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SITE INVESTIGATION REPORT
AND
REMEDIAL OPTION ANALYSIS
FOR THE FORMER
WIRE AND METAL SPECIALTIES
4021 S. KINNICKINNIC
ST. FRANCIS, WISCONSIN

September 9, 1999

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Project No. P177

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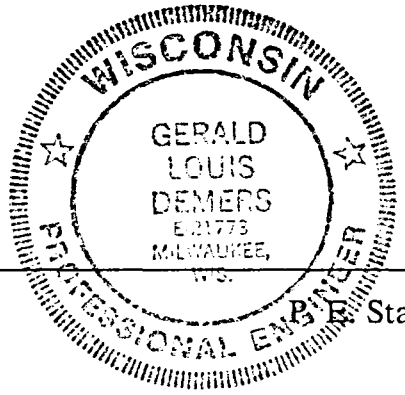
CERTIFICATION

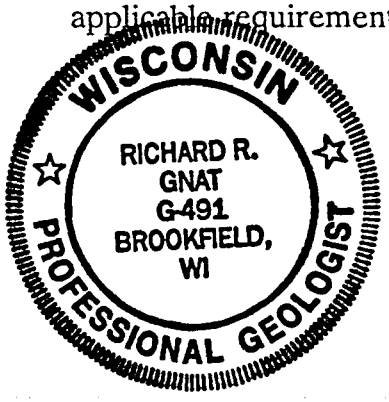
I, Gerald L. DeMers, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR700 to 726, Wis. Adm. Code.



Gerald L. DeMers 9-9-99

Gerald L. DeMers, P.E. #E-21773 P.E. Stamp

I, Richard Gnat, hereby certify that I am a Hydrogeologist as that term is defined in s. NR712.03(1) Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR700 to 726, Wis. Adm. Code.



Richard R. Gnat

Richard Gnat
Senior Hydrogeologist

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APPENDICES

1.0 EXECUTIVE SUMMARY

This document serves as the Site Investigation Report and Remedial Options Analysis for the parcel of land located at 4021 South Kinnickinnic Avenue, St. Francis, Wisconsin (Figure 1-1). The site has been under the direct ownership of MPL Realty since 1984, and had been occupied by Wire and Metal Specialties, Inc. (WMS). Historical uses at the site included metal and sheet metal fabrication operations beginning in the 1940s. A site description is included in this report in Section 2.1.

A leaking underground storage tank (LUST) at a filling station immediately south of the site caused petroleum impacts to migrate onto the southern portion of the property. The remediation of the adjacent LUST site involved excavation of impacted soil that included a portion of the former WMS site. The excavation on the site measured approximately 50 feet by 60 feet. Two monitor wells were also installed on-site to routinely sample the groundwater.

A previous report prepared by Key Engineering Group, Ltd. (KEY) determined there were potential environmental concerns due to an on-site source of contamination. An apparent spill of hazardous substances on the site property was discovered. As a result of further investigation, the area was excavated to remove the impacted soil. The area appeared to have been completely remediated by this means, and a closure letter dated October 29, 1998 was obtained from the Wisconsin Department of Natural Resources (WDNR)

KEY was contracted by PC Innovations to perform a Phase I ESA at the site because of their interest in purchasing the property. It revealed residual soil impacts on the site including benzene concentrations in excess of the established WDNR NR720 Residual Contaminant Level (RCL) based on the protection of groundwater. A limited Phase II ESA was performed in this area. As part of the investigation, four soil borings were advanced at the direction of KEY at various locations on the site. Laboratory results indicated petroleum and chlorinated volatile organic compounds (VOCs) were detected in two of the four boreholes. Groundwater impacts were identified in MW-7 with concentrations of benzene and trichloroethene (TCE) exceeding WDNR NR140 Enforcement Standards (ES). Concentrations of 1,2-dichloroethane (DCA), 1,1-dicholoroethene (DCE), and 1,1,1-tetrachloroethane (PCE) exceeded the WDNR NR 140 Preventative Action Limits (PALs).

HSI GeoTrans was contracted to complete a separate, more detailed environmental site assessment based on the initial findings in the limited Phase II ESA performed by KEY. As part of this investigation, HSI GeoTrans directed the advancement of 20 boreholes, using a geoprobe unit, to collect soil samples at various locations and depths on the site. The majority of the boreholes were placed in the area between the main building and the quonset huts located on the south side of the property. Laboratory results indicated the presence of chlorinated VOCs in all of the soil borings, and petroleum related VOCs in eight of the soil borings. In general, no WDNR NR720 RCL standards exist for the compounds detected.

In addition to obtaining soil samples from 20 locations on-site, two additional monitor wells, MW-101 and MW-102, were installed for groundwater sampling. Laboratory results from the samples from these plus the existing two wells indicated the presence of petroleum and chlorinated VOCs. Benzene and TCE exceeded their WDNR NR140 ESs, and 1,2-DCA, 1,1-DCE, PCE, 1,1,1-TCA, and naphthalene exceeded WDNR NR140 PALs.

The analytical results indicate that the chlorinated solvents in soil and in groundwater have undergone very little biodegradation.

The following remedial alternatives were evaluated for feasibility and cost:

- No Action
- Monitored Natural Attenuation for Groundwater
- Soil Excavation and Off-Site Disposal of Soils
- Soil Vapor Extraction
- In-Situ Soil Treatment

Based upon the evaluation of alternatives, monitored natural attenuation is recommended for addressing groundwater impacts at the site, and soil vapor extraction is recommended for addressing soil impacts. The estimated cost to implement monitored natural attenuation is about $15,000 for additional site characterization, plus about $4,000 per year for three or more years of monitoring. The estimated cost to implement soil vapor extraction is about $90,000, including an estimated one year of operation.

2.0 INTRODUCTION

This section provides a site description followed by presentation of previous environmental studies performed at the site and the specific objectives and scope of the current field investigation. Each is discussed below.

2.1 Site Location and Description

The former Wire and Metals Specialty, Inc. (WMS) site is located at 4021 S. Kinnickinnic Avenue, St. Francis, Milwaukee County, WI (Figure 2-1). The site covers an area of approximately 0.77 acres with a rectangular layout (Figure 2-2). A two-story building, approximately 15,171 square feet in size with no basement, and two metal quonset huts are located on the property. The main building was used for fabrication of metal and sheet metal parts and the huts were primarily used for storage. All of the buildings are currently vacant.

The exterior of the site consists of grass landscaping and asphalt. The site is surrounded on the north and east sides by residential and commercial developments. A filling station is located directly adjacent to the south of the site. Located to the west of the site is a railroad right of way, with a vacant lot beyond. The nearest residence is a single-family home with a detached garage located directly north of the site.

2.2 Previous Investigations

2.2.1 Badger Tire and Auto Investigation

The Badger Tire and Auto gas station is located immediately south of the WMS site, and was the location of a leaking underground storage tank (LUST) site. This gas station appears to have been the source of subsurface petroleum impacts that migrated northward and onto the southern portion of the site. Groundwater flow appears to have been a

transport mechanism by which petroleum impacts migrated onto the site as the flow direction from the Badger Tire and Auto site was northward toward the site.

An area approximately 50 feet wide and extending 60 feet onto the site was excavated east of the existing quonset huts (See Figure 2-2). Eight soil confirmation samples were collected from the portion of the excavation that extended onto the site. Seven of the samples were found to contain residual petroleum impacts. Three of these samples contained residual benzene concentrations that exceeded the residual contaminant level (RCL) for soil established by the Wisconsin Department of Natural Resources (WDNR) NR720. The sample locations that exceeded the RCL were along the north and west sidewalls, and the base of the excavation. Further excavation was apparently not possible due to structural features on the site, including the foundation of the nearest quonset hut to the west and a concrete retaining wall to the north.

Two groundwater monitor wells (MW-7 and MW-8) were constructed on the WMS site to sample groundwater. MW-7 was positioned closest to the northern extent of the remedial soil excavation (See Figure 2-2). MW-8 is located in the grassy area on the northwest portion of the site. Groundwater has been sampled between 1993 and 1998. Benzene concentrations detected at MW-7 in the past have exceeded the WDNR ES of 5 $\mu g/\ell$.

2.2.2 Previous Phase I and Phase II Environmental Site Assessments

In 1996, Key Environmental Group, Ltd. (KEY) was contracted to perform a Phase I Environmental Site Assessment (ESA). Results of the Phase I identified an apparent hazardous substance spill. A limited Phase II ESA was also conducted in 1996 at the location of the apparent spill. The sampling identified an area of volatile organic compound (VOC) impacted soils (both chlorinated and petroleum hydrocarbons) and resulted in the removal of approximately 13 tons of impacted soil to a depth of 5.5 feet below ground surface (bgs). Soil confirmation samples collected from the base of the excavation indicated the spill had been completely remediated. The relatively shallow depth of the soil impacts suggested that groundwater, identified by KEY as being approximately 8 to 9 feet bgs, had

not likely been impacted by this spill. The WDNR issued a site closure letter for this spill site on October 29, 1998.

2.2.3 Updated Phase I Environmental Site Assessment

KEY was subsequently contracted by PC Innovations (January 20, 1999) to update the Phase I ESA to identify potential recognized environmental conditions associated with past or present use, storage, manufacturing, and/or disposal of hazardous substances on or near the subject site. KEY discovered through interviewing key personnel, that chlorinated solvents were used to clean the fabricated metal parts. The solvent material was apparently collected for off-site disposal. In addition to interviews, KEY investigated prior property, insurance, and fire department emergency response records. Prior environmental assessments and remediation projects were also studied.

The investigation concluded the site had been impacted by contaminants from on-site and off-site sources; an apparent spill of hazardous substances on the property, and the LUST site adjacent to the property. KEY verified that the hazardous substance spill had been successfully remediated. However, a potential environmental condition was identified in connection with the LUST site located immediately south of the site. Residual soil impacts remained from the LUST that contained benzene at levels above the WDNR NR720 RCL of 5.5 μg/kg. It was KEY's opinion that the residual soil impacts were related to the contaminant migration onto the site via groundwater. KEY also identified residual groundwater impacts that existed on-site, which were apparently the result of the adjacent LUST site.

2.2.4 Limited Phase II Environmental Site Assessment

KEY was contracted by PC Innovations to perform a limited Phase II ESA to evaluate the potential for subsurface impacts at the subject site considering the past manufacturing use of the site and previously remediated environmental impacts at the site. The limited Phase II ESA involved advancing four soil geoprobes, collecting and submitting selected soil

samples for laboratory analysis, and evaluating the data. Groundwater was also sampled from an on-site monitor well (MW-7) that was constructed during the previous LUST site investigation. MW-7 was closest in proximity to the remedial excavation as it extended onto the site.

The location of the soil probes is presented on Figure 2 of the Key report; the text figures, and tables of the Key report are provided in Appendix A of this report. VOCs were not detected in the soil samples collected from GP-1 or GP-2. Laboratory results indicated the presence of petroleum and chlorinated VOCs in GP-3 and GP-4. The petroleum related VOCs included n-butylbenzene, ethylbenzene, p-isopropyltoluene, n-propylbenzene, toluene, trimethylbenzenes, and xylenes. The chlorinated VOCs included 1,1-dichloroethane (DCA), tetrachloroethene (PCE), 1,1,1-trichloroethane (TCA), and trichloroethene (TCE). The concentrations were either below the established WDNR NR720 RCLs based on the protection of groundwater (ethylbenzene, toluene, xylenes), or no standards existed for the compounds detected.

The groundwater sample analytical results from MW-7 indicated that petroleum (benzene only) and chlorinated VOCs were detected in this well. Concentrations of benzene and TCE exceeded NR140 ESs, and concentrations of 1,2-DCA, 1,1-dichloroethene (DCE), and 1,1,1-TCA exceeded the NR140 PALs. KEY concluded the chlorinated impacts found in the groundwater were generally consistent with those detected in on-site soils and known to be historically used at the site, suggesting an on-site source.

2.3 Project Objectives and Scope

2.3.1 Project Objectives

Based on the request for proposal, the objectives of the project were to:

- Determine whether a release of a hazardous substance has occurred, and, if so, determine the extent of impacts.

- Identify potential on-site and/or off-site sources of impacts, and the time that impacts occurred, if possible.

- Determine if any on-site impacts may have migrated past site boundaries, or if off-site impacts have migrated on site.

- Identify and recommend potential remedial alternatives, and estimate the cost and time frame for remediation.

2.3.2 Scope of Work

To fulfill project objectives, HSI GeoTrans developed a scope of work that included soil sampling using the geoprobe method, monitor well installation, and groundwater sampling. The scope of work is summarized below.

A geoprobe unit was used to advance 19 soil borings to a depth of 10 feet bgs, and one to a depth of 20 feet bgs at various locations on the site, primarily in the area between the quonset huts and the main building, and inside the buildings. Samples taken inside the structures included four in the main building, three in the east quonset, and two in the west quonset. The sampling layout is shown on the attached Figure 2-2. Borehole location GP-2 in the west quonset hut, and boreholes GP-9, GP-10, and GP-18 were selected because of their proximity to the former locations of vapor degreasers.

A photoionization detector (PID) was used to screen for the presence of VOCs in the field to determine if additional locations should be sampled to define the extent of soil impacts. The sample collected from the interval showing the highest PID reading in each borehole was sent to a certified laboratory for VOC analysis. Five soil samples were also collected from representative locations for grain size distribution and total organic carbon analyses.

At the location where the highest concentration of VOCs was present (GP-20, based on field measurements with a PID), the geoprobe was used to collect three vertical profile soil

samples to define the vertical extent of impacts. The samples were collected from depth ranges of approximately 0 to 2 feet bgs, 8 to 10 feet bgs, and 18 to 20 feet bgs in this borehole. All samples were analyzed in a state certified laboratory for VOCs.

Two additional groundwater monitor wells were installed, one at the northwest corner of the site (MW-101), and one between the quonset huts and the main building (MW-102). The well locations are included on Figure 2-2. The wells were completed as water table wells approximately 14.5 and 18 feet deep, respectively, with 10 feet of screen. The purpose of MW-101 was to evaluate groundwater quality at the northwest boundary of the site and help define current groundwater conditions. The purpose of MW-102 was to quantify VOC impact concentrations at the apparent source area.

Groundwater samples were collected from the two existing wells, MW-7 and MW-8, and from the two new wells, MW-101 and MW-102. The samples were analyzed for field parameters (pH, temperature, conductivity), VOCs, and natural attenuation parameters (dissolved oxygen, total iron, total manganese, sulfate, and oxidation-reduction potential).

3.0 METHODS OF INVESTIGATION

3.1 Soil Sampling

On July 7, 1999, a truck mounted geoprobe operated by Northshore Drilling of Grafton, Wisconsin was used to advance 20 soil borings at the direction of HSI GeoTrans (Figure 2-2). A 2-foot long stainless steel sampler with an acetate liner was driven to the desired sampling depth using stainless steel rods and a hydraulic ram.

Downhole geoprobe equipment and associated tools were washed prior to the start of the project. A dedicated acetate liner was used for each soil sampling interval to minimize the potential for cross-contamination.

Two-foot samples were collected on a continuous basis at each location and screened for total VOCs using a PID. A grab sample was collected from each 2-foot sample and placed in laboratory prepared containers. The remainder of the sample was then logged using the United Soil Classification System (USCS). Boring logs are provided in Appendix B. The sample interval with the highest PID reading from each boring was sent for off-site analysis by U. S. Analytical Lab in Kimberly, Wisconsin, which is a Wisconsin certified laboratory.

3.2 Groundwater Monitor Wells

3.2.1 Monitor Well Installation

On July 8, 1999, MW-102 was installed in a borehole that was advanced to a depth of approximately 20 feet bgs using a drill rig with an 8-inch hollow stem auger operated by Northshore Drilling. A well constructed of 2-inch, schedule 40 PVC pipe, with a 10-foot length .010 inch slot screen was installed at a depth of approximately 18 feet bgs. A filter pack consisting of #30 Red Flint filter sands was placed around the screen. The sand extended above the screen 7.0 feet and a 1.0-foot bentonite chip seal was placed and hydrated above the sand. The well construction form is presented in Appendix B.

On July 12, 1999, MW-101 was installed in a borehole that was advanced to a depth of approximately 16 feet bgs using a geoprobe operated by Northshore Drilling. The proposed well consisted of a 2-inch well, but site and equipment limitations prohibited the drill rig from reaching the desired location. A geoprobe was then used, and a well constructed of ¾-inch schedule 40 PVC pipe, with a 10-foot length .010 inch slot screen was installed at a depth of approximately 14.5 feet bgs. A filter pack consisting of #30 Red Flint filter sand was placed around the screen. The sand extended 1 foot above the screen and a 2.5-foot bentonite seal was placed above the sand. The well construction form is presented in Appendix B.

3.2.2 Well Development

After well installation, the wells were developed per HSI GeoTrans standard operating procedures. Development included purging a minimum of four casing volumes from wells that did not go dry. MW-102 was purged of approximately 190 gallons with a bailer and a Shaler submersible pump over the course of two days (July 15 and 16, 1999). MW-101 was purged of approximately 1 gallon of groundwater prior to going dry.

Four 55-gallon drums were used to contain purge water. The drums were placed on the site property and labeled as purge water. The purge water will be properly disposed by a licensed facility based on analytical results of the groundwater sampling. Well development/purge summary forms are presented in Appendix B.

During purging activities associated with MW-102, the groundwater was analyzed for field parameters (pH, temperature, conductivity, dissolved oxygen) at regular intervals. Field parameters were not monitored from MW-101 during purging activities due to the small quantity of water that could be removed from the well. These parameters were also measured during sampling activities for both wells.

3.2.3 Groundwater Sampling

Groundwater samples were collected from each well within 24 hours of development purging. Field measurements of pH, specific conductivity, temperature, dissolved oxygen (DO) and oxidation-reduction potential (ORP) were recorded. Samples were then obtained using a bailer and placed directly into laboratory prepared containers for VOC, total iron, total manganese, and sulfate analyses. The samples were preserved and packaged in accordance with standard industry protocols. The samples were shipped under chain-of-custody to the analytical laboratory.

4.0 GEOLOGY AND HYDROGEOLOGY

4.1 Geology

4.1.1 Regional Geology

The surface soil in the area consists of Miami Fine Sandy Loam, underlain by glacial till to approximately 100 feet bgs. The bedrock geology is a Niagaran Series dolomite in the Silurian System.

4.1.2 Site Geology

Based on field observations during the installation of geoprobe borings and monitor wells at the site, the site generally consists of fine sands and silts to approximately 8 to 10 feet bgs. A 1- to 2-foot thick silty clay layer was found at depths of approximately 8 to 10 feet bgs. Nineteen of the soil borings were not advanced further than 10 feet bgs, but one of the borings and the boreholes for the monitor wells were advanced beyond this depth. The material found beneath the silty clay layer consisted of silty fine sand.

4.2 Hydrogeology

4.2.1 Regional Hydrogeology

The nearest surface water bodies include the Kinnickinnic River that is approximately 2.5 miles northwest of the site, and Lake Michigan which is approximately 1 mile east of the site. The depth to groundwater in the region is approximately 10 to 30 feet bgs. The near surface/shallow groundwater flow direction is to the northeast, and the regional bedrock groundwater flow direction is to the east.

4.2.2 Site Hydrogeology

Groundwater beneath the site was encountered during the installation of the monitor wells and the advancement of the geoprobe boring. The depth at which groundwater was encountered varied across the site from 8 to 10 feet bgs. A water table map using the most recent water level data is provided on Figure 5-4. Shallow groundwater flow beneath the site is currently to the southeast. Subsurface conditions such as utilities, building foundations, and fill can easily affect the shallow groundwater flow direction.

It should be noted that the direction of groundwater flow previously observed at the Badger Tire and Auto site was to the north-northwest. The differing direction of groundwater flow may be due to the excavation of a large quantity of soils from the Badger site, and filling the excavation with granular (i.e., permeable) backfill. This backfill, which extended into the water table, may act as a localized "sump" for groundwater flow. This localized situation may be temporary.

Previous investigations at the Badger Tire and Auto site indicate that the velocity of groundwater flow is less than 1 foot per year. While this is based on data prior to remediation of that site, it is likely to be a reasonable estimate of groundwater flow velocity at the WMS site within natural, undisturbed soils.

5.0 INVESTIGATION RESULTS

5.1 Soil Sampling Results

Analytical results for VOCs for soil samples are provided in Appendix C and are summarized on Table 5-1. As can be seen from this table, the primary VOC constituents in soil are chlorinated solvents. Specifically, tetrachloroethene (or perchloroethene, PCE), 1,1,1-trichloroethane (1,1,1-TCA), and trichloroethene (TCE) are the predominant constituents, and these are present in concentrations ranging up to 13,000 μg/kg (parts per billion), 5,100 μg/kg, and 29,000 μg/kg, respectively. One or more of these three compounds is present in each of the 20 boreholes across the site. Breakdown products of these compounds (dichloroethanes [DCA] and dichloroethenes [DCE]) are also present in comparatively lower concentrations in some samples. In addition, petroleum compounds were also detected at relatively low concentrations in GP-1, GP-7, GP-15, GP-16, GP-19, and GP-20. Each of these six boreholes is located near or within the eastern quonset hut.

RCLs for soils have been established in NR720 of the Wisconsin Administrative Code for only five VOCs: benzene, 1,2-DCA, ethylbenzene, toluene, and xylenes. Only one soil sample exceeds an established RCL. In that sample, 1,2 DCA in GP-20 (18-20 foot interval) exceeds its RCL of 4.9 μg/kg. It should be noted that 1,2-DCA is not a breakdown product of 1,1,1-TCA, PCE, nor TCE, but it was used in the past as an additive to gasoline.

