor. It is used as a solvent and in making plastics, resins, dyes, and pesticides. It is also found in Gasoline.[1]

According to the Enviornmental Protection Agency:

> Some people who drink water containing benzene well in excess of the maximum contaminant level (MCL) for many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.[2]

The Center for Disease Control and Prevention (CDC) further elaborates[3] that people who breathe in high levels of benzene may develop the following signs and symptoms within minutes to several hours:

- Drowsiness
- Dizziness
- Rapid or irregular heartbeat
- Headaches
- Tremors
- Confusion
- Unconsciousness
- Death (at very high levels)

Eating foods or drinking beverages containing high levels of benzene can cause the following symptoms within minutes to several hours:

- Vomiting
- Irritation of the stomach
- Dizziness
- Sleepiness
- Convulsions
- Rapid or irregular heartbeat
- Death (at very high levels)

Finally, the CDC notes that direct exposure of the eyes, skin, or lungs to benzene can cause tissue injury and irritation.

5.2.c. MTBE (methyl-t-butyl ether) Contamination

According to the NJDEP[4], Methyl tertiary butyl ether (MTBE) is a synthetic chemical which is added to gasoline as a fuel oxygenate. It has been used in gasoline since 1979 as an octane enhancer to replace lead. More recently, it has been used to reduce emissions of carbon monoxide and formation of ozone, under the Clean Air Act. According to the report cited above,

> MTBE has higher water solubility, exhibits lower adsorption to soil, and is more resistant

1 http://nj.gov/health/eoh/rtkweb/documents/fs/0197.pdf

2 http://water.epa.gov/drink/contaminants/basicinformation/benzene.cfm

3 http://www.bt.cdc.gov/agent/benzene/basics/facts.asp

4 http://www.state.nj.us/dep/dsr/mtbe/MTBE-NJ.PDF

> to chemical degradation than the other common groundwater contaminants from gasoline... This implies that MTBE should be more readily leached to groundwater, and transported more quickly and further in groundwater, than the BTEX compounds. Its adsorption to soil is so low that it should transport nearly as rapidly as the groundwater itself.

The report makes the following conclusions about the health effects of MTBE:

> Like other ethers, inhalation of high levels of MTBE by animals or humans results in depression of the central nervous system. Symptoms observed in rats exposed to 4000 or 8000 ppm in air included labored respiration, ataxia, decreased muscle tone, abnormal gait, impaired treadmill performance, and decreased grip strength. These symptoms were no longer evident 6 hours after exposure ceased. A lower level of MTBE, 800 ppm, did not produce apparent effects (Daughtrey et al., 1997).
>
> A number of investigations have been conducted to examine the self-reported acute effects, such as headache, eye and throat irritation, and dizziness, which have been attributed to exposure to MTBE in gasoline vapors during use by consumers. This research includes both epidemiological studies and studies involving controlled exposure of volunteers to MTBE at concentrations similar to those encountered in refueling an automobile (Reviewed in USEPA, 1997, and California EPA, 1998)

5.2.d. Lead Contamination

Lead, a metal found in natural deposits, is commonly used in household plumbing materials and water service lines. One of the greatest exposure to lead is swallowing it. According to the Environmental Protection Agency (EPA)[5], lead exposure can have the following health effects:

> In babies and children, exposure to lead in drinking water above the action level can result in delays in physical and mental development, along with slight deficits in attention span and learning abilities. In adults, it can cause increases in blood pressure. Adults who drink this water over many years could develop kidney problems or high blood pressure.

5.2.e. Conclusions

Block 40, Lot 2.01 meets statutory criterion D and should be designated an Area in Need of Redevelopment. The previous use of the site as a gasoline station constitutes a deleterious land use which has contaminated the site and the surrounding area with benzene, MTBE (methyl-t-butyl ether), and Lead. The RT Environmental Services report, published in 2006, demonstrates that these contaminations have moved off site and are present in high enough concentrations as to be a threat to the safety, health, morals, or welfare of the community.

5 http://water.epa.gov/drink/info/lead/

Appendix A - RT Environmental Services Report

January 8, 2008

RT Environmental Services, Inc.

Ms. Donna Plummer
Bureau of Underground Storage Tanks
401 E. State Street
PO Box 433
Trenton, New Jersey 08625
(609) 633-6839

RE: REMEDIAL INVESTIGATION ADDENDUM
ROUTE 45 AND CEDAR ROAD
MULLICA HILL, GLOUCESTER COUNTY, NEW JERSEY
NJDEP CASE # 99-09-30-1626-22
RT PROJECT # 80974-02

Dear Ms. Plummer:

RT Environmental Services, Inc. (RT) is pleased to provide this Remedial Investigation addendum for issues regarding impacted groundwater at the above referenced site. A site location map is included as **Figure 1**.

