AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
• ENVIRONMENTAL
• GEOTECHNICAL
• MATERIALS
• FORENSICS

April 17, 2007

KK-Five Corporation
50 Groveland Terrace, Suite A
Minneapolis, MN 55403

Attn: Mr. John Bell

RE: Response Action Implementation Report
Hiawatha Flats – Phase I
3625 43rd Street East
Minneapolis, Minnesota
AET Project No. 03-02255
MPCA VIC No. VP21910
MPCA LEAK No. 16076

Dear Mr. Bell:

American Engineering Testing, Inc. has completed the Response Action Implementation Report for the response actions conducted at the first phase of the Hiawatha Flats project in Minneapolis, Minnesota.

We appreciate the opportunity to be of service to you. Please call if you have any questions regarding this report.

Sincerely,
American Engineering Testing, Inc.

Charles W. Bisek
Senior Environmental Scientist

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TABLE OF CONTENTS
AET PROJECT NO. 03-02255

TABLES

TABLE OF CONTENTS
AET PROJECT NO. 03-02255

FIGURES

APPENDIXES

RESPONSE ACTION IMPLEMENTATION REPORT
HIAWATHA FLATS – PHASE I
3625 43RD STREET EAST
MINNEAPOLIS, MINNESOTA

AET PROJECT NO. 03-02255

1.0 GENERAL OVERVIEW

1.1 Introduction

The Hiawatha Flats project is located between East 43rd and 44th Streets and slightly east of Hiawatha Avenue in Minneapolis, Minnesota. Figure 1 shows the location of the Hiawatha Flats project, hereafter referred to as the Site.

Initial development began at the south end of the Site in about 1925. Various buildings and additions were constructed since that time. Historical uses of buildings at the Site included a laundry, creamery, bottling company, laboratory, manufacturing, production of hair care products, production of organic fertilizer, etc. In addition, various underground storage tanks (USTs) used to store alcohol, gasoline, diesel fuel, and drain oil had been in use at the Site. Figure 2 shows the configuration of the Site and the locations of buildings on the Site (prior to recent re-development).

The Hiawatha Flats project includes the re-development of 4.16 acres of industrial property into a residential development that includes two apartment buildings. This report addresses the first (or west) phase of the Hiawatha Flats project. The first phase includes demolishing the buildings at the Site and conducting soil corrections/grading for construction of a five-story apartment building with an underground parking garage. The address of the five-story apartment building is 3625 43rd Street East. Figures 3 through 3.C show the locations of the proposed apartment buildings, parking-drive areas, etc.

1.2 Background Information

AET completed various Environmental Assessments and a Response Action Plan/Development Response Action Plan prior to recent re-development activities at the Site. The results of the assessments and plans are summarized in the following documents:

- Report of Phase I ESA, AET Project No. 03-02255, report dated January 19, 2005.
- Report of Phase II Environmental Site Assessment, AET Project No. 03-02255ii, report dated February 4, 2005.
- Report of Phase II Environmental Site Assessment, AET Project No. 03-02255ii.u, report dated March 25, 2005.
- Supplemental Report of Phase II ESA, AET Project No. 03-02255ii.sup, report dated April 27, 2005.
- Response Action Plan/Development Response Action Plan (RAP/DRAP), AET Project No. 03-02255, report dated March 24, 2006.

Subsurface assessment work performed at the Site included soil sampling, photoionization detector (PID) screening of recovered soil samples, and laboratory analysis. Arsenic, volatile organic compounds (VOCs), and petroleum - diesel range organics (DRO), are considered the "Identified Release" at the Site. The impacts were generally identified within the fill soils at the Site.

KK-Five Corporation, the developer involved in the planning and construction of the Hiawatha Flats project, enrolled the Site into the Minnesota Pollution Control Agency's (MPCA's) Voluntary Investigation and Cleanup (VIC) program and the MPCA's Petroleum Brownfields program (PBP). The previously referenced RAP/DRAP was submitted to VIC and PBP for review. PBP and VIC staff subsequently approved with modifications the RAP/DRAP on April 12 and April 29, 2006, respectively.

AET was retained by KK-Five Corporation to conduct environmental sampling/monitoring services associated with implementing the RAP/DRAP. KK-Five retained Rachel Contracting to perform Site excavation/grading including the excavation, stockpiling, loading and disposal of

impacted soils.

Based on the construction plans, excavation and removal of environmentally impacted soil over much of the first phase of the Hiawatha Flats project was required. The response actions conducted included removal of approximately 15,000 cubic yards of soil from the Site. AET provided environmental technicians/scientists to observe the excavation activities, screen soils with a PID for the presence of organic vapors, and collect soil confirmation samples.

1.3 RAP/DRAP Cleanup Goals

KK-Five Corporations' objective for the Hiawatha Flats project was to properly manage impacted soils encountered in the first phase of the Hiawatha Flats project to protect the public health, welfare and environment from the contaminants associated with the Site.

Cleanup goals as presented in the RAP/DRAP or as modified in the VIC and PBP approval letters are as follows.

- Remove soils impacted with arsenic concentrations above the residential SRV to 12 feet below lowest floors, parking lot/driveways and green space areas – note that AET requested this goal be modified to allow use of soil with arsenic impacts of less than 10 mg/kg below floor slabs and bituminous pavements and less than 5 mg/kg in the upper 1 foot of green areas and less than 10 mg/kg from 1 foot to 4 feet in green areas - VIC personnel subsequently approved this modification on July 14, 2006.
- Remove soil impacted with DRO at or above the laboratory reporting limit from below the proposed building.
- Excavate and properly manage petroleum impacted soils exhibiting PID readings in excess of 200 ppm at an MPCA approved off-site treatment facility.
- Thinspread under newly constructed roadways and parking surfaces petroleum impacted soils exhibiting PID readings of less than 200 ppm.
- Remove and properly dispose of petroleum impacted soils exhibiting PID readings above background levels.
- Remove and properly manage petroleum impacted soils exhibiting PID readings greater

than 10 ppm encountered during installation of underground utilities.