Based on the analytical results, the most heavily impacted soils are located between the main building and the quonset huts. The concentrations of PCE, TCE, and 1,1,1-TCA in soils are shown in Figures 5-1, 5-2, and 5-3, respectively. The majority of soil impacts are in shallow soils on site (0 to 6 feet bgs), indicating that compounds are not likely attributable to the migration by groundwater from an upgradient source.

Soil samples were collected at GP-20 at depths of 0-2, 8-10, and 18-20 feet to determine the vertical extent of impacts. While this location did exhibit the highest PID readings for VOCs, it did not exhibit the highest VOC concentrations based upon laboratory results. The

sample collected from 10 feet contained 40 μg/kg 1,2-DCA (the only detection of this compound at the site), and the sample from 20 feet contained 40 μg/kg of 1,1-DCA and 160 μg/kg of 1,1,1-TCA.

5.2 Groundwater Sampling Results

Analytical results for VOCs in groundwater are provided in Appendix C, and are summarized on Table 5-2. The analytical results indicate that both petroleum fuel compounds as well as chlorinated solvents are present in groundwater beneath the site.

Petroleum compounds are found in MW-101, MW-102, and MW-7. The greatest concentrations of petroleum compounds are present (trimethylbenzenes and xylenes) in MW-101 at the northwest corner of the property. Based on observations made during the most recent field effort, car repair/maintenance activities appear to be performed on the property immediately north of the site. In addition, there was above ground fuel storage on the north portion of the site. It is possible that either the apparent car repair activities north of the WMS property, or the reported aboveground fuel oil tank on the north side of the WMS could be the source of these fuel compounds in groundwater. The oxygenated gasoline additive methyl-t-butyl ether (MTBE), as well as the gasoline compound benzene, are present in both MW-102 and MW-7. A likely source of these is the leaking underground storage tanks at Badger Tire and Auto. The only petroleum related compounds that exceed groundwater standards are naphthalene, which exceeds its Preventive Action Limit (PAL) in MW-101, and benzene, which exceeds its Enforcement Standard (ES) in MW-102.

Chlorinated solvents and their breakdown products are present in MW-102 and MW-7. The PAL for 1,2-DCA is exceeded in both of these wells, and the PALs for 1,1-DCE, PCE and 1,1,1-TCA are exceeded in MW-7. In addition, the ES for TCE is also exceeded in both MW-102 and MW-7. The compounds which exceed a PAL or ES are shown on Figure 5-4. The apparent source of these compounds in groundwater is the area of impacted soils between the building and the quonset huts.

While the concentrations of TCE and 1,1,1-TCA exceed ESs for groundwater, the concentrations are not high enough to suggest that dense non-aqueous phase liquids (DNAPLs, or pools of free product) are present at the site.

5.3 Breakdown Products from Chlorinated Solvents

Chlorinated solvents that are released to the environment are acted upon by native anaerobic bacteria in a process called reductive dechlorinization. In this process, chlorine atoms are sequentially stripped from the molecules of solvent. The reductive dechlorination process, showing the various breakdown products, is shown for both chloroethenes as well as chloroethanes on Figure 5-5. For chloroethenes, the breakdown process is PCE → TCE → DCE → Vinyl Chloride → Ethene → Ethane. Chloroethanes can break down in a similar fashion, but it should be noted that chloroethanes can be reduced to both chloroethanes and chloroethenes, whereas chloroethenes do not degrade to chloroethanes.

At the former WMS site, PCE, TCE, and 1,1,1-TCA were all used as degreasers. This is consistent with the high residual concentrations of all three of these compounds in soil. A review of Figures 5-1, 5-2, and 5-3 indicate that the highest concentrations of these three compounds occur at slightly different locations at the site.

The analytical results also indicate that relatively little reductive dechlorinization has occurred in the soils at this site. No vinyl chloride has been detected, and most of the boreholes do not contain either DCE nor DCA compounds. In those soil samples that do contain either DCE or DCA compounds, these comprise less than 10% of the total of chlorinated compounds in each soil sample. Because little biodegradation has occurred, it is difficult to estimate the time of release of PCE, TCE, and 1,1,1-TCA.

5.4 Natural Attenuation Sampling Results

Analytical results for several natural attenuation related analyses are summarized on Table 5-3. These results indicate the following:

- Dissolved oxygen in groundwater ranges from 2.86 to 5.58 mg/ℓ. These aerobic conditions inhibit the anaerobic bacteria which are capable of reductive dechlorination of the chlorinated solvents.

- ORP is within the range (<50 millivolts) such that reductive dechlorination is possible to proceed.

- There is sufficient TOC available in the soils to provide a carbon and energy source for dechlorinating bacteria.

- Other parameters indicate that aerobic breakdown of fuel compounds is occurring in MW-101.

The limited amount of biodegradation of chlorinated compounds that has occurred is apparently due to the aerobic conditions in the groundwater. Anaerobic conditions are generally required to dechlorinate PCE, TCE, and 1,1,1-TCA. Aerobic conditions are generally required for the biodegradation of petroleum compounds.

5.5 Conclusions

Based upon the results of the investigation, the following conclusions can be made:

1. Soils at this site have been impacted with chlorinated solvents that have been used historically at this site. The primary chlorinated compounds are PCE, TCE, and 1,1,1-TCA. The area with the most significant impacts is located between the quonset huts and the main building. Impacts also exist, however, beneath the quonset hut and beneath the main building. The lateral extent of soil impacts has been estimated, but not fully defined.

2. Groundwater has been impacted by VOCs, some of which exceed the ES for specific compounds. The greatest impacts are in MW-102 and MW-7, and the compounds

with the highest concentration in these wells are TCE and 1,1,1-TCA. TCE exceeds its ES in both of these wells. In addition, benzene is present in MW-102 above its ES.

3. Groundwater presently flows to the southeast beneath the site. This flow direction, however, may be affected by excavation backfilling which occurred on the southern portion of the property.

4. Groundwater impacts apparently do not extend off site.

5. Existing TCE and 1,1,1-TCA data for groundwater do not suggest that DNAPLs are present at the site.

6. Very little of the original products (PCE, TCE, and 1,1,1-TCA) have undergone reductive dehalogenation to their breakdown products (DCAs, DCEs, vinyl chloride). Therefore, little biological activity is occurring to break down these compounds in the subsurface by anaerobic bacteria. This is consistent with the relatively high dissolved oxygen concentrations observed in groundwater.

7. Soil impacts extend to the water table. The vertical extent of groundwater impacts has not been fully defined.

6.0 EVALUATION OF REMEDIAL ALTERNATIVES

6.1 Overview

This section provides an evaluation of remedial action alternatives. Remedial alternatives are included to address both soil and groundwater impacts, but the primary focus of these alternatives is soil remediation. The alternatives below are evaluated based upon feasibility and cost as indicated in NR722.07(4). The cost estimates are for planning purposes only, and are intended to be within a range of -25% to +40% The general remedial objectives for this site are:

- to comply with all applicable regulations regarding solid and hazardous waste disposal;
- to minimize the risk of exposure to impacted soils and groundwater by humans;
- to minimize the migration of impacts from the soil to groundwater;
- to prevent groundwater impacts greater then a PAL from migrating off site.
- to complete the site remediation as efficiently as possible, both with respect to the timeframe for completion and the overall cost.

In order to achieve these objectives, the following alternatives are evaluated:

- No Action
- Monitored Natural Attenuation of Groundwater
- Soil Excavation and Off-site disposal
- Soil Vapor Extraction (SVE)
- In-situ Soil Treatment

Two additional technologies were also considered for soil remediation: bioventing and 6-Phase Soil Heating. Bioventing was not retained for additional consideration because it is used for treating compounds that are degraded aerobically, and 6-Phase soil Heating was eliminated because of its high cost for smaller quantities of soil.

The focus of this evaluation of remedial alternatives is the soil that has been impacted with chlorinated solvents. The limited concentrations of fuel related compounds in groundwater in the southern portion of the property would be the responsibility of Badger Tire and Auto if some additional remedial action is necessary. The petroleum related impacts in MW-101 do not exceed an ES, and would not, therefore, require remedial action. The extent of these impacts, as well as their source, must be determined, however.

Soil is the focus of site remediation as it is potentially a continuing source of impacts to groundwater. The remedial alternatives do not focus on the chlorinated solvents in groundwater in MW-102 and MW-7 for the following reasons:

- the extent of groundwater impacts appears to be limited, and is apparently confined to the site,

- the groundwater velocity is slow (apparently less than 1 foot per year), and contaminants have limited capacity to migrate significant distances,

- remedial options, such as soil vapor extraction, will reduce contaminant levels in groundwater.

For these reasons, the only two alternatives that directly address groundwater remediation are "No Action" and "Monitored Natural Attenuation". If additional site investigation indicates significantly greater areas of groundwater impacts, then some form of groundwater remediation may be required. Because of the slow velocity of groundwater, augmented natural attenuation, such as using Hydrogen Release Compound may be an appropriate technology for remediating chlorinated solvents in groundwater at this site.

6.2 No Action

As required under NR722.07, no action is included in the evaluation of technologies and process options as a baseline against which other alternatives could be evaluated. Under this option, no remedial action would be taken and the only mechanisms at work on the soil and groundwater impacts would be natural processes such as advection, dispersion, sorption, and biological activity. Under the No Action alternative, chlorinated solvents in soils would continue to be available to leach to groundwater, and groundwater impacts could continue to migrate.

6.2.1 Feasibility

Because there is nothing to implement, the No Action alternative is technically feasible. However, because ESs have been exceeded and the source of groundwater impacts (residually impacted soils) has not been mitigated, the No Action alternative would not be acceptable to the WDNR. Therefore, this alternative would not be administratively feasible.

6.2.2 Cost

There are no direct costs for the No Action alternative. However, the indirect cost of this alternative is continued liability, as well as an impaired value for the sale of this property. The impairment to the market value of the property is roughly equal to the cost of site remediation.

6.3 Monitored Natural Attenuation of Groundwater

The United States Environmental Protection Agency (U.S. EPA) defines monitored natural attenuation as (OSWER Directive 9200.4-17, 1997):

> *The term "monitored natural attenuation," as used in this Directive, refers to the reliance on natural attenuation processes (within the context of a carefully*

controlled and monitored clean-up approach) to achieve site-specific remedial objectives within a time frame that is reasonable compared to other methods. The "natural attenuation processes" that are at work in such a remediation approach include a variety of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil and groundwater. These in-situ processes include, biodegradation, dispersion, dilution, sorption, volatilization, and chemical or biological stabilization, transformation, or destruction of contaminants.

Monitored natural attenuation is appropriate as a remedial approach only when it can be demonstrated capable of achieving a site's remedial objectives within a time frame that is reasonable compared to that offered by other methods and where it meets the applicable remedy selection program for a particular OSWER program. EPA, therefore, expects that monitored natural attenuation typically will be used in conjunction with active remediation measures (e.g., source control), or as a follow-up to active remediation measures that have already been implemented.

6.3.1 Feasibility

Monitored natural attenuation is a feasible alternative for the groundwater portion of the site remediation. However, monitored natural attenuation alone would not be acceptable to the WDNR at this site because:

- soil impacts exist on site, and these may be continuing sources of groundwater impacts;
- groundwater has been impacted by TCE and TCA at concentrations greater than their respective ESs; and

- the initial analytical results do not indicate that significant biological breakdown is occurring in the soil or in groundwater.

As a result, monitored natural attenuation is not a viable alternative without source control (i.e., soil remediation). Monitored natural attenuation may be a feasible alternative for groundwater at this site if soil remediation is performed, or it can be shown that residual contaminants in soils are not leaching to groundwater.

6.3.2 Economic Feasibility

From an economic standpoint, initial and annual costs for monitored natural attenuation would be relatively low. Initial costs would be approximately $15,000 for installation of two additional wells, defining the horizontal extent of soil impacts, and reporting to the WDNR. Annual monitoring and reporting costs would likely be about $4,000 per year. Monitoring would be required for an extended period of time (greater than 10 years), as little natural degradation is occurring at the site. After about two years of monitoring, however, it is possible that the WDNR would grant a site closure with a deed restriction. The deed restriction would not allow the installation of a drinking water well in the area of impacted groundwater. Because drinking water is provided by the City of St. Francis, the deed restriction would not place any practical limitations on the site.

6.4 Soil Excavation and Off-Site Disposal

Soil excavation would require the removal of all soils impacted with chlorinated solvents. This would likely require that the two quonset huts be demolished or moved, and that a portion of the concrete flooring in the main building would require removal and replacement. Cleanup levels could be determined from synthetic leaching procedure (SLP) tests or SeSoil computer modeling.

The origin of the chlorinated VOCs in soil is from spent solvents used at the site. The spent solvents are classified as a "listed" source with a waste code of "F" under federal hazardous

waste rules. If the impacted soil is excavated from the ground, the soil will also be considered as a "listed" hazardous waste through the mixture rule and would, therefore, need to be treated to meet land disposal restrictions (LDR) and then subsequently landfilled as a hazardous waste in an approved Subtitle C facility. If the soils cannot be treated to meet LDR restrictions, then the soil must be incinerated.

Based upon the areas portrayed on Figures 5-1, 5-2, and 5-3, and assuming that soils will require excavation to a depth of 8 feet, then approximately 1,050 cubic yards or 1,575 tons (3,000 pounds/yd^3) of impacted soil will require disposal. As noted in Section 5.4, the extent of soil impacts has not been fully defined, and the quantity of soils requiring excavation may be greater than 1,050 cubic yards. Testing will be required to fully define the horizontal extent of soil impacts. In addition, testing such as SLP, or computer modeling such as SeSoil should be used to determine the concentrations of VOCs that can be left in place without the risk of these contaminants leaching to groundwater.

6.4.1 Technical Feasibility

It is technically feasible to remove the impacted soils; however, soil impacts also exist beneath the main building, particularly near its southern wall. Because of the risk of undermining the foundation for the building, it may not be feasible to excavate impacted soils from this area. Leaching of chlorinated compounds from soils that are left in place may be minimized by maintaining pavement above these areas to minimize the precipitation which percolates into the soils.

6.4.2 Cost

According to RCRA hazardous waste LDR rules, treated soils cannot contain more than 6 ppm of TCE, PCE, or TCA in order for these materials to be landfilled. If the soils cannot be treated to this level, then the soils must be incinerated.

The costs associated with excavation and disposal are as follows:

If incineration is required:

Excavation:	$ 4/ton
Transportation:	$100/ton
Disposal:	$600/ton
Site Restoration (backfill)	$ 5/ton
TOTAL	$709/ton

If soils can be landfilled:

Excavation:	$ 4/ton
Transportation:	$ 60/ton
Treatment and Landfill:	$120/ton
Site Restoration (backfill)	$ 5/ton
TOTAL	$189/ton

For 1,575 tons of impacted soil, the total cost would range from about $300,000 to $1,120,000. In addition, site characterization, engineering, and testing would add about $35,000, bringing the total to $335,000 to $1,155,000.

6.5 Soil Vapor Extraction (SVE)

SVE utilizes the volatility of the compounds to remove them from the soil matrix. A flow of air is induced through the soil pore spaces and the compounds are removed through a combination of volatilization, diffusion, and advection. For an in-situ system, a vertical or horizontal well is installed in the soil and an above-ground blower is used to create a vacuum in the well, thus drawing air from the surface through the soil and into the well. Due to the volatile nature of the compounds, they will partition from the solid soil phase into the gas phase and up into the well. The air stream carrying the volatile compounds is then treated, as necessary, to comply with air emission regulations.

6.5.1 Feasibility

The technology is well developed and has been used at numerous sites in various types of soils. The technology does not work for compounds with low volatility nor does it work well in very tight soils. Standard equipment as utilized and SVE systems generally operate very reliably with little oversight.

The compounds of concern at this site (PCE, TCE, 1,1,1-TCA) are sufficiently volatile for SVE to be effective. The soils at the site are primarily silty sands and fine sands (see borehole log for MW-102), and are therefore likely to have sufficient permeability for SVE to be effective.

6.5.2 Cost

For costing purposes, the SVE system is assumed to consist of the following components:

- three SVE extraction wells, each with a radius of influence (ROI) of about 30 feet (one located within the main building near the location of the former vapor degreaser, and the other two between the quonset huts and the main building). A 30-foot ROI is appropriate for fine sands, and the ROI for the three wells would cover the area of known soil impacts.

- one blower with a capacity of 100 standard cubic feet per minute (SCFM);

- no air emissions treatment needed as less than 100 pounds of VOCs will be emitted over the operation period of the system.

The SVE system would be operated until organic concentrations in the air effluent dropped to a level which indicated that soil concentrations had been reduced to acceptable levels. Soil gas or soil sampling can then be performed to monitor progress and document completion of remediation activities. In general, cleanup levels can be expected to be

achieved for a system such as this within about one year. For cost purposes, one year of operation is assumed.

Construction Costs:	
Design and Pilot Test	$20,000
Well Installation (3 @ $2,000)	6,000
Blower	15,000
Piping, Electrical, Instruments	25,000
Construction oversight, documentation, and startup	12,000
TOTAL	$78,000
Operation and Maintenance:	
Electricity (5 hp @ 80% utilization, $0.08/kwh)	$ 3,800
Verification Soil Sampling and Reporting	$ 8,000
ANNUAL TOTAL	$11,800

6.6 In-Situ Soil Treatment

In-situ soil treatment for VOCs can be accomplished by the use of a modified soil trencher which makes successive passes through the soil, mixing and heating the soil to aerate and release VOCs. Compounds are then removed by air flow into a vacuum hood and passing through a granular activated carbon (GAC) unit. The volatiles will be sorbed onto the carbon which will subsequently be sent for proper treatment/disposal.

An advantage to this technology is that impacted soils can be treated in place without excavation which would generate a listed hazardous waste which would then trigger the need for a RCRA TSDF permit, or the costs incurred when disposing of hazardous wastes.

6.6.1 Feasibility

While in-situ soil treatment does not require the prior excavation of soils for treatment, the use of the trencher is subject to some of the same limitations as excavating soils. As a result, the removal of the two quonset huts may be necessary, and trenching would need to be done near the foundation of the main building as well as inside of it. It may not be possible to treat all of the impacted soils using this method because of their proximity to the building foundation.

6.6.2 Cost

The estimated cost for mobilizing a treatment unit, and treating about 1,050 cubic yards of soil is approximately $100 per cubic yard, or about $105,000. Demolition costs, as well as pavement replacement, would add to this cost, as would the additional site characterization, engineering and analytical testing. The total cost of implementing this alternative would be about $140,000 to $150,000.

6.7 Comparison of Remedial Alternatives

Table 6-1 provides a summary of the remedial alternatives, their feasibility, cost and time frame for completion. In comparing the alternatives, soil vapor extraction appears to be the most appropriate alternative for soil remediation because:

- it is technically feasible and a proven technology, and is capable of treating all impacted soils;
- it is administratively feasible;
- it is the most cost effective alternative for soil remediation.

- it can be accomplished within a relatively short time frame without interfering with other possible activities at the site (i.e., no excavation is required).

Monitored natural attenuation is the most appropriate alternative for groundwater.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

Based upon the results of this investigation, the following conclusions can be drawn:

1. Soils have been impacted with chlorinated solvents at this site. The primary contaminants are PCE, TCE, and TCA. The area with the most significant impacts is located between the quonset huts and the main building. Impacts also exist, however, within the quonset hut and within the main building. The lateral extent of soil impacts has not been fully defined.

2. Groundwater has been impacted at concentrations greater than ESs. The most significant impacts are in MW-102 and MW-7, and the contaminants of greatest concern are TCE and TCA. In addition, benzene is present in MW-102 above its ES.

3. Groundwater generally flows in a southeasterly direction at this site at this time.

4. Groundwater impacts do not appear to extend off site.

5. The concentrations of TCE and TCA in groundwater do not suggest that DNAPLs are present at the site.

6. Very little of the original products (PCE, TCE, and TCA) have undergone reductive dehalogenation to their breakdown products (DCAs, DCEs, vinyl chloride). Therefore, little biological activity is occurring to break down these compounds in the subsurface by anaerobic bacteria. This is collaborated by relatively high dissolved oxygen concentrations in groundwater.

7. The most appropriate remedial alternative for soils at this site is the construction of a soil vapor extraction system.

8. The most appropriate remedial alternative for groundwater for this site is monitored natural attenuation.

7.2 Recommendations

The following are recommended:

1. An additional investigation in support of remedial design should be conducted that would identify the following:

   - define the lateral extent of soils impacted with chlorinated solvents;
   - define the vertical extent of chlorinated solvent impacts in groundwater where their surface concentrations are the greatest;
   - define the extent of fuel related groundwater impacts at the northwest corner of the site, and determine the source of these impacts;
   - install two additional monitor wells at the eastern and northern property lines to confirm that groundwater impacts do not extend off site at these locations;
   - collect a soil sample for analysis by Synthetic Leaching Procedure to determine concentrations of chlorinated solvents that will leach from soils;
   - perform a pilot test, as needed, to design a soil vapor extraction system, based upon the extent of soil impacts.

2. Following completion of the above investigation, design, install, and operate a soil vapor extraction system to remediate soils, and begin monitored natural attenuation of groundwater.

8.0 REFERENCES

Key Engineering Group, Ltd, Phase I Environmental Assessment, Former Wire and Metal Specialties, Inc., January 20, 1999.