BACKGROUND

RT was retained on July 5, 2006, by Mullica Tex Associates, LLC, to conduct additional remedial investigation work for site groundwater, which has been impacted due to the site's former use as a gasoline station. RT reviewed historical information to determine the NJDEP requirements remaining at the site. A Site Investigation Report was submitted to the Department by Whitestone Associates, Inc. on June 9, 2000, which detailed the underground storage tank (UST) removals, soil excavations and initial groundwater results obtained at the subject property. In a letter dated October 3, 2000, it was determined by the NJDEP that additional tasks were required to determine if an additional groundwater investigation was required at the site.

Groundwater remedial investigative activities were initiated by Resource Control Corporation (RCC) in May of 2000 and included the installation of four permanent monitoring wells (MW-1 through MW-4) and two rounds of groundwater sampling. The RCC site plan, which depicts the monitoring well locations, is provided as **Figure 2**. The first round of sampling was conducted by RCC on May 31, 2000. The data from this event showed the general shallow groundwater flow to be from east-northeast to west-southwest, with MW-2 being the most upgradient well and MW-1 being the most downgradient well. Analytical results indicated benzene concentrations above the NJDEP GWQS of 1.0 ug/L in MW-3 (12 ug/l), MTBE concentrations above the NJDEP GWQS of 70 ug/L in MW-1 (1,800 ug/l), MW-3 (2,800 ug/l), and MW-4 (720 ug/l), and lead concentrations above the NJDEP GWQS of 5 ug/L in MW-1 (86.7 ug/L). The RCC groundwater contour map and groundwater quality plan are included as **Figure 3** and **Figure 4**, respectively. The analytical results for all groundwater sampling events conducted to date are summarized on **Table 3**. RCC conducted their second groundwater sampling event on September 28, 2000. Analytical results indicated MTBE concentrations above the NJDEP GWQS of 70 ug/L in MW-1 (2,700 ug/l), MW-3 (2,700 ug/l), and MW-4 (130 ug/l), and lead concentrations above the NJDEP GWQS of 5 ug/L in MW-1 (12.5 ug/L). Benzene was not detected above the GWQS in any wells during the second event.

In June 2001, RCC completed a door-to-door well canvass in the vicinity of the subject property to locate all permitted and unpermitted wells within approximately 1,000 feet of the estimated downgradient edge of the detected petroleum hydrocarbons. Ten (10) potable supply wells were identified to be within 1,000 feet of the site, four (4) of which were determined to be located hydraulically downgradient of the subject property. Groundwater samples were collected from these wells between July 2001 and December 2001 and analyzed for volatile organic compounds (VOCs), methyl tertiary butyl ether (MTBE); and tertiary butyl alcohol (TBA) plus a forward library search of the fifteen most tentatively identifiable compounds (+15). Analytical results did not reveal detections of constituents above the groundwater quality standards (GWQS) in the tested wells. The RCC well canvass information and supply well sampling results are provided herein as **Attachment 1**.

REMEDIAL INVESTIGATION ACTIVITIES

Temporary Well Installation, Groundwater Monitoring and Sampling (July 11 & 12, 2006)

Based on the findings of previous groundwater investigation activities at the property, RT was retained to conduct additional tasks to evaluate the current status of site groundwater. RT mobilized to the site on July 11, 2006 to oversee the installation of four (4) temporary wells (RT-1 through RT-4) in the locations shown on **Figure 5**. RT-2 was installed in the former location of MW-1 (installed by RCC), which had previously been destroyed, and the remaining temporary well points were advanced along the western property boundary and downgradient of the former UST source area. Each of the four (4) borings was advanced via GEOPROBE using the direct push method. The borings were advanced to depths of 32 to 36 feet below ground surface (bgs). Well points were constructed using 1.0" PVC riser and 15 feet of 1.0" PVC screen placed across the water table.

To determine groundwater flow direction, RT surveyed the temporary wells for location and relative elevation (referenced to the known top of casing elevation in MW-3 of 146.73). Relative groundwater elevations are included as **Table 2** and are also shown on the groundwater contour map included as **Figure 6**. The drawing shows groundwater flowing from east to west. The most upgradient point was MW-2, and the most down gradient surveyed point was well point RT-4.