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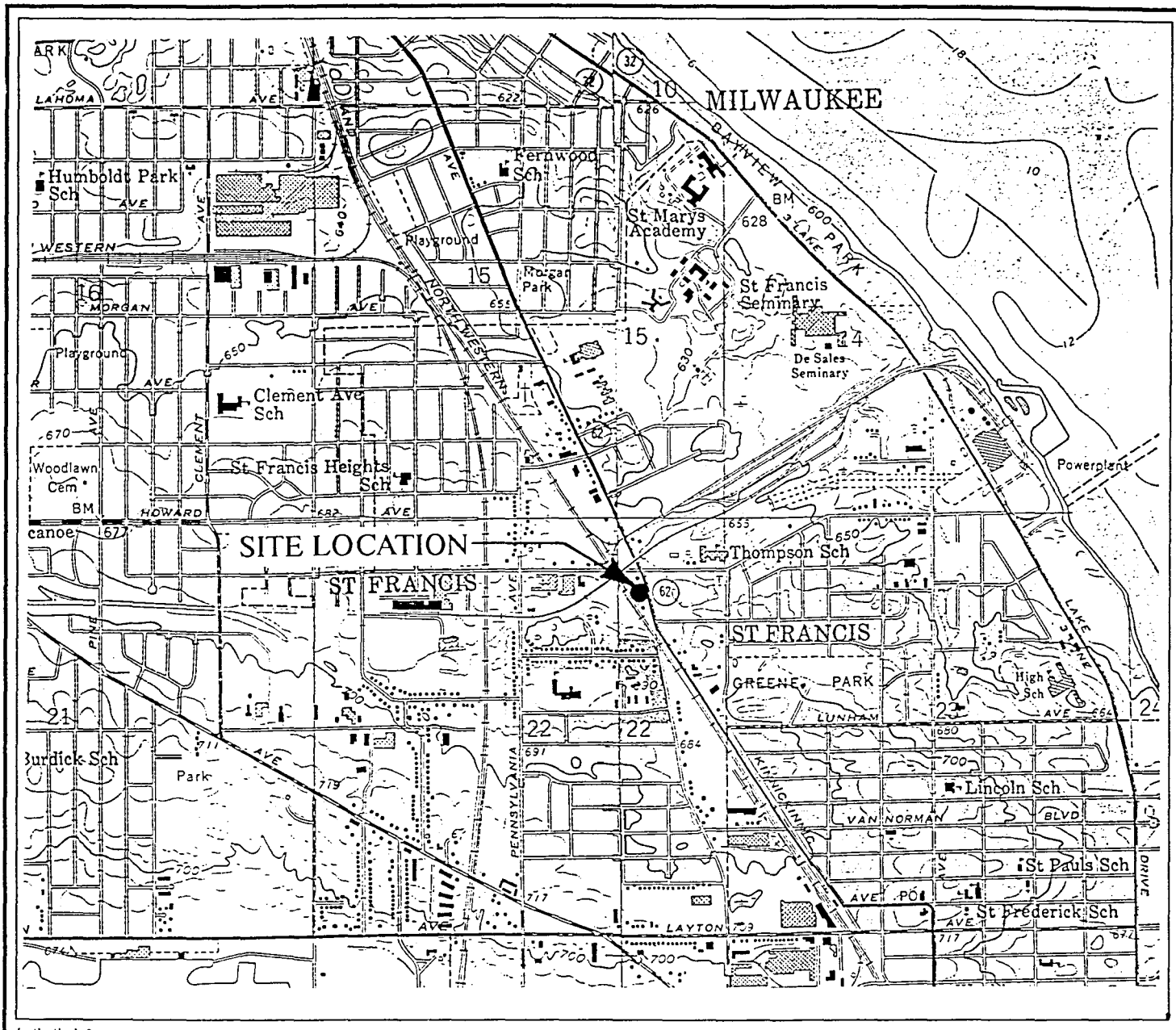
K. Singh & Associates, Inc., Revised Investigation and Remedial Action Plan for Badger Tire and Auto, 4045 S. Kinnickinnic Ave., St. Francis, June 29, 1994.

U. S. Environmental Protection Agency, Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater, September 1998.



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SCALE

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FEET

National Geodetic Vertical Datum of 1929
Contour Interval 10 Feet

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QUADRANGLE LOCATION

Base map from U.S.G.S. 7.5' South Milwaukee, Wisconsin topographic quadrangle map, 1959, revised 1971.

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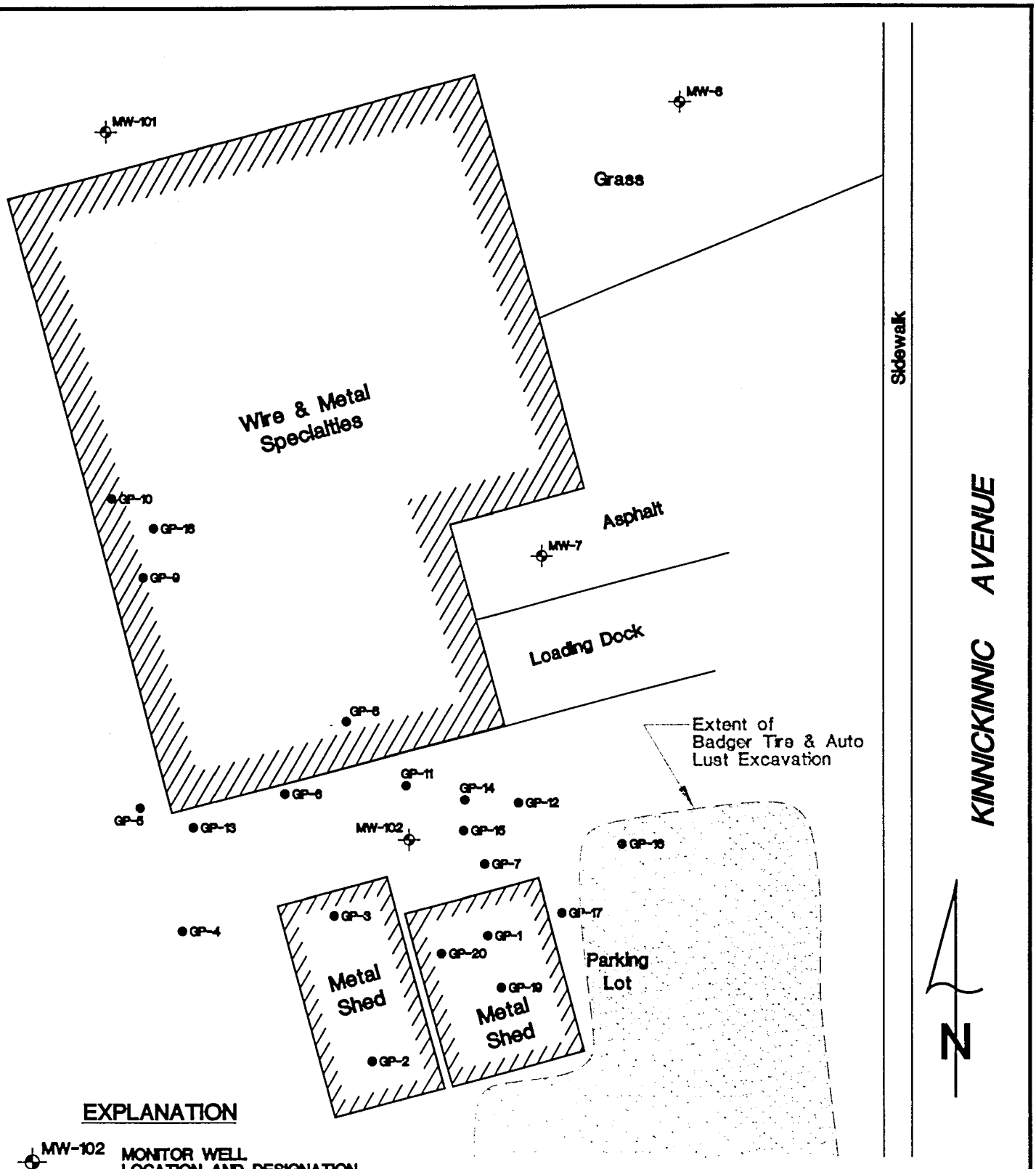
	DESIGNED: BOB
	CHECKED: GLD
SITE LOCATION and LOCAL TOPOGRAPHY	APPROVED: GLD
	DRAWN: BOB
	PROJ.:
HSI GEOTRANS A TETRA TECH COMPANY	Figure 2-1



EXPLANATION

MW-102 MONITOR WELL LOCATION AND DESIGNATION

GP-13 GEOPROBE LOCATION AND DESIGNATION

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HSI GEOTRANS A TETRA TECH COMPANY	Figure 2-2

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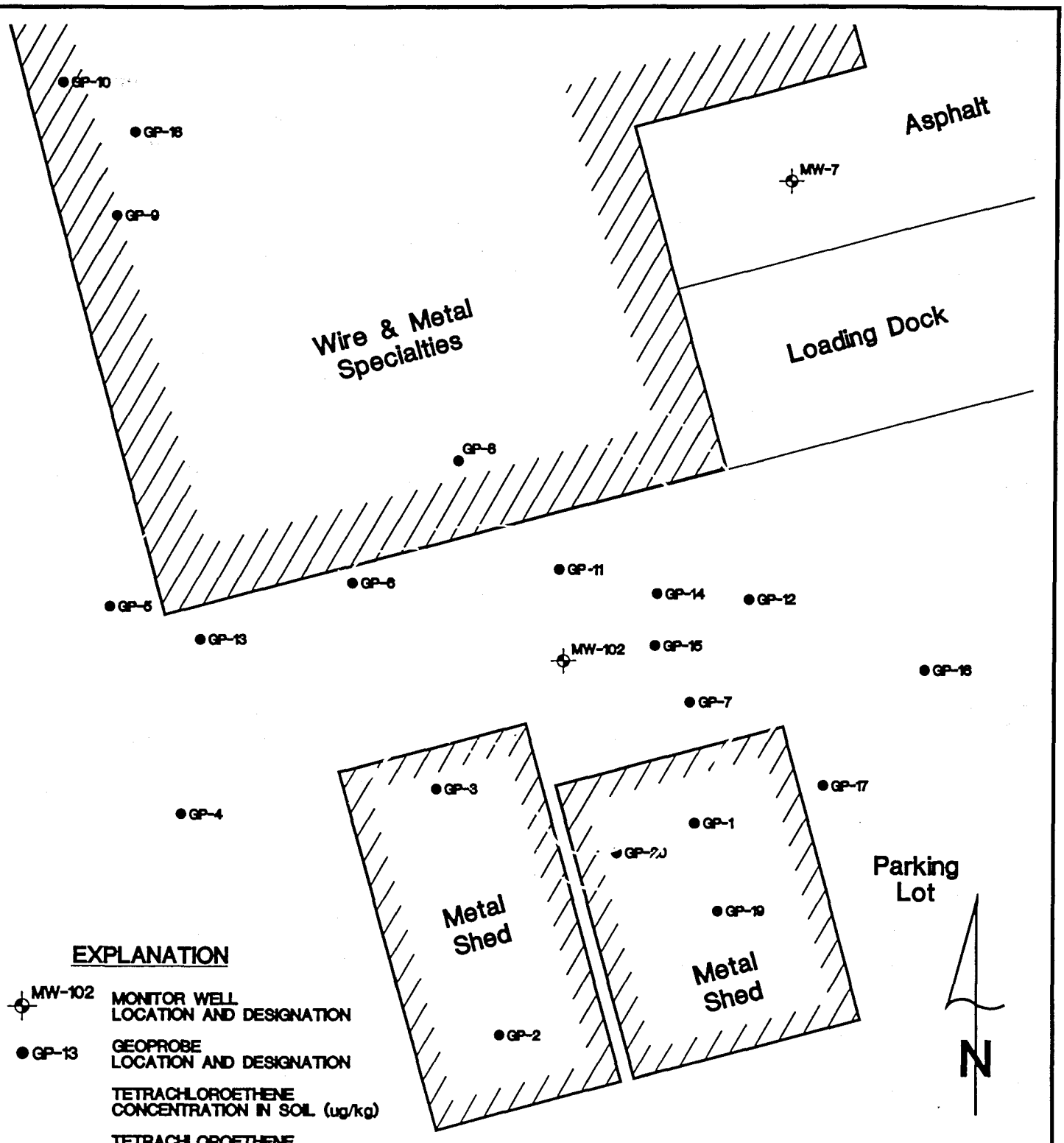

EXPLANATION

- MW-102 — MONITOR WELL LOCATION AND DESIGNATION
- GP-13 — GEOPROBE LOCATION AND DESIGNATION
- TETRACHLOROETHENE CONCENTRATION IN SOIL (ug/kg)
- TETRACHLOROETHENE ISOCONCENTRATION CONTOURS (Dashed where Inferred)

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ST. FRANCIS, WISCONSIN

TETRACHLOROETHENE IN SOIL

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Figure 5-1

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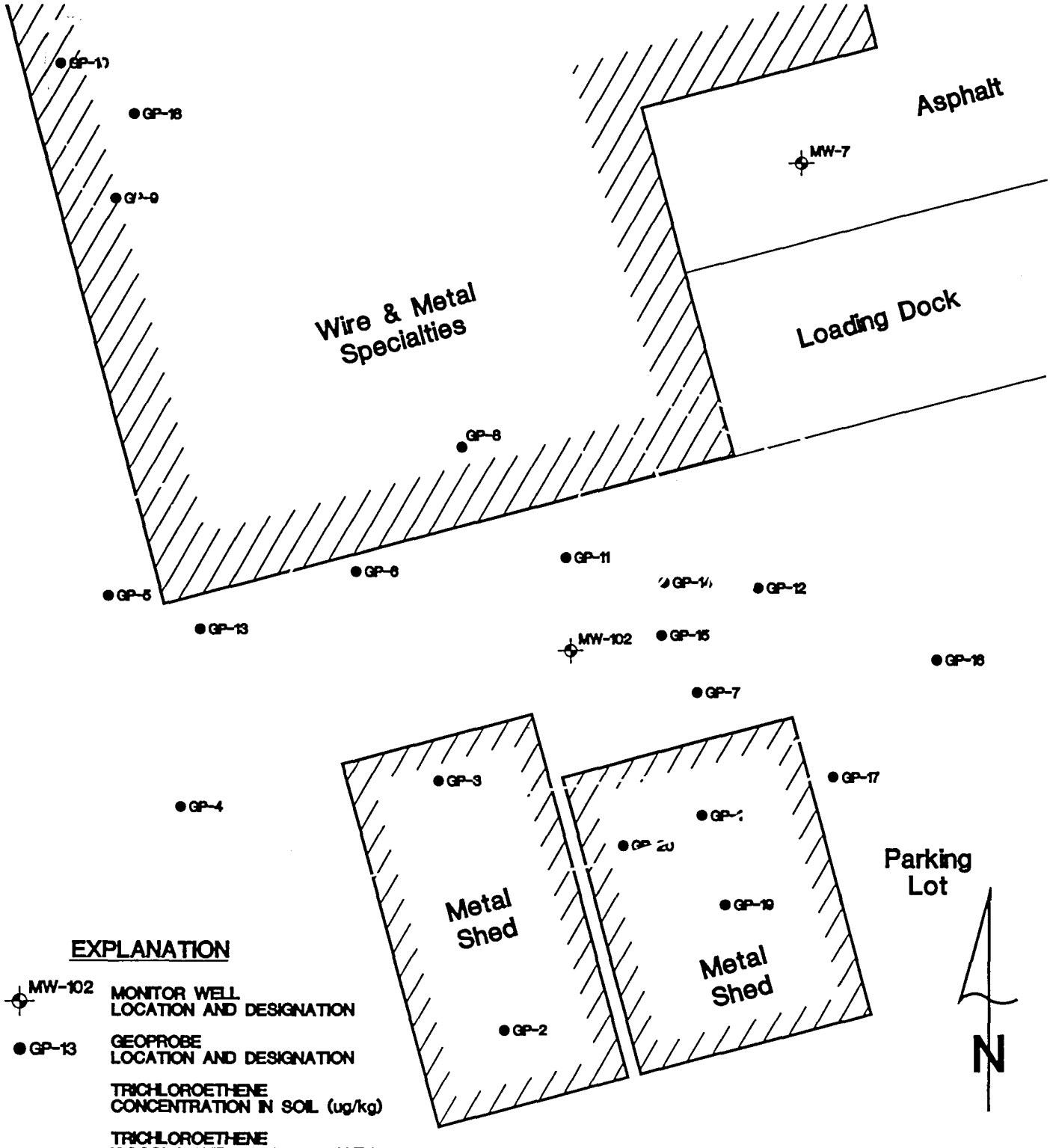

EXPLANATION

MW-102 — MONITOR WELL LOCATION AND DESIGNATION

GP-13 — GEOPROBE LOCATION AND DESIGNATION

TRICHLOROETHENE CONCENTRATION IN SOIL (ug/kg)

TRICHLOROETHENE ISOCONCENTRATION CONTOURS (Dashed where inferred)

SCALE

0 30

Feet

FORMER WIRE & METAL SPECIALTIES SITE ST. FRANCIS, WISCONSIN	DATE: 9/7/99
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	CHECKED: GLD
TRICHLOROETHENE IN SOIL	APPROVED: GLD
	DRAWN: BOB
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HSI GEOTRANS A TETRA TECH COMPANY	Figure 5-2

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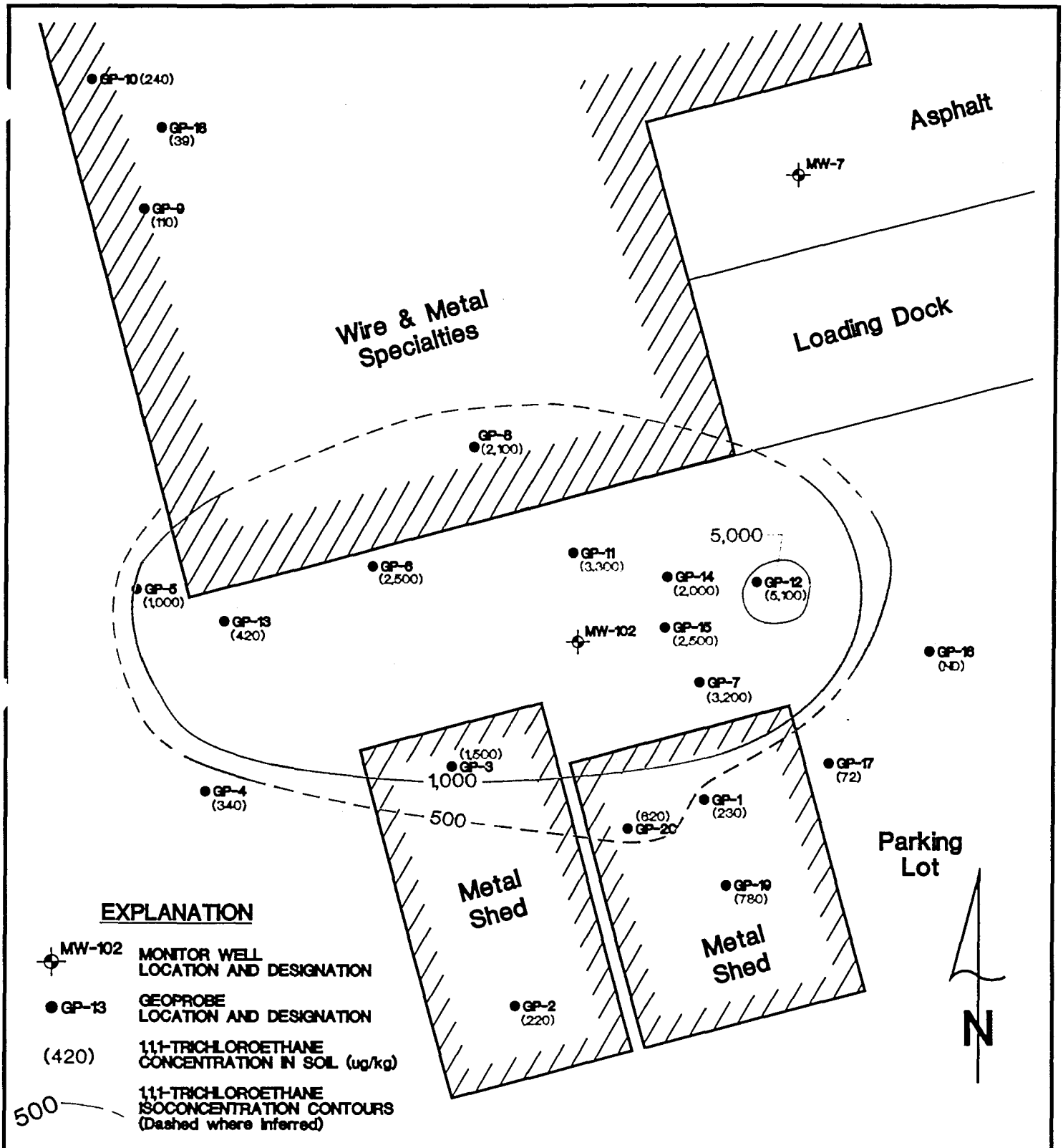

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1,1,1-TRICHLOROETHANE IN SOIL	APPROVED: GLD
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HSI GEOTRANS A TETRA TECH COMPANY	Figure 5-3

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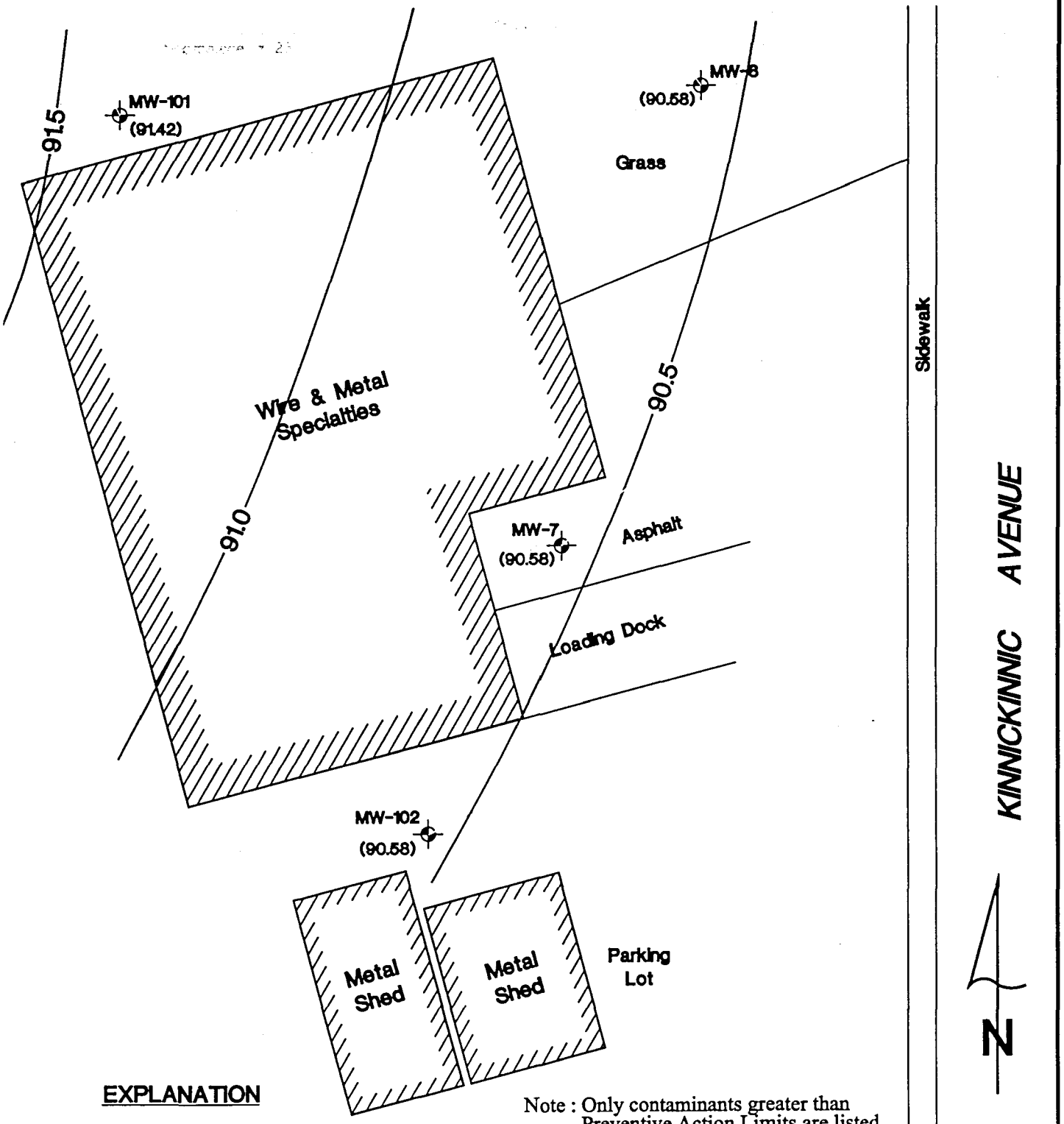

EXPLANATION

- MW-102 — MONITOR WELL LOCATION AND DESIGNATION
- (90.58) — WATER TABLE ELEVATIONS
- 91.0 — WATER TABLE ELEVATION CONTOURS

Note : Only contaminants greater than Preventive Action Limits are listed.

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ST. FRANCIS, WISCONSIN

GROUNDWATER VOC IMPACTS AND WATER TABLE MAP

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HSI GEOTRANS
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Figure 5-4

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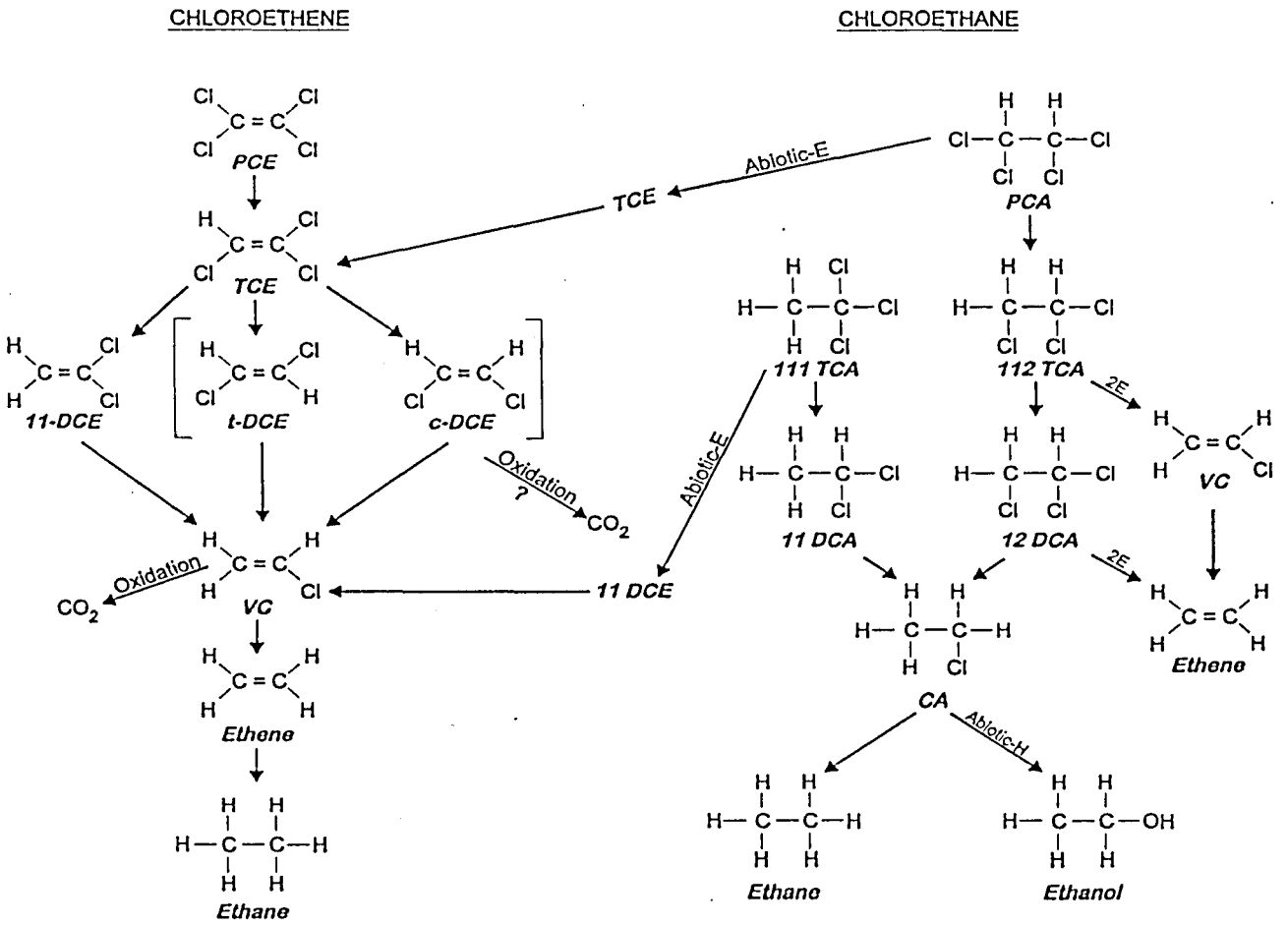

Note : Pathways shown are for anaerobic biological reductive dehalogenation unless noted otherwise.

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NATURAL DEGRADATION PATHWAYS FOR CHLOROETHENES AND CHLOROETHANES	DESIGNED: BOB CHECKED: GLD APPROVED: GLD DRAWN: BOB PROJ.:
HSI GEOTRANS A TETRA TECH COMPANY	Figure 5-5

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Table 5-1 Soil Analytical Results for VOCs

	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-10	GP-11	GP-12	GP-13	GP-14	GP-15	GP-16	GP-17	GP-18	SP-19	GP-20	GP-20	SP-20	RCL
	(0-2')	(0-2')	(4-6')	(4-6')	(4-6')	(2-4')	(0-2')	(4-6')	(4-6')	(4-6')	(0-2')	(0-2')	(4-6)	(0-2')	(0-2')	(0-2')	(6-8')	(4-6')	(0-2')	(0-2')	(8-10')	(18-20)	
n-Butylbenzene					<250										62								
sec-Butylbenzene					<250										31	48			66				
1,1-Dichloroethane					<250			32			130	53		220	310					120		40	
1,2-Dichloroethane					<250																40		4.9
1,1-Dichloroethene					<250									35	56								
cis-1,2-Dichloroethene					<250	120		61			75				33					26			
Ethylbenzene					<250															37			2,900
p-Isopropyltoluene					<250										30								
Naphthalene					<250											170			27				
n-Propylbenzene					<250										54								
Tetrachloroethene	350			850	530	13,000	2,700	1,100		260	5,700	810	100	1,200	480		28		390	1,000			
Toluene		44			<250	83						110							60				1,500
1,1,1-Trichloroethane	230	220	1,500	360	1,000	2,500	3,200	2,100	110	240	3,300	5,100	420	2,000	2,500		72	39	780	620		160	
1,1,2-Trichloroethane					<250	32					39	57											
Trichloroethene	500		1,100	2,200	5,300	18,000	3,000	16,000	560	740	7,200	29,000	4,400	4,600	1,700	45	370	200	4,700	520			
Trichlorofluoromethane					<250	28 (J)													72	45 (J)			
1,2,4-Trimethylbenzene					<250										65				60	34			
1,3,5-Trimethylbenzene					<250										110				47				
M & P Xylenes	<50	<50	<50	<50	<500	<50	84	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	770			4,100
O Xylene	34				<250		41													450			

All concentrations in ug/kg
If blank, compound was not detected with a reported result of <25 ug/kg, unless otherwise shown
(J) indicates that results were estimated by laboratory
Underlined - more than 1,000 ug/kg
Shaded and bold - more than 10,000 ug/kg

HSI GEOTRANS

p177.tbl

Table 5-2 Groundwater Analytical Results for VOCs

	MW-101	MW-102	MW-7	MW-8	PAL	ES
Benzene	<.25	**14**	0.51 (J)	<0.25	0.5	5
tert-Butylbenzene	3.5	<0.4	<0.4	<0.4	--	--
n-Butylbenzene	25	<0.37	<0.37	<0.37	--	--
sec-Butylbenzene	19	<0.43	<0.43	<0.43	--	--
Chloroform	<0.26	<0.26	<0.26	**1.1**	0.6	6
1,1-Dichloroethane	<0.32	3.9	6.3	<0.32	85	850
1,2-Dichloroethane	<0.14	**2.5**	**1.4**	<0.14	0.5	5
1,1-Dichloroethene	<0.61	<0.61	**2**	<0.61	0.7	7
cis-1,2-Dichloroethene	<0.34	1.7	0.68 (J)	<0.34	7	70
trans-1,2-Dichloroethene	<0.46	0.66 (J)	<0.46	<0.46	20	100
Ethylbenzene	27	7.3	<0.32	<0.32	140	700
Isopropylbenzene	20	2.5	<0.33	<0.33	--	--
p-Isopropyltoluene	15	2.5	<0.34	<0.34	--	--
MTBE	<0.21	8	2.1	<0.21	12	60
Naphthalene	**28**	<0.73	<0.73	<0.73	8	40
n-Propylbenzene	39	0.6 (J)	<0.36	<0.36	--	--
Tetrachloroethene	<0.56	<0.56	**2.2**	<0.56	0.5	5
Toluene	0.4 (J)	0.9 (J)	<0.38	<0.38	68.6	343
1,1,1-Trichloroethane	<0.35	16	**120**	<0.39	40	200
Trichloroethene	<0.39	**140**	**110**	<0.39	0.5	5
1,2,4-Trimethylbenzene	310	0.56 (J)	<0.34	<0.34	--	--
1,3,5-Trimethylbenzene	8.1	<0.36	<0.36	<0.36	--	--
Xylenes	158.6	0.92 (J)	<0.67	<0.67	124	620

Notes:
Bold = Exceeds PAL
Underlined = Exceeds ES
(J) = Indicates that the analyte was detected between its limit of detection and limit of quantification

All concentrations in ug/l (parts per billion)

Table 5-3 Biodegradation Analytical Results

Groundwater

		MW-101	MW-102	MW-7	MW-8
Dissolved Oxygen	mg/ℓ	5.58	2.86	4.8	3.73
Oxidation Reduction Potential	(millivolts)	37	35	16	25
Sulfate	mg/ℓ	16	36	150	62
Iron	mg/ℓ	2,200	1.9	8.6	0.67
Manganese	mg/ℓ	95	0.31	0.66	0.28

Soil

	Total Organic Carbon mg/kg	
GP-7	3,800	(0.38%)
GP-8	10,400	(1.04%)
GP-10	11,800	(1.18%)
GP-13	11,900	(1.19%)
GP-14	17,900	(1.79%)

Table 6-1 Remedial Alternative

Remedial Option	Media Addressed	Technical Feasibility	Administrative Feasibility	Cost	Time Frame to Complete
No Action	Soil and Groundwater	Yes	No	Impaired value of property	>10 years
Monitored Natural Attenuation of Groundwater	Groundwater	Yes	Yes, if implemented with source control	$15,000, plus $4,000 per year	from 3 to >10 years
Soil Excavation and Off-Site Disposal	Soil	Yes, but not all impacted soil removed	Yes	$335,000 to $1,155,000	4 months
Soil Vapor Extraction	Soil	Yes	Yes	$90,000	about 1 year
In-Situ Soil Treatment	Soil	Yes, but not all impacted soil treated	Yes	$140,000 to $150,000	4 months

$165

KEY ENGINEERING GROUP LTD.
Environmental • Civil/Geotech • Compliance

W66 N215 Commerce Court
Cedarburg, Wisconsin 53012
(414) 375-4750
(800) 645-7365
Fax (414) 375-9680

March 22, 1999

Mr. Phil Abel
PC Innovations
3448 South Taylor Avenue
Milwaukee, Wisconsin 53207

Reference: *Limited Phase II Environmental Site Assessment Report*
Former Wire and Metal Specialties, Inc.
4021 South Kinnickinnic Avenue
St. Francis, Wisconsin 53235

KEY ENGINEERING GROUP, LTD.
File No. 0812011

Dear Mr. Abel:

In accordance with your request, Key Engineering Group, Ltd. (KEY) has completed a Limited Phase II Environmental Site Assessment (Limited Phase II ESA) at the above referenced (subject) site.

Purpose and Scope of Services

The purpose of the Limited Phase II ESA was to evaluate the potential for subsurface impacts at the subject site considering the past manufacturing use of the subject site and previously remediated environmental impacts at the subject site due to on-site and off-site sources. These prior land uses and previous on-site environmental remediation activities were discussed in detail in a preceding Phase I Environmental Site Assessment (Phase I ESA) for the subject site dated January 20, 1999. The previous land use and environmental remediation actions at the subject site are summarized below:

- The subject site was previously occupied by Wire and Metal Specialties, Inc., which conducted sheet metal fabricating operations since the mid-1960s and was occupied prior to then by similar metal fabrication operations since the 1940s.

- Migrating contaminants from a leaking underground storage tank (LUST) located on the adjacent property to the south of the subject site impacted a southern portion of the subject site. These impacts included soil and groundwater contamination at the subject site. These site impacts were investigated and remediated by on-site excavation and off-site disposal of the contaminated soil. However, residual soil and groundwater impacts remained on the subject site following these remedial actions.

- An apparent spill of hazardous material on the subject site was investigated and remediated by excavation and removal of the contaminated soil from the subject site.

Post-excavation soil samples appeared to indicate that the soil impacts from this spill were completely remediated.

The Limited Phase II ESA involved advancing soil probes, collecting and submitting selected soil samples for laboratory analysis and evaluating the analytical data. Groundwater from an on-site groundwater monitoring well (MW-7), constructed during the preceding LUST site investigation and located closest to the remedial excavation as it extended onto the subject site, was also sampled and the sample submitted for analysis. The subject site layout and soil probe locations are depicted on Figure 1.

Limited Subsurface Assessment Activities

On March 10, 1999, four soil probes (GP-1, GP-2, GP-3 and GP-4) were advanced on the subject site at locations approved by Mr. Phil Abel of PC Innovations (client). Each of these soil probes were advanced to a depth of 11 feet below ground surface (bgs). Soil probe GP-1 was located near the northeast corner of the subject site property. Soil probe GP-2 was located a short distance north of the northern extent of the previous LUST site remedial excavation that extended onto the southern portion of the subject site. Soil probe GP-3 was located along the north side of the easterly Quonset hut. Soil probe GP-4 was located at the southwest corner of the subject site's main building.

The soil probes were advanced with a van-mounted Geoprobe® unit operated by Briohn Environmental Construction (Briohn) under the supervision of KEY. A 2-foot long stainless steel sampler with an acetate liner was driven to the desired sampling depth using stainless steel rods and a hydraulic ram.

Downhole soil probe equipment and associated tools were washed prior to the start of the project. Cleaned soil probe equipment was used for each soil sampling interval to minimize the potential for cross-contamination. The cleaning procedure after each sampling interval consisted of scrubbing the 2-foot stainless steel sampler with a brush and a soap (Alconox®) and water solution followed by one tap water rinse.

Soil samples were collected from each soil probe location and classified in accordance with the Unified Soil Classification System (USCS). Soil boring logs were completed by KEY to document the drilling method, sampling method, depth of the sample, sample recovery, the USCS classifications, olfactory senses and groundwater level observations. The soil encountered at soil probe GP-1 was light brown silty sand underlain by silty clay and clayey silt. The soils encountered by GP-2 were light brown silty clay to approximately 5 feet bgs, underlain by mostly clayey silt to 11 feet bgs. The soils encountered by GP-3 were a silty sand to approximately four feet bgs underlain by silty clay and sand. Soils encountered at GP-4 were principally sand with gravel. The completed soil boring logs are attached.

A portion of each soil sample collected from the soil probes was placed into a Ziploc® bag for field screening. The remaining portion of the sample was placed into laboratory supplied containers and stored on ice for potential laboratory analysis. One selected soil sample from each soil probe location and one collected groundwater sample from MW-7 were submitted for laboratory analysis.

Following soil and groundwater sample collection, the soil probes were abandoned with bentonite chips. Completed borehole abandonment forms are also attached.

Soil Field Screening

The soil samples were field screened for volatile organic vapors using a model 580B Organic Vapor Meter (OVM) photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp, calibrated to isobutylene. The sealed bag was shaken and then slightly opened and the tip of the PID was inserted into the headspace and the highest reading was recorded. The PID readings are shown on the attached boring logs. The PID readings measured for soil samples collected from GP-1, GP-2 and GP-4 were all less than one instrument unit (i.u.). However, the upper two soil sample intervals from GP-3 detected volatile organic vapors. The uppermost GP-3 soil sample collected from 1 to 3 feet bgs measured a PID reading of 346 i.u. This soil sample also had a slight odor that was not believed to be petroleum.

Soil and Groundwater Sampling and Laboratory Analysis

The selected soil samples and the collected groundwater sample were submitted for laboratory analysis to Great Lakes Analytical (GLA) (1380 Busch Parkway, Buffalo Grove, Illinois). The soil sample submitted for analysis from GP-2 was collected from 7 to 9 feet bgs, which appeared to be at or just above the groundwater interface. This groundwater interface depth was chosen considering that this soil probe was advanced north of the previous LUST excavation which reportedly impacted the subject site by means of groundwater migration to the subject site. The soil sample submitted for analysis from GP-3 was the 1 to 3 foot bgs interval that was field screened at 346 i.u. on the PID. Each of the soil samples, and the groundwater sample, were submitted for laboratory analysis for volatile organic compounds (VOCs). The soil and groundwater sample analytical results are summarized in Table 1 and 2, respectively, and on Figure 2.

Groundwater monitoring well MW-7 was purged of all groundwater within the well column (well casing and filter pack) and sampled using a clean Teflon bailer. The groundwater level in MW-7 was measured to be 10.26 feet bgs.

Soil and Groundwater Sample Analytical Results

The soil sample analytical results indicated that no VOC concentrations were detected at GP-1 or GP-2. Concentrations of petroleum and chlorinated VOCs were detected at GP-3 and GP-4. The petroleum-related VOCs included n-butylbenzene, ethylbenzene, p-isopropyltoluene, n-propylbenzene, toluene, trimethylbenzenes and xylene. The chlorinated VOCs included 1,1-dichloroethane (DCA), tetrachloroethene (PCE), 1,1,1-trichloroethane (TCA) and trichloroethene (TCE).

The groundwater sample analytical results indicated that petroleum (benzene only) and chlorinated VOCs were detected at MW-7. Concentrations of benzene and TCE exceeded NR 140 enforcement standards (ESs), and concentrations of 1,2-DCA, 1,1-dichloroethene (DCE) and 1,1,1-TCA exceeded NR 140 preventive action limits (PALs).

Conclusions and Recommendations

Based on the laboratory analytical results, soils south of the site building in the vicinity of the Quonset hut are impacted by elevated VOC concentrations. The presence of contaminants detected in site groundwater at MW-7 (a significant distance from the detected soil contaminants) which are generally consistent with those detected in on-site soils likely indicates that contaminants present

in on-site soils have leached to groundwater. The presence of on-site groundwater contaminants at concentrations exceeding NR 140 ESs which could potentially be attributed to an on-site source (contaminated soils) would likely trigger regulatory enforcement by the Wisconsin Department of Natural Resources (WDNR). At a minimum, the WDNR would likely require additional investigation of groundwater quality in the proximity of the contaminated soils to evaluate whether remedial action is warranted at the site.