On July 12, 2006 RT returned to the site to sample all temporary and permanent wells present. A total of seven groundwater samples were submitted under appropriate chain of custody protocol to a New Jersey DEP certified laboratory. All samples were analyzed for volatile organic compounds plus a forward library search of the ten most tentatively identifiable compounds (VO+10). Samples MW-2, MW-4 and RT-1 were non-detect (ND) for all targeted VOC parameters. In addition, no VOC TICs were detected. Sample RT-2 exhibited a benzene concentration of 1.2 µg/l and an MTBE concentration of120 µg/l. The benzene and MTBE concentrations in RT-2 exceeded their NJDEP GWQS of 1.0 µg/l and 70 µg/l, respectively. Sample RT-3 exhibited concentrations of benzene (24 µg/l) and MTBE (16 µg/l). A benzene concentration of 1.9 µg/l was detected in sample RT-4, which exceeds the GWQS of 1 ug/l. Sample MW-2 was non detect for benzene and showed a MTBE concentration of 22 µg/l. The sample results for the July 2006 sampling event are summarized on **Table 4** and are shown with sample locations on **Figure 5**. The Reduced Deliverable Laboratory Report is included as part of **Attachment 2**.

As depicted on **Table 3**, the analytical results show a decrease in the concentrations of benzene and MTBE in the existing permanent monitoring wells at the subject property. Benzene and MTBE were historically present in site groundwater at concentrations above their respective NJDEP GWQS. The sampling conducted in July 2006 revealed concentrations of detected constituents below the NJDEP GWQS in MW-2, MW-3 and MW-4; however, it appeared that impacted groundwater was migrating off-site, as three of the four temporary well points had detections of constituents of concern (COC) above their respective NJDEP GWQS. Based on the results of the temporary well sampling, RT recommended that additional permanent monitoring wells be installed offsite and downgradient of the existing wells in order to fully delineate the extent of the plume migrating from the subject property.

Technical Conformance Summary - Groundwater Sampling July 12, 2006

This overview is to document the effectiveness and reliability of the analytical data collected during the groundwater investigation. The overview can be further divided into field and laboratory conformance issues. Field conformance issues deal with all quality assurance/quality control (QA/QC) necessary in the field to collect a representative sample for laboratory analysis. Laboratory conformance issues are those steps required in the analysis process to insure proper sample QA/QC. The complete reduced deliverable laboratory results are included as **Attachment 2**, and an electronic data deliverables disk has also been included as part of this submittal.

Field Conformance Issues

The seven (7) groundwater samples were collected into laboratory-supplied bottleware and submitted for laboratory analysis. Immediately following their collection, the samples were labeled and placed into an iced cooler for storage and transport. Samples were submitted to the laboratory under proper chain-of-custody protocol.

The wells were sampled by RT in accordance with the NJDEP Field Sampling Procedures Manual, dated August 2005, using the following procedures:

1. The depths to water were measured in each well using a sonic interface probe.
2. The volume of water in each well was calculated.
3. The permanent wells were purged of approximately three well volumes using a submersible pump; temporary wells were purged by means of a peristaltic pump. At the onset of purging and following the removal of each volume of water measurements of temperature, specific conductivity and dissolved oxygen were recorded to determine when the groundwater in the well had stabilized and represented the true groundwater conditions in the aquifer.
4. Groundwater samples were collected from each well using a dedicated disposable polyethylene bailer.
5. The samples were stored in a cooler maintained at wet-ice temperature.

A summary of the samples and the analytical methods is included as **Table 1**.

Laboratory Conformance Issues

As mentioned above, seven (7) groundwater samples were relinquished to the laboratory under proper chain-of-custody protocol. Analyses were performed by Test America (NJDEP Certification No. 77004) of King of Prussia, Pennsylvania. The samples were analyzed for VO+10 by using the USEPA Method 8260B with associated peaks as appropriate. All analyses were completed within the allotted holding times. Non-conformance issues were not identified, therefore the data was deemed acceptable.

Monitoring Well Installation and Groundwater Sampling (August 2007)

In a July 2007 conversation between RT and the NJDEP Case Manager, Ms. Donna Plummer, it was indicated that the subject property has been out of compliance for a number of years and that additional work involving the delineation of contaminants in site groundwater was required to be completed as soon as possible. It was determined that the wells should be installed and sampled prior to submitting a report to the NJDEP in order to provide a significant amount of data for evaluation.

RT installed three additional permanent monitoring wells (MW-5, MW-6 and MW-7) on, and downgradient, of the property in order to delineate the extent of the plume migrating from the site. The additional well installation was conducted on August 8 and 9, 2007. Monitoring well locations are depicted on the August 2007 groundwater contour map, included as **Figure 7**.