It should be noted that a component of the groundwater contamination in groundwater at MW-7 may be associated with previous remedial action activities conducted south of and on the subject site. However, the presence of contaminants in shallow site soils would likely suggest to the WDNR that the on-site groundwater contaminants are not likely solely attributable to the migration of contaminants onto the site from the south.

It is KEY's interpretation of Wisconsin's Spill Statutes that these findings are reportable to the WDNR by the owner of the subject site.

Please feel free to call us if you have any questions. KEY can assist with the WDNR reporting if desired. Thank you for the opportunity to provide you with our services.

Sincerely,

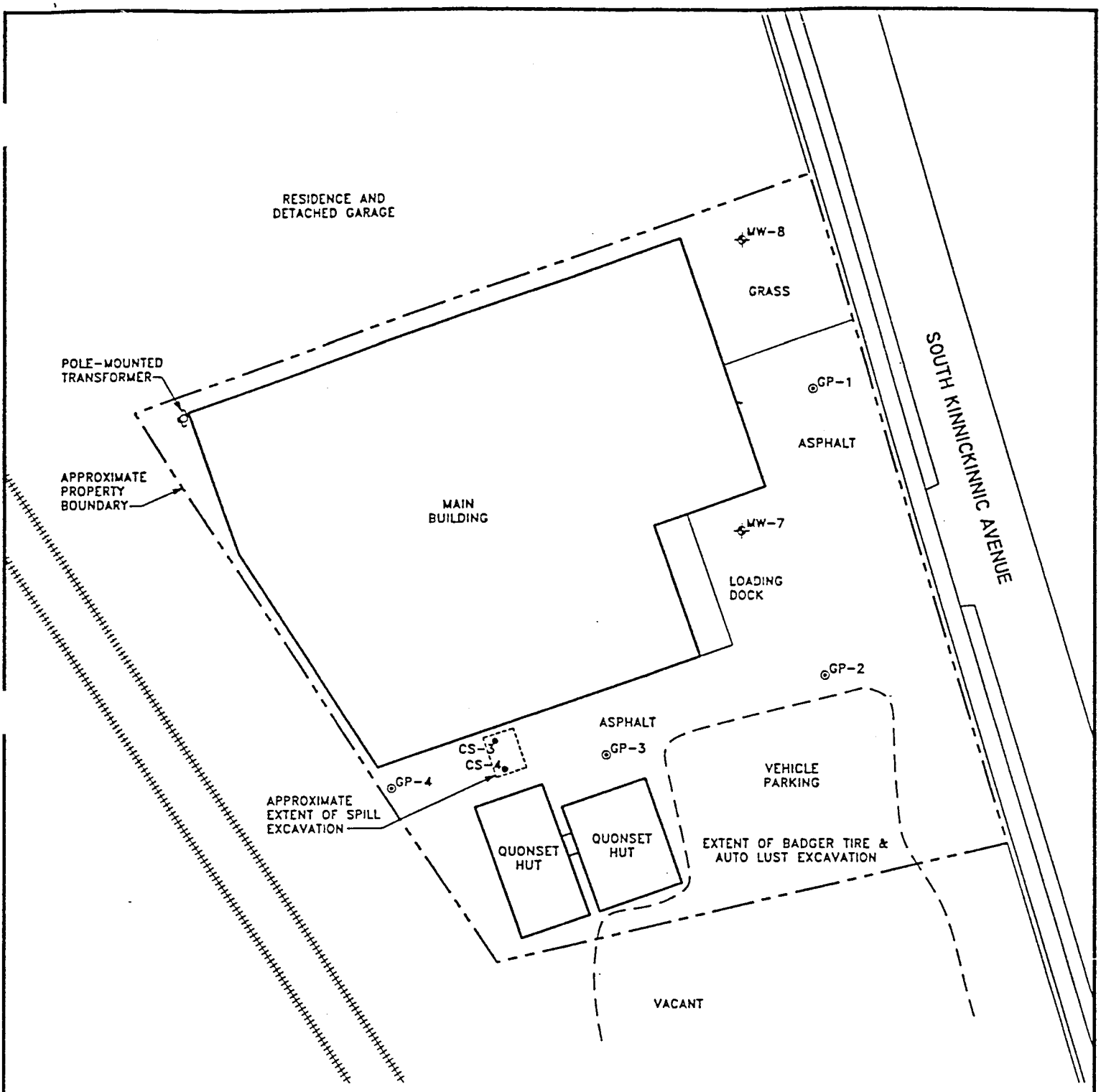
KEY ENGINEERING GROUP, LTD.

Scott R. Jacobson
Staff Professional

Gregory A. Konicek, P.G., CHMM
President

SRJ/kar

Enclosures:
- Figure 1: Site Layout and Soil Probe Locations
- Figure 2: Summary of Soil and Groundwater Sample Analytical Results
- Table 1: Summary of Soil Sample Analytical Results
- Table 2: Summary of Groundwater Sample Analytical Results
- Soil Boring Logs
- Borehole Abandonment Forms
- Analyticai Laboratory Report and Chain of Custody Documentation



SOURCE: *Plot Plan*
Blong, Kempf and Ehrlich, Inc.
July 12, 1973

0 20 40

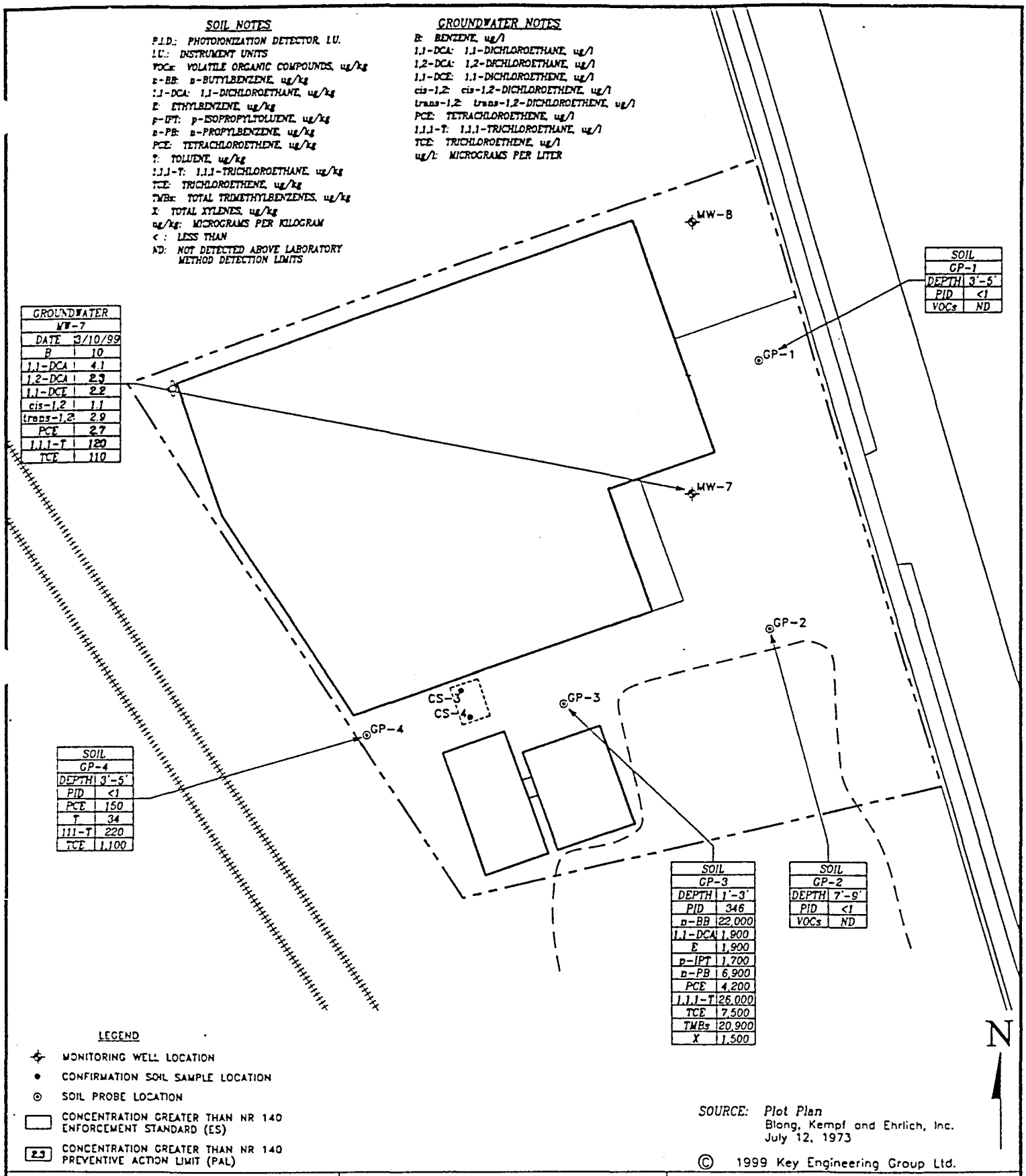
SCALE: 1"=40'

DRN. BY:	S.L.G.	DATE:	03/19/99
DSN. BY:	S.R.J.	FILE NO.:	0812011
CHK. BY:	S.R.J.	DWG. NO.:	08120112
REV. BY:	G.L.J.	SHEET NO.:	1

KEY ENGINEERING GROUP LTD.

FIGURE 1
SITE LAYOUT WITH SOIL PROBE LOCATIONS

PHASE II ENVIRONMENTAL SITE ASSESSMENT
FORMER WIRE & METAL SPECIALTIES, INC.
4021 SOUTH KINNICKINNIC AVENUE
ST. FRANCIS, WISCONSIN



SOURCE: *Plat Plan*
Blong, Kempf and Ehrlich, Inc.
July 12, 1973

0 20 40

SCALE: 1"=40'

DRN. BY:	S.L.G.	DATE:	03/19/99
DSN. BY:	S.R.J.	FILE NO.:	0812011
CHK. BY:	S.R.J.	DWG. NO.:	08120113
REV. BY:	G.L.J.	SHEET NO.:	2

KEY ENGINEERING GROUP LTD

FIGURE 2
SOIL AND GROUNDWATER SAMPLE ANALYTICAL RESULTS

PHASE II ENVIRONMENTAL SITE ASSESSMENT
FORMER WIRE & METAL SPECIALTIES, INC.
4021 SOUTH KINNICKINNIC AVENUE
ST. FRANCIS, WISCONSIN

TABLE 1

SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

FORMER WIRE AND METAL SPECIALTIES, INC.

St. Francis, Wisconsin

PARAMETER	SAMPLE IDENTIFICATION				GRCL
	GP-1	GP-2	GP-3	GP-4	
Date Collected	3/10/99	3/10/99	3/10/99	3/10/99	
Depth (feet)	3-5	7-9	1-3	3-5	
PID (i.u.)	<1	<1	346	<1	
VOCs (ug\kg)					
n-Butylbenzene	<25	<25	22,000	<25	NE
1,1-Dichloroethane	<25	<25	1,900	<25	NE
Ethylbenzene	<25	<25	1,900	<25	2,900
p-Isopropyltoluene	<25	<25	1,700	<25	NE
n-Propylbenzene	<25	<25	6,900	<25	NE
Tetrachloroethene	<25	<25	4,200	150	NE
Toluene	<25	<25	<500	34	1,500
1,1,1-Trichloroethane	<25	<25	26,000	220	NE
Trichloroethene	<25	<25	7,500	1,100	NE
Trimethylbenzenes	<50	<50	20,900	<50	NE
Xylenes	<25	<25	1,500	<25	4,100

Notes:
< - less than
GRCL - NR 720 generic residual contaminant based on the protection of groundwater
i.u. - instrument units
NE - generic RCLs not established
PID - photoionization detector
ug/kg - micrograms per kilogram
VOCs - volatile organic compounds

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

FORMER WIRE AND METAL SPECIALTIES, INC.
St. Francis, Wisconsin

	MW-7	ES	PAL
Date	3/10/99		
Detected VOCs (ug/l)			
Benzene	**10**	5	0.5
1,1-Dichloroethane	4.1	850	85
1,2-Dichloroethane	**2.3**	5	0.5
1,1-Dichloroethene	**2.2**	7	0.7
cis-1,2-Dichloroethene	1.1	70	7
trans-1,2-Dichloroethene	2.9	100	20
Tetrachloroethene	**2.7**	5	0.5
1,1,1-Trichloroethane	**120**	200	40
Trichloroethene	**110**	5	0.5

Bold values exceed the NR 140 PAL for that substance
Bold and shaded values exceed the NR 140 ES for that substance
ES - NR 140 enforcement standard
PAL - NR 140 preventive action limit
ug/l - micrograms per liter
VOCs - volatile organic compounds

APPENDIX B
FIELD FORMS, BOREHOLE LOGS
AND
WELL CONSTRUCTION FORMS

PHOTOIONIZATION DETECTOR LOGS

HSI GEOTRANS FIELD PID DATA FORM

Project Number:	Date(s): 7-12-99
Project Name: MPL Realty	Personnel: TPC
Site Location: St. Francis, WI	Meter Number: #1 HNU
	Probe eV: 11.7eV

Sample Number	Location	Depth (feet)	Sample Media (1)	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp. (°C)	PID Readings (Insturment Units)			Comments
								Background	Peak Response	After 15 sec.	
1	MW-101	0-2	So	D	10:58	11:36	75°F	4.0	<4.0	<4.0	
2	↓	2-4	↓	D	11:00	11:36	↓	4.0	<4.0	3.0	
3		4-6		D	11:09	11:37		4.0	<4.0	2.9	
4		6-8		M	1110	11:37		4.0	<4.0	2.9	
5		8-10		M	1117	11:38		4.0	<4.0	2.9	
6		11.5-12.0		W	11:19	11:38		4.0	108	—	
7		12-14		W	11:27	1137		0.5	112	142	
8	↓	15-16	↓	M	11:28	1140	↓	0.5	113	153	

(1) SO - Soil SD - Sediment GW - Ground Water
SW - Surface Water WS - Waste (Solid) WL - Waste (Liquid)

(2) D - Dry M - Moist W - Wet

HSI GEOTRANS

Site: MPL Realty

Project No: P177

Date: 7-7-99

Personnel: David Conner

Meter No:

Probe eV:

FIELD PID DATA FORM

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	Peak Response	Comments
GP-1	Soil	0-2	D	0830			1	121	
GP-1	↓	2-4	D	↓			1	61	
GP-1	↓	4-6	D	↓			1	0	
GP-2	Soil	0-2	D	0845			1	0	
GP-2	↓	2-4	D	↓			1	0	
GP-2	↓	4-6	D	↓			1	0	
GP-3	Soil	0-2	D	0900			1	0	
GP-3	↓	2-4	D	↓			1	0	
GP-3	↓	4-6	D	↓			1	0	
GP-4	Soil	0-2	D	0910			3	0	
GP-4	↓	2-4	D	↓			3	5	
GP-4	↓	4-6	D	↓			3	9	

(1) SO - Soil
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(2) D - Dry
M - Moist
W - Wet
S - Saturated

Site: MPL Realty

Project No: P177

Date: 7-7-99

Personnel: David Conner

Meter No:

Probe eV:

FIELD PID DATA FORM

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	PID Readings (ppm) Peak Response	Comments
GP-5	Soil	0-2	D	0915			3.2	Ø	
GP-5	↓	2-4	D	↓			↓	↓	
GP-5	↓	4-6	D	↓			↓	↓	
[illegible]									
GP-6	Soil	0-2	D	0930			3	11	
GP-6	↓	2-4	D	↓			↓	14	
GP-6	↓	4-6	M	↓			↓	9.2	
GP-6	↓	6-8	M	↓			↓	8.3	
GP-6	↓	8-10	M	↓			↓	10.2	
[illegible]									
GP-7	Soil	0-2	D	1010			5	15	
↓	↓	2-4	D	↓			5	10	
↓	↓	4-6	M	↓			3	2	
↓	↓	6-8	M	↓			5	10	
↓	↓	8-10	M	↓			3	7.2	

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WL - Waste (Liquid)

(2) D - Dry
M - Moist
W - Wet
S - Saturated

Site: MPL Realty

Project No: P177

Date: 7-7-99

Personnel: David Conner

Meter No:

Probe eV:

FIELD PID DATA FORM

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	PID Readings (ppm) Peak Response	Comments
GP-9	Soil	0-2	D	1030			3	2	
↓	↓	2-4	D	↓			6	1	
↓	↓	4-6	D	↓			6	5	
GP-10	Soil	0-2	D	1050			3.1	3.2	
↓	↓	2-4	↓	↓			↓	3.3	
↓	↓	4-6	↓	↓			↓	4.6	
GP-13	Soil	0-2	D	1130			3.1	4	
↓	↓	2-4	↓	↓			↓	4.2	
↓	↓	4-6	↓	↓			↓	8	
GP-8	Soil	0-2	D	1115			3.5	8	
↓	↓	2-4	↓	↓			↓	9	
↓	↓	4-6	↓	↓			↓	13	

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WL - Waste (Liquid)

(2) D - Dry
M - Moist
W - Wet
S - Saturated

Site: MPL Realty

Project No: P177

Date: 7-7-99

Personnel: David Conner

Meter No:

Probe eV:

FIELD PID DATA FORM

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	PID Readings (ppm) Peak Response	Comments
GP-12	Soil	0-2	D	1215			3	12	
↓	↓	2-4	↓	↓			↓	8	
↓	↓	4-6	↓	↓			↓	7.5	
~	~	~	~	~	~	~	~	~	
GP-14	Soil	0-2	D	1230			3	14	
↓	↓	2-4	↓	↓			↓	8	
↓	↓	4-6	↓	↓			↓	9	
~	~	~	~	~	~	~	~	~	
GP-11	Soil	0-2	D				3	13	
↓	↓	2-4	↓				↓	10	
↓	↓	4-6	↓				↓	10	
~	~	~	~	~	~	~	~	~	
GP-16	Soil	0-2	D	1330			3	∅	
↓	↓	2-4	↓	↓			↓	∅	
↓	↓	4-6	M	↓			↓	∅	
↓	↓	6-8	M	↓			↓	∅	
↓	↓	4-10	M				↓	∅	

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SW - Surface Water
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WL - Waste (Liquid)

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M - Moist
W - Wet
S - Saturated

Site: MPL Realty

Project No: P177

Date: 7-7-99

Personnel: David Corner

Meter No:

Probe eV:

FIELD PID DATA FORM

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	PID Readings (ppm) Peak Response	Comments
GP-15	Soil	0-2	D	1340			3	18	
↓	↓	2-4	↓	↓			↓	9	
↓	↓	4-6	↓	↓			↓	9	
~	~	~	~	~	~	~	~	~	
GP-17	Soil	0-2	D				3	Ø	
↓	↓	2-4	↓				↓	Ø	
↓	↓	4-6	M				↓	Ø	
↓	↓	6-8	M				↓	6	
↓	↓	8-10	M				↓	Ø	
~	~	~	~	~	~	~	~	~	
GP-16	Soil	0-2	D				3	Ø	
		2-4	↓				↓	Ø	
		4-6	M				↓	13	
		6-8	↓				↓	Ø	
		8-10	↓				↓	Ø	

(1) SO - Soil
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GW - Ground Water
SW - Surface Water
WS - Waste (Solid)
WL - Waste (Liquid)

(2) D - Dry
M - Moist
W - Wet
S - Saturated

Site: MPL Realty

Project No: P177

Date: 7-8-99

Personnel: David Conner

Meter No:

Probe eV:

FIELD PID DATA FORM

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	PID Readings (ppm) Peak Response	Comments
MW-120	Soil	0-2	D	1330			3	9.8	
MW-120		2-4					3	6	
MW-120		4-6					3	6	
MW-120		6-8					3	4	
MW-120		8-10	M				4.8	3.2	
MW-120		10-12	W				4.8	4.8	
MW-120		12-14					4.8	6	
MW-120		14-16					4.8	8.1	
MW-120		16-18					4.8	7.0	
MW-120		18-20					4.8	7.8	
GP-19	Soil	0-2	D	1015			4	9.5	
GP-19		2-4					4	5	
GP-19		4-6					5	7.1	
GP-19		6-8	M				6	6.2	
GP-19		8-10					6.8	7.2	

(1) SO - Soil
SD - Sediment
GW - Ground Water
SW - Surface Water
WS - Waste (Solid)
WL - Waste (Liquid)

(2) D - Dry
M - Moist
W - Wet
S - Saturated

Site: MPL Realty

Project No: P177

Date: 7-8-99

Personnel: David Conner

Meter No:

Probe eV:

FIELD PID DATA FORM

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm)		Comments
							Background	Peak Response	
GP-20	Soil	0-2	D	1200			10	>200	Needle Pegged on 0-200 setting
GP-20	↓	2-4	↓	↓			10	185	
GP-20		4-6					9	10	
GP-20		6-8	↓				9	Ø	
GP-20		8-10	M				9	Ø	
GP-20		10-12	W				10	Ø	
GP-20		12-14	S				10	Ø	
GP-20		14-16	↓				10	Ø	
GP-20		16-18					10	Ø	
GP-20	↓	18-20	↓	↓			10	Ø	

(1) SO - Soil
SD - Sediment
GW - Ground Water
SW - Surface Water
WS - Waste (Solid)
WL - Waste (Liquid)

(2) D - Dry
M - Moist
W - Wet
S - Saturated

APPENDIX C
LABORATORY ANALYTICAL RESULTS

SOIL ANALYTICAL RESULTS

CHAIN OF CUSTODY RECORD

Analytical Lab
1090 Kennedy Ave. • Kimberly, WI 54136
(920) 735-8295 • FAX 920-739-1738 • 800-490-4902
LAB@USOIL.COM

Rev. Date: 12-17-98

Chain # No 15924

Page 1 of 3

Lab I.D. # 5026285 1&3

Account No. : Quote No.:

Project #: P177 - 101

Sampler: (signature)

Sample Integrity - To be completed by receiving lab.
Method of Shipment : Courier Temp. of Temp. Blank. ____ °C On Ice: ✓
Cooler seal intact upon receipt: ✓ Yes ____ No Labcoded By: ____

Project (Name / Location): MPL Realty / St. Francis, Wisconsin

Reports To: Jerry Demers	Invoice To: Same
Company HSI Geotrans	Company
Address 175 N. Corporate Dr. Suite 100	Address
City State Zip Brookfield, WI 53045	City State Zip
Phone 414-792-1282	Phone

MASTER FILE COPY
PROJECT # P177
CC: G.D

Sample Handling Request
___ Rush Analysis Date Required ____
___ Normal Turn Around

Analysis Requested

Lab I.D.	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	Other Analysis: Total Organic Carbon	Other Analysis	Other Analysis	Other Analysis	Other Analysis	PID/ FID
5026285A	GP-1 (0-2)	7-7-99	0830	1 - 40mL, Glass	S	None						X										
B	GP-2 (0-2)		0845									X										
C	GP-3 (4-6)		0900									X										
D	GP-4 (4-6)		0910									X										
E	GP-5 (4-6)		0915									X										
F	GP-7 (0-2)		1010									X										
G	GP-9 (4-6)		1030									X										
H	GP-10 (4-6)		1050									X										
I	GP-13 (4-6)		1130									X										

Department Use Only
Split Samples: Offered ? ____ Yes ____ No
Accepted? ____ Yes ____ No
Accepted By: ____

Comments/ Special Instructions
*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.
Sending in solids at later date. per Client SAS 7-9-99
no solids % Sample sent; left message w/ J.D. @ 12:35 SAS 7.9.99

Department Use Optional for Soil Samples
Disposition of unused portion of sample
Lab Should:
___ Dispose ____ Retain for ___ days
___ Return ____ Other

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	0800	7-8-99	Leo Huss	12:35	7-8-99
Leo Huss	4:30	7-8-99			

Received in Laboratory By: Scott Degnan Time: 430 Date: 7-8-99

CHAIN OF CUSTODY RECORD

1090 Kennedy Ave. • Kimberly, WI 54136
(920) 739-8295 • FAX 920-739-1738 • 800-490-4902
LAB@USOIL.COM

Chain # No 15925

Page 2 of 3

Lab I.D. # 5 0285 2g3

Account No. : Quote No.:

Project #: P177-101

Sampler: (signature)

Sample Integrity - To be completed by receiving lab.
Method of Shipment : Courier Temp. of Temp. Blank. ____ °C On Ice: ✓
Cooler seal intact upon receipt: ✓ Yes ____ No Labcoded By: ____

Project (Name / Location): MPL Realty / St. Francis, WI

Reports To: Jerry DeMers Invoice To: Same

Company HSI Geotrans Company

Address 175 N. Corporate Dr. Suite 100 Address

City State Zip Brookfield, WI 53045 City State Zip

Phone 414-792-1282 Phone

Sample Handling Request

___ Rush Analysis Date Required ____

___ Normal Turn Around

Analysis Requested

Lab I.D.	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	Other Analysis: Tom/Organic Carbon				PID/ FID
5026285 J	GP-8 (4-6)	7-7-99	1115	1-40mL, Glass	S	None						X									
K	GP-12 (0-2)		1219									X									
L	GP-14 (0-2)		1230									X									
M	GP-11 (0-2)		1315									X									
N	GP-16 (0-2)		1330									X									
O	GP-15 (0-2)		1340									X									
P	GP-17 (6-8)		1400									X									
Q	GP-18 (4-6)		1415									X									
R	GP-13		1130	1-60mL, Glass													X				

Department Use Only

Split Samples: Offered ? ____ Yes ____ No

Accepted? ____ Yes ____ No

Accepted By: ____

Comments/ Special Instructions

*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.

Sending in solids at later date. per Client SAS 7-9-99

Department Use Optional for Soil Samples

Disposition of unused portion of sample

Lab Should:

___ Dispose ____ Retain for ___ days

___ Return ____ Other

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
[signature]	0400	7-8-99	[signature]	12:35	7-8-99
[signature]	4:30	7-8-99			

Received in Laboratory By: [signature] Time: 430 Date: 7-8-99

CHAIN OF CUSTODY RECORD

U.S. Analytical Lab
1090 [illegible]nedy Ave. • Kimberly, WI 54136
(920, [illegible]5-8295 • FAX 920-739-1738 • 800-490-4902
LAB@USOIL.COM

Chain # № 5926

Page 3 of 3

Lab I.D. # 5L 6285 303

Account No. : Quote No.:

Project #: P177-101

Sampler: (signature)

Sample Integrity - To be completed by receiving lab.
Method of Shipment : Courier Temp. of Temp. Blank. ___ °C On Ice: ✓
Cooler seal intact upon receipt: ✓ Yes ___ No Labcoded By: ___

Project (Name / Location): MPL Realty / St. Francis, WI

Reports To: Jerry DeMers	Invoice To: Same
Company HSI Geotrans	Company
Address 175 N. Corporate Dr. Suite 100	Address
City State Zip Brookfield, WI 53045	City State Zip
Phone 414-792-1282	Phone

Sample Handling Request

___ Rush Analysis Date Required ___

___ Normal Turn Around

Analysis Requested

Lab I.D.	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	Other Analysis: Total Organic Carbon					PID/ FID
5026285 S	GP-10	7-7-99	1050	1-60mL, Glass	"S"	None											X					
T	GP-7	↓	1010	↓	↓	↓											X					
U	GP-8		1115														X					
V	GP-14		1230														X					

Department Use Only

Split Samples: Offered ? ___ Yes ___ No
Accepted? ___ Yes ___ No
Accepted By: ___

Comments/ Special Instructions
*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.

Department Use Optional for Soil Samples

Disposition of unused portion of sample
Lab Should:
___ Dispose ___ Retain for ___ days
___ Return ___ Other

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
[signature]	0800	7-8-99	Leo Huss	12:35	7-8-99
Leo Huss	4:30	7-8-99			

Received in Laboratory By: Scott Degras Time: 430 Date: 7-8-99

U.S. Analytical Lab

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285A						**Sample Type** Soil			
Sample ID GP-1 (0-2)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/12/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/12/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/12/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/12/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/12/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/12/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/12/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/12/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/12/99	8260B	CJR	3 7
Chloroform	< 25	ug/kg	3.1	10	1	7/12/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/12/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/12/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/12/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/12/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/12/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/12/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/12/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/12/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/12/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/12/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/12/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/12/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/12/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/12/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/12/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/12/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/12/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/12/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/12/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/12/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/12/99	8260B	CJR	1

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285A						**Sample Type** Soil			
Sample ID GP-1 (0-2)						**Sample Date** 7/7/99			
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/12/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/12/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/12/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/12/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/12/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/12/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/12/99	8260B	CJR	1
Tetrachloroethene	350	ug/kg	6.1	21	1	7/12/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/12/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/12/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/12/99	8260B	CJR	1
1,1,1-Trichloroethane	230	ug/kg	6.7	22	1	7/12/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/12/99	8260B	CJR	1
Trichloroethene	500	ug/kg	4.5	15	1	7/12/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/12/99	8260B	CJR	2 4
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/12/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/12/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/12/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/12/99	8260B	CJR	1
o-Xylene	34	ug/kg	2.5	8.4	1	7/12/99	8260B	CJR	1
Lab Code 5026285B						**Sample Type** Soil			
Sample ID GP-2 (0-2)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/13/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/13/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/13/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/13/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/13/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/13/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/13/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/13/99	8260B	CJR	1

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285B						**Sample Type** Soil			
Sample ID GP-2 (0-2)						**Sample Date** 7/7/99			
Chloroethane	< 25	ug/kg	11	37	1	7/13/99	8260B	CJR	4
Chloroform	< 25	ug/kg	3.1	10	1	7/13/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/13/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/13/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/13/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/13/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/13/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/13/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/13/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/13/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/13/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/13/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/13/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/13/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/13/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/13/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/13/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/13/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/13/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/13/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/13/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/13/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/13/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/13/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/13/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/13/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/13/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/13/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/13/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/13/99	8260B	CJR	1
Tetrachloroethene	< 25	ug/kg	6.1	21	1	7/13/99	8260B	CJR	1
Toluene	44	ug/kg	5.3	18	1	7/13/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/13/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/13/99	8260B	CJR	1
1,1,1-Trichloroethane	220	ug/kg	6.7	22	1	7/13/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/13/99	8260B	CJR	1
Trichloroethene	< 25	ug/kg	4.5	15	1	7/13/99	8260B	CJR	1

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285B						**Sample Type** Soil			
Sample ID GP-2 (0-2)						**Sample Date** 7/7/99			
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/13/99	8260B	CJR	3 4 7
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/13/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/13/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/13/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/13/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/13/99	8260B	CJR	1
Lab Code 5026285C						**Sample Type** Soil			
Sample ID GP-3 (4-6)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285C						**Sample Type** Soil			
Sample ID GP-3 (4-6)						**Sample Date** 7/7/99			
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	< 25	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	1500	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	1100	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285D						**Sample Type** Soil			
Sample ID GP-4 (4-6)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									

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Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285D						**Sample Type** Soil			
Sample ID GP-4 (4-6)						**Sample Date** 7/7/99			
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1

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Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285D						**Sample Type** Soil			
Sample ID GP-4 (4-6)						**Sample Date** 7/7/99			
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	850	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	360	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	2200	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285E						**Sample Type** Soil			
Sample ID GP-5 (4-6)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 250	ug/kg	61.8	206	10	7/10/99	8260B	CJR	1
Bromobenzene	< 250	ug/kg	42.6	142	10	7/10/99	8260B	CJR	1
Bromodichloromethane	< 250	ug/kg	64.6	215	10	7/10/99	8260B	CJR	1
tert-Butylbenzene	< 250	ug/kg	65.1	217	10	7/10/99	8260B	CJR	1
sec-Butylbenzene	< 250	ug/kg	41.3	138	10	7/10/99	8260B	CJR	1
n-Butylbenzene	< 250	ug/kg	31.1	104	10	7/10/99	8260B	CJR	1
Carbon Tetrachloride	< 250	ug/kg	40	133	10	7/10/99	8260B	CJR	1
Chlorobenzene	< 250	ug/kg	53.2	177	10	7/10/99	8260B	CJR	1
Chloroethane	< 250	ug/kg	110	369	10	7/10/99	8260B	CJR	1
Chloroform	< 250	ug/kg	30.7	102	10	7/10/99	8260B	CJR	1
Chloromethane	< 250	ug/kg	68.8	229	10	7/10/99	8260B	CJR	1
2-Chlorotoluene	< 250	ug/kg	46.1	154	10	7/10/99	8260B	CJR	1

U.S. Analytical Lab

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Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285E						**Sample Type** Soil			
Sample ID GP-5 (4-6)						**Sample Date** 7/7/99			
4-Chlorotoluene	< 250	ug/kg	43.9	146	10	7/10/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 250	ug/kg	111	370	10	7/10/99	8260B	CJR	1
Dibromochloromethane	< 250	ug/kg	53.6	179	10	7/10/99	8260B	CJR	1
1,4-Dichlorobenzene	< 250	ug/kg	44.2	147	10	7/10/99	8260B	CJR	1
1,3-Dichlorobenzene	< 250	ug/kg	44.3	148	10	7/10/99	8260B	CJR	1
1,2-Dichlorobenzene	< 250	ug/kg	35.6	119	10	7/10/99	8260B	CJR	1
Dichlorodifluoromethane	< 250	ug/kg	111	370	10	7/10/99	8260B	CJR	1
1,2-Dichloroethane	< 250	ug/kg	82.7	276	10	7/10/99	8260B	CJR	1
1,1-Dichloroethane	< 250	ug/kg	47	157	10	7/10/99	8260B	CJR	1
1,1-Dichloroethene	< 250	ug/kg	45.1	150	10	7/10/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 250	ug/kg	50	167	10	7/10/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 250	ug/kg	45.1	150	10	7/10/99	8260B	CJR	1
1,2-Dichloropropane	< 250	ug/kg	42.4	141	10	7/10/99	8260B	CJR	1
2,2-Dichloropropane	< 250	ug/kg	40.3	134	10	7/10/99	8260B	CJR	1
1,3-Dichloropropane	< 250	ug/kg	43.4	145	10	7/10/99	8260B	CJR	1
Di-isopropyl ether	< 250	ug/kg	30.1	100	10	7/10/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 250	ug/kg	35.1	117	10	7/10/99	8260B	CJR	1
Ethylbenzene	< 250	ug/kg	44.3	148	10	7/10/99	8260B	CJR	1
Hexachlorobutadiene	< 250	ug/kg	74.7	249	10	7/10/99	8260B	CJR	1
Isopropylbenzene	< 250	ug/kg	51.9	173	10	7/10/99	8260B	CJR	1
p-Isopropyltoluene	< 250	ug/kg	30.7	102	10	7/10/99	8260B	CJR	1
Methylene chloride	< 250	ug/kg	105	350	10	7/10/99	8260B	CJR	1
MTBE	< 250	ug/kg	55.5	185	10	7/10/99	8260B	CJR	1
Naphthalene	< 250	ug/kg	41.6	139	10	7/10/99	8260B	CJR	1
n-Propylbenzene	< 250	ug/kg	45.2	151	10	7/10/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 250	ug/kg	33.9	113	10	7/10/99	8260B	CJR	1
Tetrachloroethene	530	ug/kg	61.3	205	10	7/10/99	8260B	CJR	1
Toluene	< 250	ug/kg	52.7	176	10	7/10/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 250	ug/kg	43.5	145	10	7/10/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 250	ug/kg	40.4	135	10	7/10/99	8260B	CJR	1
1,1,1-Trichloroethane	1000	ug/kg	66.5	222	10	7/10/99	8260B	CJR	1
1,1,2-Trichloroethane	< 250	ug/kg	37.3	124	10	7/10/99	8260B	CJR	1
Trichloroethene	5300	ug/kg	45.2	151	10	7/10/99	8260B	CJR	1
Trichlorofluoromethane	< 250	ug/kg	135	451	10	7/10/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 250	ug/kg	45.1	150	10	7/10/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 250	ug/kg	41.3	138	10	7/10/99	8260B	CJR	1
Vinyl Chloride	< 250	ug/kg	55.9	186	10	7/10/99	8260B	CJR	1

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Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285E						**Sample Type** Soil			
Sample ID GP-5 (4-6)						**Sample Date** 7/7/99			
m&p-Xylene	< 500	ug/kg	82.1	274	10	7/10/99	8260B	CJR	1
o-Xylene	< 250	ug/kg	25.2	84	10	7/10/99	8260B	CJR	1
Lab Code 5026285F						**Sample Type** Soil			
Sample ID GP-7 (0-2)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	53	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	43	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1

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Lab Code 5026285F						**Sample Type** Soil			
Sample ID GP-7 (0-2)						**Sample Date** 7/7/99			
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	2700	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	3200	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	3000	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	84	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	41	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285G						**Sample Type** Soil			
Sample ID GP-9 (4-6)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285G						**Sample Type** Soil			
Sample ID GP-9 (4-6)						**Sample Date** 7/7/99			
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	< 25	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1

JERRY DEMERS
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175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285G						**Sample Type** Soil			
Sample ID GP-9 (4-6)						**Sample Date** 7/7/99			
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	110	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	560	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285H						**Sample Type** Soil			
Sample ID GP-10 (4-6_						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1

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175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285H						**Sample Type** Soil			
Sample ID GP-10 (4-6_						**Sample Date** 7/7/99			
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	260	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	240	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	740	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285I						**Sample Type** Soil			
Sample ID GP-13 (4-6)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1

JERRY DEMERS
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175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285I						**Sample Type** Soil			
Sample ID GP-13 (4-6)						**Sample Date** 7/7/99			
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	100	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	420	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	4400	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285J						**Sample Type** Soil			
Sample ID GP-8 (4-6)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1

JERRY DEMERS
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175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285J						**Sample Type** Soil			
Sample ID GP-8 (4-6)						**Sample Date** 7/7/99			
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	32	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	61	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	1100	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	2100	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	16000	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285J						**Sample Type** Soil			
Sample ID GP-8 (4-6)						**Sample Date** 7/7/99			
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285K						**Sample Type** Soil			
Sample ID GP-12 (0-2)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	53	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1

JERRY DEMERS
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BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285K						**Sample Type** Soil			
Sample ID GP-12 (0-2)						**Sample Date** 7/7/99			
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	810	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	110	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	5100	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	57	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	29000	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285L						**Sample Type** Soil			
Sample ID GP-14 (0-2)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									

U.S. Analytical Lab

JERRY DEMERS
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175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285L						**Sample Type** Soil			
Sample ID GP-14 (0-2)						**Sample Date** 7/7/99			
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	220	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	35	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285L						**Sample Type** Soil			
Sample ID GP-14 (0-2)						**Sample Date** 7/7/99			
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	1200	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	2000	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	4600	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285M						**Sample Type** Soil			
Sample ID GP-11 (0-2)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1

JERRY DEMERS
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Project # P177-101
Project Name MPL REALTY
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Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285M						**Sample Type** Soil			
Sample ID GP-11 (0-2)						**Sample Date** 7/7/99			
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	130	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	75	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	5700	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	3300	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	39	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	7200	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1

JERRY DEMERS
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175 N. CORPORATE DRIVE SUITE 100
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Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285M						**Sample Type** Soil			
Sample ID GP-11 (0-2)						**Sample Date** 7/7/99			
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285N						**Sample Type** Soil			
Sample ID GP-16 (0-2)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/9/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/9/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/9/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
n-Butylbenzene	48	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/9/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/9/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/9/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/9/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/9/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/9/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/9/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/9/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/9/99	8260B	CJR	1

JERRY DEMERS
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175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285N						**Sample Type** Soil			
Sample ID GP-16 (0-2)						**Sample Date** 7/7/99			
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/9/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/9/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/9/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/9/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/9/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/9/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/9/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
Naphthalene	170	ug/kg	4.2	14	1	7/9/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/9/99	8260B	CJR	1
Tetrachloroethene	< 25	ug/kg	6.1	21	1	7/9/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/9/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/9/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/9/99	8260B	CJR	1
1,1,1-Trichloroethane	< 25	ug/kg	6.7	22	1	7/9/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/9/99	8260B	CJR	1
Trichloroethene	45	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/9/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/9/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/9/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/9/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/9/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/9/99	8260B	CJR	1
Lab Code 5026285O						**Sample Type** Soil			
Sample ID GP-15 (0-2)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/10/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/10/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/10/99	8260B	CJR	1

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Project # P177-101
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Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285O						Sample Type Soil			
Sample ID GP-15 (0-2)						Sample Date 7/7/99			
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/10/99	8260B	CJR	1
sec-Butylbenzene	31	ug/kg	4.1	14	1	7/10/99	8260B	CJR	1
n-Butylbenzene	62	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/10/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/10/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/10/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/10/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/10/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/10/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/10/99	8260B	CJR	1
1,1-Dichloroethane	310	ug/kg	4.7	16	1	7/10/99	8260B	CJR	1
1,1-Dichloroethene	56	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
cis-1,2-Dichloroethene	33	ug/kg	5	17	1	7/10/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/10/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/10/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/10/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/10/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/10/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/10/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/10/99	8260B	CJR	1
p-Isopropyltoluene	30	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/10/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/10/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/10/99	8260B	CJR	1
n-Propylbenzene	54	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/10/99	8260B	CJR	1
Tetrachloroethene	480	ug/kg	6.1	21	1	7/10/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/10/99	8260B	CJR	1

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Project # P177-101
Project Name MPL REALTY
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Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285O						**Sample Type** Soil			
Sample ID GP-15 (0-2)						**Sample Date** 7/7/99			
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/10/99	8260B	CJR	1
1,1,1-Trichloroethane	2500	ug/kg	6.7	22	1	7/10/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/10/99	8260B	CJR	1
Trichloroethene	1700	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/10/99	8260B	CJR	1
1,2,4-Trimethylbenzene	65	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,3,5-Trimethylbenzene	110	ug/kg	4.1	14	1	7/10/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/10/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/10/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/10/99	8260B	CJR	1
Lab Code 5026285P						**Sample Type** Soil			
Sample ID GP-17 (6-8)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/10/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/10/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/10/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/10/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/10/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/10/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/10/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/10/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/10/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/10/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1

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Project # P177-101
Project Name MPL REALTY
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Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285P						**Sample Type** Soil			
Sample ID GP-17 (6-8)						**Sample Date** 7/7/99			
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/10/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/10/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/10/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/10/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/10/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/10/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/10/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/10/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/10/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/10/99	8260B	CJR	1
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/10/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/10/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/10/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/10/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/10/99	8260B	CJR	1
Tetrachloroethene	28	ug/kg	6.1	21	1	7/10/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/10/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/10/99	8260B	CJR	1
1,1,1-Trichloroethane	72	ug/kg	6.7	22	1	7/10/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/10/99	8260B	CJR	1
Trichloroethene	370	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/10/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/10/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/10/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/10/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/10/99	8260B	CJR	1