MW-5 was installed on the subject property, where the previously destroyed MW-1 was formerly located. This was also the location of temporary well RT-2 during the July 2006 groundwater investigation where exceedances of benzene (1.2 ug/l) and MTBE (120 ug/l) were detected. MW-6 was installed in the Route 45 right of way, across the street from the subject property and hydraulically downgradient from MW-5 and the other existing permanent wells. MW-7 was installed approximately 210 feet south-southwest (downgradient) of MW-6.

The wells were advanced to depths ranging from approximately 25 (MW-7) to 35 (MW-5 & MW-6) feet below ground surface (bgs), using a Geoprobe 6610 hollow stem auger drilling rig. Static water levels in the monitoring wells after drilling ranged from 14 to 22 feet bgs. Each well was constructed using 15 feet of Schedule 40 2" PVC screen. The remainder of the well was constructed using Schedule 40 2" PVC riser. Due to their being located within the right-of-way, MW-6 and MW-7 were finished with flush mounted covers; MW-5 was finished with a 6" steel casing. Each well was developed for 30 to 45 minutes after installation, until turbidity was decreased. As required by the NJDEP, the wells were surveyed by a New Jersey Licensed Surveyor on August 20, 2007. Monitoring well construction logs, permits and Form B's are included as **Attachment 3**.

On August 24, 2007, RT returned to the site to sample the six (6) permanent monitoring wells (MW-2 through MW-7) located at the subject property. The wells were sampled by RT in accordance with the NJDEP Field Sampling Procedures Manual, dated August 2005, using the procedures described earlier. All samples were collected into pre-cleaned, laboratory-supplied jars, placed on ice, and transported under appropriate chain of custody protocol to Test America Laboratory (NJDEP Certification # 77004) for analysis of VOCs and total lead.

The groundwater elevations are summarized on **Table 2** and shown on the August 2007 groundwater contour map included as **Figure 7**. The contour map shows groundwater flowing under a hydraulic gradient of 0.0127 from east-northeast to west-southwest, with the most upgradient well being MW-2 and the most down-gradient well being MW-7. This groundwater flow direction is consistent with the flow previously observed by RT in July 2006. The contour map reporting form for this sampling event is included as **Attachment 4**.

Analytical results of this sampling event identified exceedances of benzene, MTBE and total lead above their respective GWQS in groundwater. There were no other analyzed constituents detected above the laboratory reporting limits. Benzene (2.5 ug/l) and MTBE (430 ug/l) were detected in MW-6 at concentrations above their respective GWQS of1 ug/l and 70 ug/l. There were no detections of benzene above the laboratory reporting limit in the remaining five wells. MTBE was not detected above the laboratory reporting limit in MW-2, MW-3 and MW-4; MW-5 and MW-7 exhibited detections of MTBE below the GWQS of 70 ug/l (23 ug/l and 30 ug/l, respectively). Concentrations exceeding the GWQS of 5 ug/l for lead were detected in MW-3 (5.4 ug/l), MW-5 (5.6 ug/l), and MW-7 (6.6 ug/l). The analytical results are summarized in **Table 3** and the laboratory analytical report is included as part of **Attachment 2**. Analytical results from the August 2007 sampling event are depicted with the well locations on **Figure 8**.

Technical Conformance Summary - Groundwater Sampling August 24, 2007

This overview is to document the effectiveness and reliability of the analytical data collected during the groundwater investigation. The overview is divided into field and laboratory conformance issues. The complete reduced deliverable laboratory results are included as **Attachment 2**, and an electronic data deliverables disk has also been included as part of this submittal.

Field Conformance Issues

Six (6) groundwater samples were collected from the onsite permanent monitoring wells into laboratory-supplied bottleware and submitted for laboratory analysis. Immediately following their collection, the samples were labeled and placed into an iced cooler for storage and transport. Samples were submitted to the laboratory under proper chain-of-custody protocol. The wells were sampled by RT in accordance with the NJDEP Field Sampling Procedures Manual, dated August 2005, using the previously described procedures. A summary of the samples and the analytical methods is included as **Table 1**.

Laboratory Conformance Issues

The six (6) groundwater samples were relinquished to the laboratory under proper chain-of-custody protocol. Analyses were performed by Test America (NJDEP Certification No. 77004) of King of Prussia, Pennsylvania. The samples were analyzed for VOCs by using the USEPA Method 8260B and Total Lead, by method 6010B. All analyses were completed within the allotted holding times. Non-conformance issues were not identified, therefore the data was deemed acceptable.