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Project # P177-101
Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285Q						**Sample Type** Soil			
Sample ID GP-18 (4-6)						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Organic									
VOC's									
Benzene	< 25	ug/kg	6.2	21	1	7/10/99	8260B	CJR	1
Bromobenzene	< 25	ug/kg	4.3	14	1	7/10/99	8260B	CJR	1
Bromochloromethane	< 25	ug/kg	4.6	15	1	7/10/99	8260B	CJR	1
tert-Butylbenzene	< 25	ug/kg	6.5	22	1	7/10/99	8260B	CJR	1
sec-Butylbenzene	< 25	ug/kg	4.1	14	1	7/10/99	8260B	CJR	1
n-Butylbenzene	< 25	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Carbon Tetrachloride	< 25	ug/kg	4	13	1	7/10/99	8260B	CJR	1
Chlorobenzene	< 25	ug/kg	5.3	18	1	7/10/99	8260B	CJR	1
Chloroethane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
Chloroform	< 25	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Chloromethane	< 25	ug/kg	6.9	23	1	7/10/99	8260B	CJR	1
2-Chlorotoluene	< 25	ug/kg	4.6	15	1	7/10/99	8260B	CJR	1
4-Chlorotoluene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
Dibromochloromethane	< 25	ug/kg	5.4	18	1	7/10/99	8260B	CJR	1
1,4-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,3-Dichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,2-Dichlorobenzene	< 25	ug/kg	3.6	12	1	7/10/99	8260B	CJR	1
Dichlorodifluoromethane	< 25	ug/kg	11	37	1	7/10/99	8260B	CJR	1
1,2-Dichloroethane	< 25	ug/kg	8.3	28	1	7/10/99	8260B	CJR	1
1,1-Dichloroethane	< 25	ug/kg	4.7	16	1	7/10/99	8260B	CJR	1
1,1-Dichloroethene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 25	ug/kg	5	17	1	7/10/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,2-Dichloropropane	< 25	ug/kg	4.2	14	1	7/10/99	8260B	CJR	1
2,2-Dichloropropane	< 25	ug/kg	4	13	1	7/10/99	8260B	CJR	1
1,3-Dichloropropane	< 25	ug/kg	4.3	15	1	7/10/99	8260B	CJR	1
Di-isopropyl ether	< 25	ug/kg	3	10	1	7/10/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 25	ug/kg	3.5	12	1	7/10/99	8260B	CJR	1
Ethylbenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
Hexachlorobutadiene	< 25	ug/kg	7.5	25	1	7/10/99	8260B	CJR	1

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Project Name MPL REALTY
Invoice # E26285

Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285Q						**Sample Type** Soil			
Sample ID GP-18 (4-6)						**Sample Date** 7/7/99			
Isopropylbenzene	< 25	ug/kg	5.2	17	1	7/10/99	8260B	CJR	1
p-Isopropyltoluene	< 25	ug/kg	3.1	10	1	7/10/99	8260B	CJR	1
Methylene chloride	< 25	ug/kg	11	35	1	7/10/99	8260B	CJR	1
MTBE	< 25	ug/kg	5.6	19	1	7/10/99	8260B	CJR	1
Naphthalene	< 25	ug/kg	4.2	14	1	7/10/99	8260B	CJR	1
n-Propylbenzene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 25	ug/kg	3.4	11	1	7/10/99	8260B	CJR	1
Tetrachloroethene	< 25	ug/kg	6.1	21	1	7/10/99	8260B	CJR	1
Toluene	< 25	ug/kg	5.3	18	1	7/10/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 25	ug/kg	4.4	15	1	7/10/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 25	ug/kg	4	14	1	7/10/99	8260B	CJR	1
1,1,1-Trichloroethane	39	ug/kg	6.7	22	1	7/10/99	8260B	CJR	1
1,1,2-Trichloroethane	< 25	ug/kg	3.7	12	1	7/10/99	8260B	CJR	1
Trichloroethene	200	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
Trichlorofluoromethane	< 25	ug/kg	14	45	1	7/10/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	4.5	15	1	7/10/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	4.1	14	1	7/10/99	8260B	CJR	1
Vinyl Chloride	< 25	ug/kg	5.6	19	1	7/10/99	8260B	CJR	1
m&p-Xylene	< 50	ug/kg	8.2	27	1	7/10/99	8260B	CJR	1
o-Xylene	< 25	ug/kg	2.5	8.4	1	7/10/99	8260B	CJR	1
Lab Code 5026285R						**Sample Type** Soil			
Sample ID GP-13						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Total Organic Carbon	11900	mg/kg	86	287	1	7/23/99	9060	REL	1 61
Lab Code 5026285S						**Sample Type** Soil			
Sample ID GP-10						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Total Organic Carbon	11800	mg/kg	89	297	1	7/23/99	9060	REL	1 61

U.S. Analytical Lab

JERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177-101
Project Name MPL REALTY
Invoice # E26285

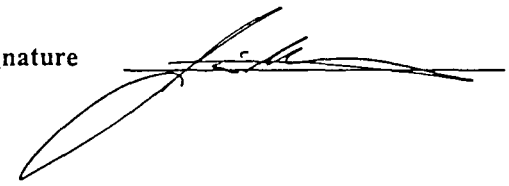
Report Date *26-Jul-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026285T						**Sample Type** Soil			
Sample ID GP-7						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Total Organic Carbon	3810	mg/kg	104	347	1	7/23/99	9060	REL	1 61
Lab Code 5026285U						**Sample Type** Soil			
Sample ID GP-8						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Total Organic Carbon	10400	mg/kg	114	380	1	7/23/99	9060	REL	1 61
Lab Code 5026285V						**Sample Type** Soil			
Sample ID GP-14						**Sample Date** 7/7/99			
Inorganic									
General									
Solids Percent	88.8	%			1	7/12/99	5021	RMB	1
Total Organic Carbon	17900	mg/kg	218	727	1	7/23/99	9060	REL	1 61

LOD Limit of Detection "J" Flag: Analyte detected between LOD and LOQ LOQ Limit of Quantitation

Code	*Comment*
1	All laboratory QC requirements were met for this sample.
2	The duplicate RPD failed to meet acceptable QC limits.
3	The spike recovery failed to meet acceptable QC limits.
4	The check standard failed to meet acceptable QC limits.
7	The LCS spike recovery failed to meet acceptable QC limits.
61	Analysis performed by sub contract lab.

Authorized Signature



GROUNDWATER ANALYTICAL RESULTS

CHAIN OF CUSTODY RECORD

Lab I.D. # 5L 6423

Account No. : Quote No.:

U.S. Analytical Lab
1090 Kennedy Ave. • Kimberly, WI 54136
(920) 735-8295 • FAX 920-739-1738 • 800-490-4902
LAB@USOIL.COM

Chain # No 5306

Page 1 of 1

Project #: P177

Sampler: (signature) Robert A. Gulotta Jr

Project (Name / Location): MPL REALTY

Sample Integrity - To be completed by receiving lab.
Method of Shipment : COUR Temp. of Temp. Blank. ____ °C On Ice: X
Cooler seal intact upon receipt: X Yes ____ No Labcoded By: ____

Reports To:	Invoice To:
GERRY DeMERS	GERRY DeMERS
Company HSI GEOTRANS	Company HSI GEOTRANS
Address 175 N. CORPORATE DR.	Address 175 N. CORPORATE DR.
City State Zip BROOKFIELD, WI, 53045	City State Zip BROOKFIELD, WI. 53045
Phone (414) 792-1282	Phone (414) 792-1282

Sample Handling Request

___ Rush Analysis
Date Required ____

X Normal Turn Around

Analysis Requested

Lab I.D.	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	~~Pb~~ Total (Not Filtered) Fe	Flash Point	Total MN (Not Filtered)	Other Analysis: Sulfate				PID/ FID
5026423 A	MW-101	7-16-99	1515	3-40ml glass vials 1-250ml plastic 1-500ml Plastic	GW	vials HCL 500mL-HNO_3 250ml-Ø						X			X		X	X				
B	MW-102	7-16-99	1420	↓	GW	↓						X			X		X	X				
C	MW-7	7-15-99	1420	↓	GW	↓						X			X		X	X				
D	MW-8	7-16-99	1445	↓	GW	↓						X			X		X	X				

Department Use Only

Split Samples: Offered ? ____ Yes ____ No
Accepted? ____ Yes ____ No
Accepted By: ____

Comments/ Special Instructions
*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.
Change total lead to total iron per G.D. @ 10:30 MJ 7.20.99

Robert A. Gulotta Jr 16:10 7/19/99

Department Use Optional for Soil Samples

Disposition of unused portion of sample
Lab Should:
____ Dispose ____ Retain for ___ days
___ Return ____ Other

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Dave Abb	2:10	7-20-99	Dave Abb	10:25	7-20-99

Received in Laboratory By: Mandy Zander Time: 2:10 Date: 7-20-99

U.S. Analytical Lab

RECEIVED
AUG 0 5 1999

MASTER FILE COPY
PROJECT # P177
CC: GJD

GERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177
Project Name MPL REALTY
Invoice # E26423

Report Date *03-Aug-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026423A						**Sample Type** Water			
Sample ID MW-101						**Sample Date** 7/16/99			
Inorganic									
General									
Sulfate	16	mg/l	0.24	0.79	10	7/20/99	300.0	TJW	1
Metals									
Iron	2200	mg/l	13.9	46	100	8/3/99	6010B	KAB	29 62
Manganese	95	mg/l	1.7	5.7	100	8/3/99	6010B	KAB	29 62
Organic									
VOC's									
Benzene	< 0.25	ug/l	0.25	0.85	1	7/23/99	8260B	CJR	1
Bromobenzene	< 0.23	ug/l	0.23	0.77	1	7/23/99	8260B	CJR	1
Bromochloromethane	< 0.22	ug/l	0.22	0.73	1	7/23/99	8260B	CJR	1
tert-Butylbenzene	3.5	ug/l	0.4	1.3	1	7/23/99	8260B	CJR	1
sec-Butylbenzene	19	ug/l	0.37	1.2	1	7/23/99	8260B	CJR	1
n-Butylbenzene	25	ug/l	0.43	1.4	1	7/23/99	8260B	CJR	1
Carbon Tetrachloride	< 0.48	ug/l	0.48	1.6	1	7/23/99	8260B	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
Chloroethane	< 0.15	ug/l	0.15	0.51	1	7/23/99	8260B	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
Chloromethane	< 0.29	ug/l	0.29	1	1	7/23/99	8260B	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	1	1	7/23/99	8260B	CJR	1
4-Chlorotoluene	< 0.27	ug/l	0.27	0.91	1	7/23/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 0.51	ug/l	0.51	1.7	1	7/23/99	8260B	CJR	4
Dibromochloromethane	< 0.31	ug/l	0.31	1	1	7/23/99	8260B	CJR	1
1,4-Dichlorobenzene	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
1,3-Dichlorobenzene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
1,2-Dichlorobenzene	< 0.28	ug/l	0.28	0.93	1	7/23/99	8260B	CJR	1
Dichlorodifluoromethane	< 0.54	ug/l	0.54	1.8	1	7/23/99	8260B	CJR	1
1,2-Dichloroethane	< 0.14	ug/l	0.14	0.48	1	7/23/99	8260B	CJR	1
1,1-Dichloroethane	< 0.32	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
1,1-Dichloroethene	< 0.61	ug/l	0.61	2	1	7/23/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 0.46	ug/l	0.46	1.5	1	7/23/99	8260B	CJR	1
1,2-Dichloropropane	< 0.26	ug/l	0.26	0.86	1	7/23/99	8260B	CJR	1
2,2-Dichloropropane	< 0.53	ug/l	0.53	1.8	1	7/23/99	8260B	CJR	1
1,3-Dichloropropane	< 0.23	ug/l	0.23	0.76	1	7/23/99	8260B	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.69	1	7/23/99	8260B	CJR	1

GERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177
Project Name MPL REALTY
Invoice # E26423

Report Date *03-Aug-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026423A						**Sample Type** Water			
Sample ID MW-101						**Sample Date** 7/16/99			
EDB (1,2-Dibromoethane)	< 0.24	ug/l	0.24	0.82	1	7/23/99	8260B	CJR	1
Ethylbenzene	27	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
Hexachlorobutadiene	< 0.33	ug/l	0.33	1.1	1	7/23/99	8260B	CJR	1
Isopropylbenzene	20	ug/l	0.33	1.1	1	7/23/99	8260B	CJR	1
p-Isopropyltoluene	15	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
Methylene chloride	< 1	ug/l	1	3.3	1	7/23/99	8260B	CJR	1
MTBE	< 0.21	ug/l	0.21	0.69	1	7/23/99	8260B	CJR	1
Naphthalene	28	ug/l	0.73	2.4	1	7/23/99	8260B	CJR	1
n-Propylbenzene	39	ug/l	0.36	1.2	1	7/23/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 0.29	ug/l	0.29	1	1	7/23/99	8260B	CJR	1
Tetrachloroethene	< 0.56	ug/l	0.56	1.9	1	7/23/99	8260B	CJR	1
Toluene	0.4 "J"	ug/l	0.38	1.3	1	7/23/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 0.17	ug/l	0.17	0.57	1	7/23/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 0.16	ug/l	0.16	0.54	1	7/23/99	8260B	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.2	1	7/23/99	8260B	CJR	1
1,1,2-Trichloroethane	< 0.2	ug/l	0.2	0.66	1	7/23/99	8260B	CJR	1
Trichloroethene	< 0.39	ug/l	0.39	1.3	1	7/23/99	8260B	CJR	1
Trichlorofluoromethane	< 0.52	ug/l	0.52	1.7	1	7/23/99	8260B	CJR	1
1,2,4-Trimethylbenzene	310	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
1,3,5-Trimethylbenzene	8.1	ug/l	0.36	1.2	1	7/23/99	8260B	CJR	1
Vinyl Chloride	< 0.32	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
m&p-Xylene	150	ug/l	0.67	2.2	1	7/23/99	8260B	CJR	1
o-Xylene	8.6	ug/l	0.37	1.2	1	7/23/99	8260B	CJR	1
Lab Code 5026423B						**Sample Type** Water			
Sample ID MW-102						**Sample Date** 7/16/99			
Inorganic									
General									
Sulfate	36	mg/l	0.24	0.79	10	7/20/99	300.0	TJW	1
Metals									
Iron	1.9	mg/l	0.139	0.46	1	7/28/99	6010B	KAB	1
Manganese	0.31	mg/l	0.017	0.057	1	7/29/99	6010B	JLA	1
Organic									
VOC's									
Benzene	14	ug/l	0.25	0.85	1	7/23/99	8260B	CJR	1
Bromobenzene	< 0.23	ug/l	0.23	0.77	1	7/23/99	8260B	CJR	1

U.S. Analytical Lab

GERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177
Project Name MPL REALTY
Invoice # E26423

Report Date *03-Aug-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026423B						**Sample Type** Water			
Sample ID MW-102						**Sample Date** 7/16/99			
Bromochloromethane	< 0.22	ug/l	0.22	0.73	1	7/23/99	8260B	CJR	1
tert-Butylbenzene	< 0.4	ug/l	0.4	1.3	1	7/23/99	8260B	CJR	1
sec-Butylbenzene	< 0.37	ug/l	0.37	1.2	1	7/23/99	8260B	CJR	1
n-Butylbenzene	< 0.43	ug/l	0.43	1.4	1	7/23/99	8260B	CJR	1
Carbon Tetrachloride	< 0.48	ug/l	0.48	1.6	1	7/23/99	8260B	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
Chloroethane	< 0.15	ug/l	0.15	0.51	1	7/23/99	8260B	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
Chloromethane	< 0.29	ug/l	0.29	1	1	7/23/99	8260B	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	1	1	7/23/99	8260B	CJR	1
4-Chlorotoluene	< 0.27	ug/l	0.27	0.91	1	7/23/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 0.51	ug/l	0.51	1.7	1	7/23/99	8260B	CJR	4
Dibromochloromethane	< 0.31	ug/l	0.31	1	1	7/23/99	8260B	CJR	1
1,4-Dichlorobenzene	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
1,3-Dichlorobenzene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
1,2-Dichlorobenzene	< 0.28	ug/l	0.28	0.93	1	7/23/99	8260B	CJR	1
Dichlorodifluoromethane	< 0.54	ug/l	0.54	1.8	1	7/23/99	8260B	CJR	1
1,2-Dichloroethane	2.5	ug/l	0.14	0.48	1	7/23/99	8260B	CJR	1
1,1-Dichloroethane	3.9	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
1,1-Dichloroethene	< 0.61	ug/l	0.61	2	1	7/23/99	8260B	CJR	1
cis-1,2-Dichloroethene	1.7	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
trans-1,2-Dichloroethene	0.66 "J"	ug/l	0.46	1.5	1	7/23/99	8260B	CJR	1
1,2-Dichloropropane	< 0.26	ug/l	0.26	0.86	1	7/23/99	8260B	CJR	1
2,2-Dichloropropane	< 0.53	ug/l	0.53	1.8	1	7/23/99	8260B	CJR	1
1,3-Dichloropropane	< 0.23	ug/l	0.23	0.76	1	7/23/99	8260B	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.69	1	7/23/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 0.24	ug/l	0.24	0.82	1	7/23/99	8260B	CJR	1
Ethylbenzene	7.3	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
Hexachlorobutadiene	< 0.33	ug/l	0.33	1.1	1	7/23/99	8260B	CJR	1
Isopropylbenzene	2.5	ug/l	0.33	1.1	1	7/23/99	8260B	CJR	1
p-Isopropyltoluene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
Methylene chloride	< 1	ug/l	1	3.3	1	7/23/99	8260B	CJR	1
MTBE	8	ug/l	0.21	0.69	1	7/23/99	8260B	CJR	1
Naphthalene	< 0.73	ug/l	0.73	2.4	1	7/23/99	8260B	CJR	1
n-Propylbenzene	0.6 "J"	ug/l	0.36	1.2	1	7/23/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 0.29	ug/l	0.29	1	1	7/23/99	8260B	CJR	1
Tetrachloroethene	< 0.56	ug/l	0.56	1.9	1	7/23/99	8260B	CJR	1

U.S. Analytical Lab

GERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177
Project Name MPL REALTY
Invoice # E26423

Report Date *03-Aug-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026423B						**Sample Type** Water			
Sample ID MW-102						**Sample Date** 7/16/99			
Toluene	0.9 "J"	ug/l	0.38	1.3	1	7/23/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 0.17	ug/l	0.17	0.57	1	7/23/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 0.16	ug/l	0.16	0.54	1	7/23/99	8260B	CJR	1
1,1,1-Trichloroethane	16	ug/l	0.35	1.2	1	7/23/99	8260B	CJR	1
1,1,2-Trichloroethane	< 0.2	ug/l	0.2	0.66	1	7/23/99	8260B	CJR	1
Trichloroethene	140	ug/l	0.39	1.3	1	7/23/99	8260B	CJR	1
Trichlorofluoromethane	< 0.52	ug/l	0.52	1.7	1	7/23/99	8260B	CJR	1
1,2,4-Trimethylbenzene	0.56 "J"	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 0.36	ug/l	0.36	1.2	1	7/23/99	8260B	CJR	1
Vinyl Chloride	< 0.32	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
m&p-Xylene	0.92 "J"	ug/l	0.67	2.2	1	7/23/99	8260B	CJR	1
o-Xylene	< 0.37	ug/l	0.37	1.2	1	7/23/99	8260B	CJR	1
Lab Code 5026423C						**Sample Type** Water			
Sample ID MW-7						**Sample Date** 7/16/99			
Inorganic									
General									
Sulfate	150	mg/l	0.24	0.79	10	7/20/99	300.0	TJW	1
Metals									
Iron	8.6	mg/l	0.139	0.46	1	7/28/99	6010B	KAB	1
Manganese	0.66	mg/l	0.017	0.057	1	7/29/99	6010B	JLA	1
Organic									
VOC's									
Benzene	0.51 "J"	ug/l	0.25	0.85	1	7/23/99	8260B	CJR	1
Bromobenzene	< 0.23	ug/l	0.23	0.77	1	7/23/99	8260B	CJR	1
Bromochloromethane	< 0.22	ug/l	0.22	0.73	1	7/23/99	8260B	CJR	1
tert-Butylbenzene	< 0.4	ug/l	0.4	1.3	1	7/23/99	8260B	CJR	1
sec-Butylbenzene	< 0.37	ug/l	0.37	1.2	1	7/23/99	8260B	CJR	1
n-Butylbenzene	< 0.43	ug/l	0.43	1.4	1	7/23/99	8260B	CJR	1
Carbon Tetrachloride	< 0.48	ug/l	0.48	1.6	1	7/23/99	8260B	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
Chloroethane	< 0.15	ug/l	0.15	0.51	1	7/23/99	8260B	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
Chloromethane	< 0.29	ug/l	0.29	1	1	7/23/99	8260B	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	1	1	7/23/99	8260B	CJR	1
4-Chlorotoluene	< 0.27	ug/l	0.27	0.91	1	7/23/99	8260B	CJR	1

U.S. Analytical Lab

GERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177
Project Name MPL REALTY
Invoice # E26423