Conclusions and Recommendations

As depicted in **Table 3**, the analytical results indicate a decrease in the concentrations of benzene and MTBE in the existing permanent monitoring wells at the subject property, since the first sampling event conducted on May 31, 2000. Benzene and MTBE were historically present at concentrations above their respective NJDEP GWQS in the onsite wells. Additional sampling conducted in July 2006 and August 2007, indicate that concentrations of benzene and MTBE are now either non-detect or below the NJDEP GWQS in the wells present on the subject property; however, exceedances of benzene (2.5 ug/l) and MTBE (430 ug/l) were detected in MW-6, which is located downgradient, and across the street, from the original source area (former UST locations). There were no exceedances of these constitiuents detected in the most downgradient well, MW-7.

While there are private water supply wells present in the area, the depths of these wells (150 to 420 feet bgs) negate them from being considered potential receptors. Ten (10) potable supply wells were identified to be within 1,000 feet of the site, four (4) of which were determined to be located hydraulically downgradient of the subject property. Groundwater samples were collected from these wells as part of the previous Remedial Investigation conducted by RCC between July 2001 and December 2001 and analyzed for volatile organic compounds (VOCs), methyl tertiary butyl ether (MTBE), and tertiary butyl alcohol (TBA) plus tentative identification of up to fifteen non-targeted compounds (+15). Analytical results did not indicate detections of constituents in the tested wells, which indicates that the contaminant plume is present solely in the shallow aquifer, and does not extend into deeper aquifers. The RCC well canvass information and supply well sampling results are provided herein as **Attachment 1**. Based on the decreasing concentrations observed over time, and the nature of petroleum hydrocarbon constituents, it is not likely that contamination has migrated vertically.

Although benzene and MTBE have attenuated below their respective GWQS in onsite wells, there were two (2) slight exceedances of the GWQS (5 ug/l) for lead detected in groundwater samples collected from the property. Total lead was detected in MW-3 (5.4 ug/l) and MW-5 (5.6 ug/l); the most downgradient offsite well, MW-7, also had an exceedance of lead (6.6 ug/l). Lead was not detected above the GWQS in the remaining three wells.

There has been a significant decrease in the concentrations of benzene and MTBE observed in the site wells over the past seven years. As such, RT is proposing to address residual dissolved-phase constituents in groundwater through monitored natural attenuation (MNA) under the Natural Remediation Compliance Program (NRCP). Additionally a Classification Exception Area (CEA) will be placed on the site. Upon NJDEP concurrence that the Remedial Investigation has been completed, RT will submit this information in a Remedial Action Workplan (RAW).

The observed lead concentrations in site groundwater have also decreased over time. The groundwater sample collected from MW-5 during the August 24, 2007 sampling event had a total lead concentration of 5.6 ug/l. This well was installed in the location of the previously destroyed well, MW-1, which had a total lead concentration of 86.7 ug/l during the May 31, 2000 sampling event.

LIMITATIONS

This report is prepared for the use of RT Environmental Services' (RT) clients and environmental regulatory agencies, if any, to whom this report is submitted, who have an interest in the report's content. The report is furnished under the Terms and Conditions of our Proposal or other Agreement for this assignment.

In the event that information becomes available on other chemical constituents found at the site which were not tested for in this report, such information shall be brought to our attention forthwith. We will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

Unless specifically included in our scope, we did not complete a specific audit to check on the compliance of present or past owners or operators of the site with federal, state, or local laws and regulations, environmental or otherwise.

The conclusions and recommendations contained in this report are based in part upon the data obtained from a number of material, air, water, soil and/or groundwater samples obtained from widely spaced subsurface explorations, except where we have been retained to focus on specific area delineation. The nature and extent of variations between these explorations may not become evident until future exploration is completed. Further conclusions and recommendations contained in this report are based in part upon various types of chemical or other data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. Some of these data are preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, for soil and groundwater, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonable water table fluctuations, past disposal practices, the passage of time, and other factors. If variations or other latent conditions become evident, we reserve the right to reevaluate the conclusions and recommendations of this report based on any results found subsequent to our sampling and/or file review date.

Use of this report by other parties who are not designated beneficiaries under our proposal or other Agreement for this assignment, without our express written permission, is not authorized and is prohibited.

Based on these findings, RT recommends that groundwater monitoring continue on a quarterly basis to further confirm decreasing trends for benzene, MTBE, and total lead. A decreasing trend will need to be established to show that concentrations will attenuate below their respective GWQS, and in order to enroll the site in the NRCP.

RT appreciates the opportunity to work with the NJDEP on this project. Should you have comments, please contact me at (856) 467-2276.

Respectfully Submitted,
RT Environmental Services, Inc.

Christopher Ward
Project Manager