Report Date *03-Aug-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026423C						**Sample Type** Water			
Sample ID MW-7						**Sample Date** 7/16/99			
1,2-Dibromo-3-chloropropane	< 0.51	ug/l	0.51	1.7	1	7/23/99	8260B	CJR	4
Dibromochloromethane	< 0.31	ug/l	0.31	1	1	7/23/99	8260B	CJR	1
1,4-Dichlorobenzene	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
1,3-Dichlorobenzene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
1,2-Dichlorobenzene	< 0.28	ug/l	0.28	0.93	1	7/23/99	8260B	CJR	1
Dichlorodifluoromethane	< 0.54	ug/l	0.54	1.8	1	7/23/99	8260B	CJR	1
1,2-Dichloroethane	1.4	ug/l	0.14	0.48	1	7/23/99	8260B	CJR	1
1,1-Dichloroethane	6.3	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
1,1-Dichloroethene	2	ug/l	0.61	2	1	7/23/99	8260B	CJR	1
cis-1,2-Dichloroethene	0.68 "J"	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 0.46	ug/l	0.46	1.5	1	7/23/99	8260B	CJR	1
1,2-Dichloropropane	< 0.26	ug/l	0.26	0.86	1	7/23/99	8260B	CJR	1
2,2-Dichloropropane	< 0.53	ug/l	0.53	1.8	1	7/23/99	8260B	CJR	1
1,3-Dichloropropane	< 0.23	ug/l	0.23	0.76	1	7/23/99	8260B	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.69	1	7/23/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 0.24	ug/l	0.24	0.82	1	7/23/99	8260B	CJR	1
Ethylbenzene	< 0.32	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
Hexachlorobutadiene	< 0.33	ug/l	0.33	1.1	1	7/23/99	8260B	CJR	1
Isopropylbenzene	< 0.33	ug/l	0.33	1.1	1	7/23/99	8260B	CJR	1
p-Isopropyltoluene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
Methylene chloride	< 1	ug/l	1	3.3	1	7/23/99	8260B	CJR	1
MTBE	2.1	ug/l	0.21	0.69	1	7/23/99	8260B	CJR	1
Naphthalene	< 0.73	ug/l	0.73	2.4	1	7/23/99	8260B	CJR	1
n-Propylbenzene	< 0.36	ug/l	0.36	1.2	1	7/23/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 0.29	ug/l	0.29	1	1	7/23/99	8260B	CJR	1
Tetrachloroethene	2.2	ug/l	0.56	1.9	1	7/23/99	8260B	CJR	1
Toluene	< 0.38	ug/l	0.38	1.3	1	7/23/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 0.17	ug/l	0.17	0.57	1	7/23/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 0.16	ug/l	0.16	0.54	1	7/23/99	8260B	CJR	1
1,1,1-Trichloroethane	120	ug/l	0.35	1.2	1	7/23/99	8260B	CJR	1
1,1,2-Trichloroethane	< 0.2	ug/l	0.2	0.66	1	7/23/99	8260B	CJR	1
Trichloroethene	110	ug/l	0.39	1.3	1	7/23/99	8260B	CJR	1
Trichlorofluoromethane	< 0.52	ug/l	0.52	1.7	1	7/23/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 0.36	ug/l	0.36	1.2	1	7/23/99	8260B	CJR	1
Vinyl Chloride	< 0.32	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
m&p-Xylene	< 0.67	ug/l	0.67	2.2	1	7/23/99	8260B	CJR	1

U.S. Analytical Lab

GERRY DEMERS
HSI GEOTRANS
175 N. CORPORATE DRIVE SUITE 100
BROOKFIELD, WI 53045

Project # P177
Project Name MPL REALTY
Invoice # E26423

Report Date *03-Aug-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026423C						**Sample Type** Water			
Sample ID MW-7						**Sample Date** 7/16/99			
o-Xylene	< 0.37	ug/l	0.37	1.2	1	7/23/99	8260B	CJR	1
Lab Code 5026423D						**Sample Type** Water			
Sample ID MW-8						**Sample Date** 7/16/99			
Inorganic									
General									
Sulfate	62	mg/l	0.24	0.79	10	7/20/99	300.0	TJW	1
Metals									
Iron	0.67	mg/l	0.139	0.46	1	7/28/99	6010B	KAB	1
Manganese	0.28	mg/l	0.017	0.057	1	7/29/99	6010B	JLA	1
Organic									
VOC's									
Benzene	< 0.25	ug/l	0.25	0.85	1	7/23/99	8260B	CJR	1
Bromobenzene	< 0.23	ug/l	0.23	0.77	1	7/23/99	8260B	CJR	1
Bromochloromethane	< 0.22	ug/l	0.22	0.73	1	7/23/99	8260B	CJR	1
tert-Butylbenzene	< 0.4	ug/l	0.4	1.3	1	7/23/99	8260B	CJR	1
sec-Butylbenzene	< 0.37	ug/l	0.37	1.2	1	7/23/99	8260B	CJR	1
n-Butylbenzene	< 0.43	ug/l	0.43	1.4	1	7/23/99	8260B	CJR	1
Carbon Tetrachloride	< 0.48	ug/l	0.48	1.6	1	7/23/99	8260B	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
Chloroethane	< 0.15	ug/l	0.15	0.51	1	7/23/99	8260B	CJR	1
Chloroform	1.1	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
Chloromethane	< 0.29	ug/l	0.29	1	1	7/23/99	8260B	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	1	1	7/23/99	8260B	CJR	1
4-Chlorotoluene	< 0.27	ug/l	0.27	0.91	1	7/23/99	8260B	CJR	1
1,2-Dibromo-3-chloropropane	< 0.51	ug/l	0.51	1.7	1	7/23/99	8260B	CJR	4
Dibromochloromethane	< 0.31	ug/l	0.31	1	1	7/23/99	8260B	CJR	1
1,4-Dichlorobenzene	< 0.26	ug/l	0.26	0.87	1	7/23/99	8260B	CJR	1
1,3-Dichlorobenzene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
1,2-Dichlorobenzene	< 0.28	ug/l	0.28	0.93	1	7/23/99	8260B	CJR	1
Dichlorodifluoromethane	< 0.54	ug/l	0.54	1.8	1	7/23/99	8260B	CJR	1
1,2-Dichloroethane	< 0.14	ug/l	0.14	0.48	1	7/23/99	8260B	CJR	1
1,1-Dichloroethane	< 0.32	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
1,1-Dichloroethene	< 0.61	ug/l	0.61	2	1	7/23/99	8260B	CJR	1
cis-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
trans-1,2-Dichloroethene	< 0.46	ug/l	0.46	1.5	1	7/23/99	8260B	CJR	1

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Project # P177
Project Name MPL REALTY
Invoice # E26423

Report Date *03-Aug-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5026423D						**Sample Type** Water			
Sample ID MW-8						**Sample Date** 7/16/99			
1,2-Dichloropropane	< 0.26	ug/l	0.26	0.86	1	7/23/99	8260B	CJR	1
2,2-Dichloropropane	< 0.53	ug/l	0.53	1.8	1	7/23/99	8260B	CJR	1
1,3-Dichloropropane	< 0.23	ug/l	0.23	0.76	1	7/23/99	8260B	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.69	1	7/23/99	8260B	CJR	1
EDB (1,2-Dibromoethane)	< 0.24	ug/l	0.24	0.82	1	7/23/99	8260B	CJR	1
Ethylbenzene	< 0.32	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
Hexachlorobutadiene	< 0.33	ug/l	0.33	1.1	1	7/23/99	8260B	CJR	1
Isopropylbenzene	< 0.33	ug/l	0.33	1.1	1	7/23/99	8260B	CJR	1
p-Isopropyltoluene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
Methylene chloride	< 1	ug/l	1	3.3	1	7/23/99	8260B	CJR	1
MTBE	< 0.21	ug/l	0.21	0.69	1	7/23/99	8260B	CJR	1
Naphthalene	< 0.73	ug/l	0.73	2.4	1	7/23/99	8260B	CJR	1
n-Propylbenzene	< 0.36	ug/l	0.36	1.2	1	7/23/99	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 0.29	ug/l	0.29	1	1	7/23/99	8260B	CJR	1
Tetrachloroethene	< 0.56	ug/l	0.56	1.9	1	7/23/99	8260B	CJR	1
Toluene	< 0.38	ug/l	0.38	1.3	1	7/23/99	8260B	CJR	1
1,2,4-Trichlorobenzene	< 0.17	ug/l	0.17	0.57	1	7/23/99	8260B	CJR	1
1,2,3-Trichlorobenzene	< 0.16	ug/l	0.16	0.54	1	7/23/99	8260B	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.2	1	7/23/99	8260B	CJR	1
1,1,2-Trichloroethane	< 0.2	ug/l	0.2	0.66	1	7/23/99	8260B	CJR	1
Trichloroethene	< 0.39	ug/l	0.39	1.3	1	7/23/99	8260B	CJR	1
Trichlorofluoromethane	< 0.52	ug/l	0.52	1.7	1	7/23/99	8260B	CJR	1
1,2,4-Trimethylbenzene	< 0.34	ug/l	0.34	1.1	1	7/23/99	8260B	CJR	1
1,3,5-Trimethylbenzene	< 0.36	ug/l	0.36	1.2	1	7/23/99	8260B	CJR	1
Vinyl Chloride	< 0.32	ug/l	0.32	1.1	1	7/23/99	8260B	CJR	1
m&p-Xylene	< 0.67	ug/l	0.67	2.2	1	7/23/99	8260B	CJR	1
o-Xylene	< 0.37	ug/l	0.37	1.2	1	7/23/99	8260B	CJR	1

U.S. Analytical Lab

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175 N. CORPORATE DRIVE SUITE 100
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Project Name MPL REALTY
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Report Date *03-Aug-99*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code

LOD Limit of Detection "J" Flag: Analyte detected between LOD and LOQ LOQ Limit of Quantitation

Code	*Comment*
1	All laboratory QC requirements were met for this sample.
4	The check standard failed to meet acceptable QC limits.
29	Sample pH adjusted by lab to the method specified level.
62	Analysis performed on the water layer.

Authorized Signature

APPENDIX D
GEOTECHNICAL LABORATORY RESULTS

midwest engineering services, inc.

geotechnical • environmental • materials engineers

205 Wilmont Drive
Waukesha, WI 53186
414-521-2125
FAX 414-521-2471

LETTER OF TRANSMITTAL

DATE: 7-23-1999

TO: HSI Geo Trans Inc.
175 N. Corporate Dr.
Brookfield, WI 53045
attn: Jerry D.

SUBJECT: Laboratory Testing Services
PROJECT: 4021 S. Kinnickinnic Ave.
St. Francis

MES PROJECT: 7-95121-L1

Enclosed are the test results for soil samples received at MES

MES LAB NO.:	SAMPLE NO.	TEST PERFORMED
SCL99121	1 0-2 ft.	ASTM D422
SCL99122	2 2-4 ft.	ASTM D422
SCL99123	3 4-6 ft.	ASTM D422

ENCLOSURES:3

REMARKS:.

SENT BY: Jon Bretl

l1trn.doc

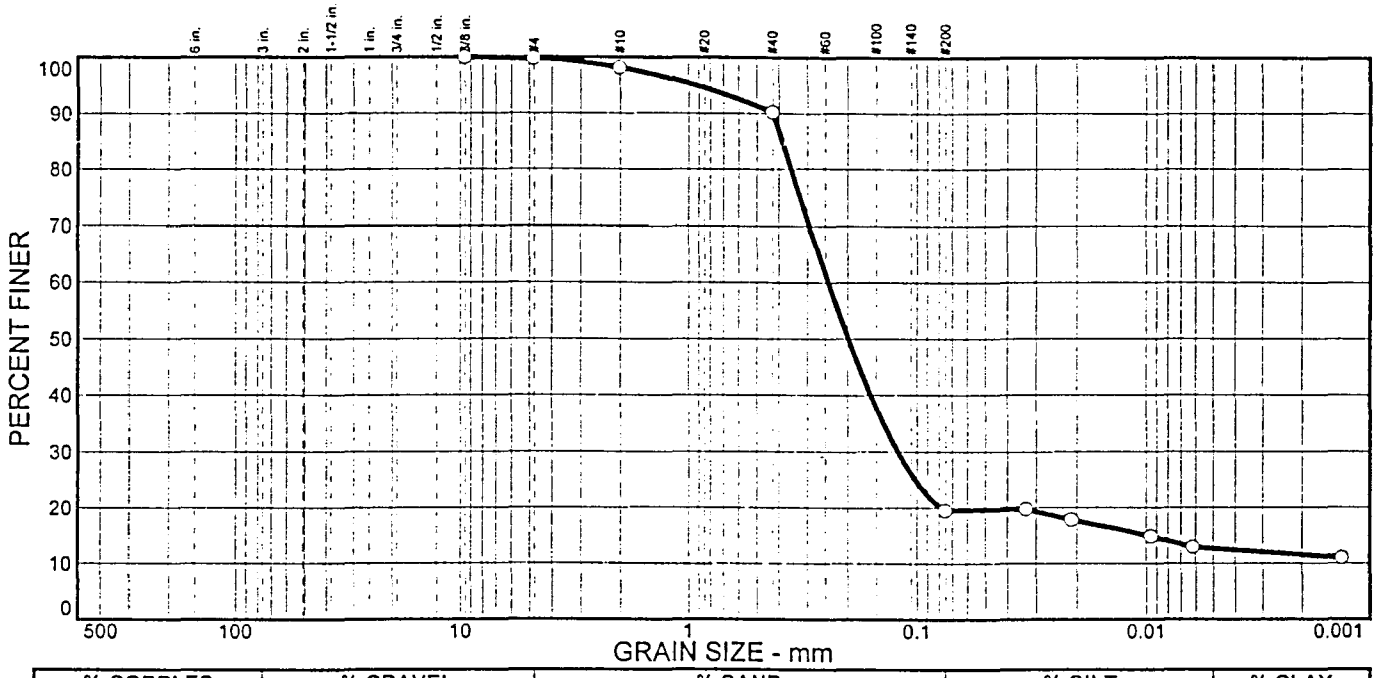
midwest engineering services, inc.
geotechnical • environmental • materials engineers
205 Wilmont Drive
Waukesha, WI 53186
414-521-2125
FAX 414-521-2471

REPORT OF GRAIN-SIZE ANALYSIS

Project: 4021 S. Kinnikinic Ave., St. Francis **Project No.:** 7-95121-L1

Client: HSI Geotrans

Sample No: 1 **Source of Sample:** St. Francis **Date:** 7/23/99
Location: 4021 S. Kinnickinnic Ave. **Elev./Depth:** 0-2 ft.



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.2	80.3	6.9	12.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8	100.0		
#4	99.8		
#10	98.2		
#40	90.2		
#200	19.5		

* (no specification provided)

Soil Description

Brown Silty Sand, Little Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.387 D_{60}= 0.242 D_{50}= 0.198
D_{30}= 0.121 D_{15}= 0.0100 D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

MES lab # M99121

Plate

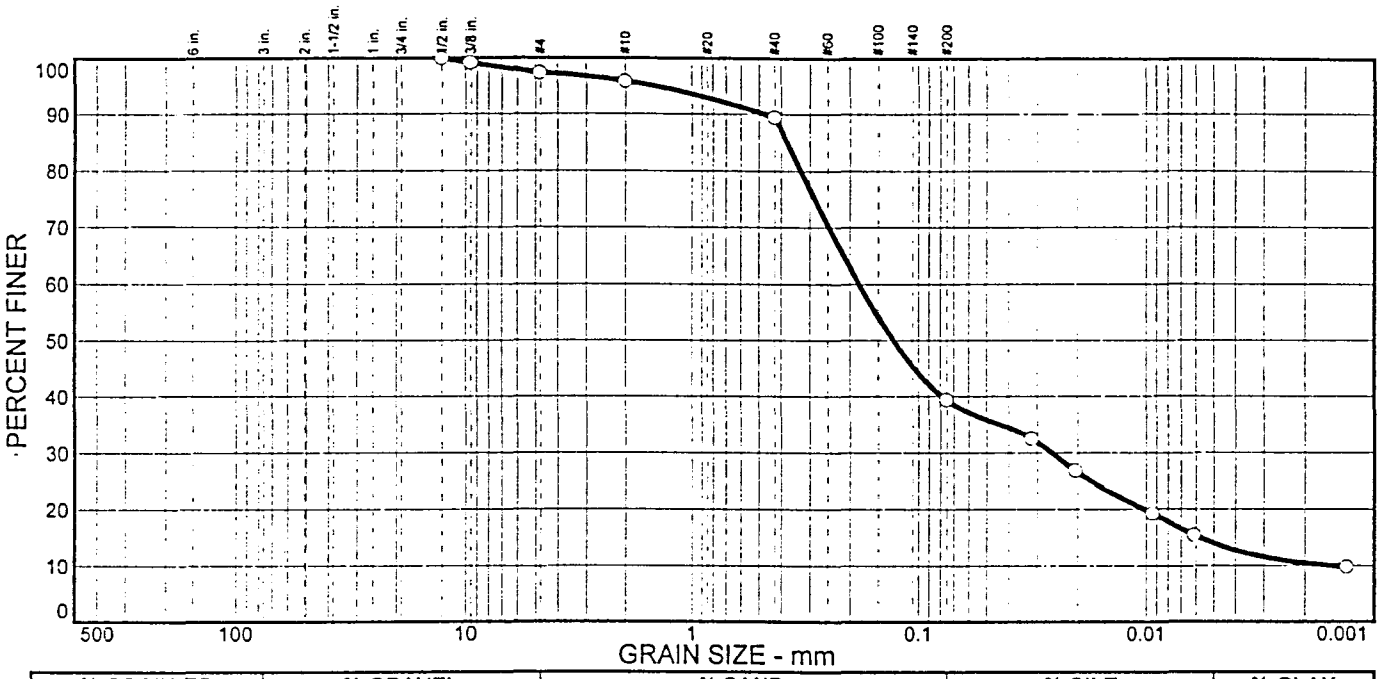
midwest engineering services, inc.
geotechnical • environmental • materials engineers
205 Wilmont Drive
Waukesha, WI 53186
414-521-2125
FAX 414-521-2471

REPORT OF GRAIN-SIZE ANALYSIS

Project: 4021 S. Kinnikinic Ave., St. Francis **Project No.:** 7-95121-L1

Client: HSI Geotrans

Sample No: 2 **Source of Sample:** St. Francis **Date:** 7/23/99
Location: 4021 S. Kinnickinnic Ave. **Elev./Depth:** 2-4 ft.



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	2.6	58.0	25.4	14.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2	100.0		
3/8	99.2		
#4	97.4		
#10	95.9		
#40	89.4		
#200	39.4		

* (no specification provided)

Soil Description

Brown Silty Sand, Little Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.376 D_{60}= 0.182 D_{50}= 0.128
D_{30}= 0.0259 D_{15}= 0.0058 D_{10}= 0.0015
C_u= 120.83 C_c= 2.45

Classification

USCS= AASHTO=

Remarks

MES lab # M99122

Plate

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geotechnical • environmental • materials engineers

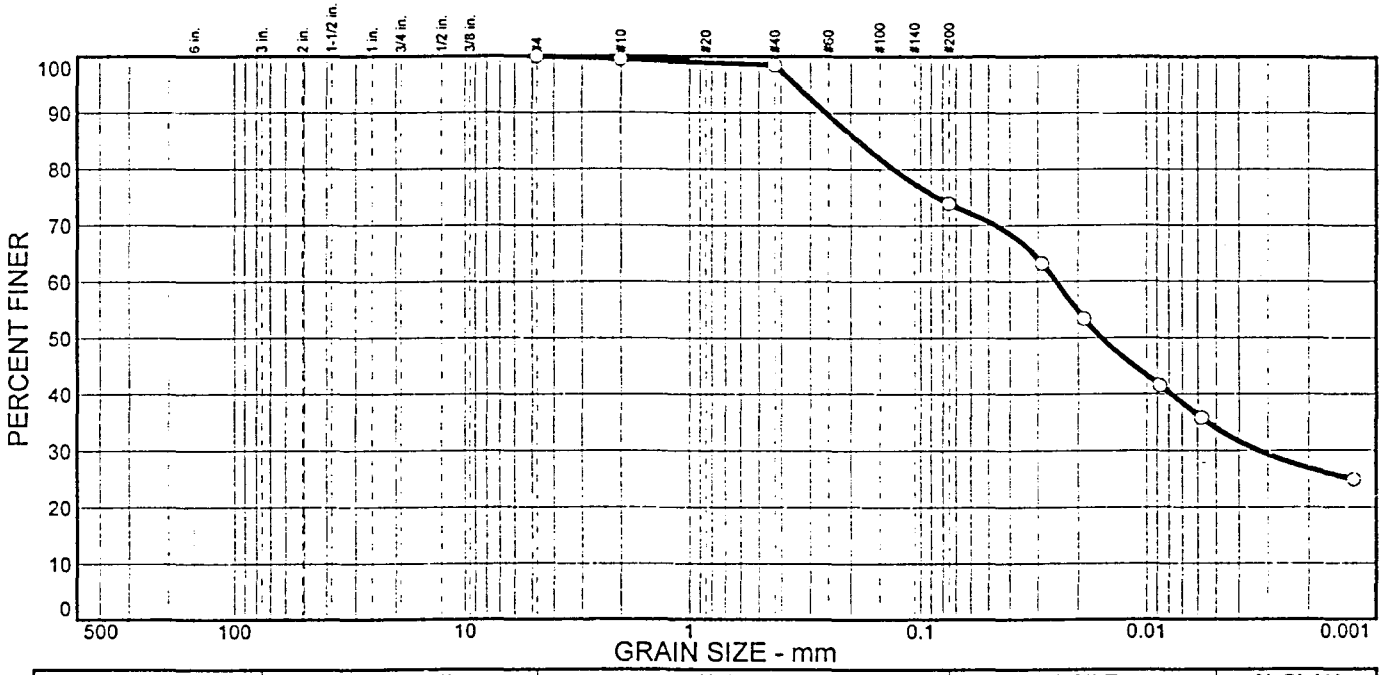
205 Wilmont Drive
Waukesha, WI 53186
414-521-2125
FAX 414-521-2471

REPORT OF GRAIN-SIZE ANALYSIS

Project: 4021 S. Kinnikinic Ave., St. Francis **Project No.:** 7-95121-L1

Client: HSI Geotrans

Sample No: 3 **Source of Sample:** St. Francis **Date:** 7/23/99
Location: 4021 S. Kinnickinnic Ave. **Elev./Depth:** 4-6 ft.



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	26.1	39.9	34.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.5		
#40	98.5		
#200	73.9		

* (no specification provided)

Soil Description

Brown Silty Clay, Some Sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.186 D_{60}= 0.0247 D_{50}= 0.0157
D_{30}= 0.0033 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

MES lab # M99123

Plate