- Install a vapor barrier if petroleum impacted soils exhibiting PID readings of greater than 10 ppm are encountered during installation of underground utilities.
- Remove and properly manage petroleum impacted soils that exhibit PID readings above background levels in green space areas.

In addition, the VIC Response Action Plan Approval letter indicated additional samples shall be collected from the vicinity of previous boring GP-17 and analyzed for the presence of VOCs to define the extent of the trichloroethene (TCE) detected in the vicinity of that boring.

1.4 Response Actions

The response actions included removing and disposing of soils impacted with arsenic, VOCs (TCE), and petroleum.

1.5 Scope of Work

AET was retained by KK-Five Corporation to provide environmental services to assist with the implementation of the response actions. These services included excavation observations and environmental sampling in accordance with the MPCA approved RAP/DRAP. Soil samples were collected from the excavations as excavating progressed. The samples were field screened with a PID for the presence of organic vapors. Based on field and/or laboratory analytical data, the soils were segregated for off-site disposal or for re-use on-site. Confirmation soil samples were collected and submitted to a laboratory for analysis in accordance with the RAP/DRAP. Upon completion of the response actions, this RAP/DRAP Implementation Report was prepared for submittal to the MPCA.

2.0 RESPONSE ACTION RESULTS

2.1 Additional Site Characterization

AET performed additional soil characterization at the Hiawatha Flats project between May 2 and May 24, 2006. This characterization was performed before grading commenced. The additional characterization included performing soil borings GP-12A, GP-13B, GP-14A, GP-17A, GP-17B, GP-17C, GP-17D, GP-18A, and GP-20 through GP-32, 7B, and 8B, screening the recovered soil samples with a PID, and submitting representative soil samples to the laboratory for appropriate analysis.

- Borings 7B, 8B, GP-14A, and GP-18A were drilled adjacent to previous borings where elevated arsenic concentrations (above the residential SRV of 5 mg/kg) were detected.

- Borings GP-12A and GP-13B were drilled adjacent to borings where DRO was previously detected at shallow depths.

- Borings GP-17A, GP-17B, GP-17C, GP-17D were drilled in the area surrounding previous boring GP-17 where TCE was detected in a shallow depth sample. Borings GP-17A through GP-17D were performed in response to the VIC comment in the RAP/DRAP approval letter pertaining to the VOC contamination previously identified in the area of boring GP-17.

- Borings GP-20 through GP-25 were drilled in areas of the new apartment building where excess soils would be generated in conjunction with excavating for the basement parking level.

- Borings GP-26 through GP-32 were drilled in the area of the apartment building proposed in the second phase of the Hiawatha Flats project.

The locations of the borings listed above, as well as the locations of previous borings, are shown

on Figures 3 through 3.C.

Table 1 identifies recent sample locations, sample depths and the analysis performed on the individual samples.

The results of PID screening and laboratory analysis performed on samples collected from the recent borings described above are summarized in Tables 2 through 5. Note that in addition to Tables 2 through 5 that are described above, Tables 5A and 6 through 8 are included. These tables summarize the results of all laboratory analysis performed on samples collected at the Hiawatha Flats project through May 24, 2006. The logs of recent borings and laboratory analytical reports are attached as Appendices A and B, respectively. Because of the voluminous nature of the laboratory analytical reports, these reports have been transferred onto a CD, which is included as Appendix B. Descriptions of soil sampling and screening methods and procedures are included in Appendix C.

- Arsenic was measured at a concentration of 14.0 mg/kg, which is above the residential SRV (5 mg/kg), in the fill sample and at 15.0 mg/kg, which is also above the residential SRV, in the underlying coarse alluvium collected from previous boring GP-18. Arsenic was measured at concentrations below the residential SRV in the lower depth coarse alluvium samples analyzed from boring GP-18A, which was drilled adjacent to previous boring GP-18. Of all the samples of coarse alluvium collected at the Site and analyzed for arsenic, only the sample collected at the 7 feet to 8 feet depth in previous boring GP-18 exceeded the residential SRV. Based on the above, we consider the elevated concentration of arsenic measured in the coarse alluvium at the 7 feet to 8 feet depth in boring GP-18 as suspect.

- The results of arsenic analysis performed on soil samples collected from borings 7B, 8B, and GP-14A and the previous adjacent borings indicate arsenic concentrations ranging from 6.4 to 13.0 mg/kg in the fill and fine alluvium samples analyzed from these locations. Arsenic was measured at concentrations below the residential SRV in the

underlying coarse alluvium samples analyzed from borings 7B, 8B, and GP-14A.

- DRO was measured at concentrations ranging from 21 to 110 mg/kg in near surface fill samples collected from previous borings GP-12 and GP-13. DRO was not detected above the laboratory reporting limit in the deeper fill and underlying fine alluvium samples collected at previous boring GP-12 and recent boring GP-12A or in the underlying fine alluvium and coarse alluvium samples analyzed from previous boring GP-13A and recent boring GP-13B. This indicates the DRO impacts were limited to shallow depths at these boring locations.

- TCE was encountered at concentrations of 0.30 and 0.41 mg/kg in near surface fill samples collected from previous boring GP-17 and recent boring GP-17B, respectively. TCE was not detected above the laboratory reporting limit in the underlying coarse alluvium at these locations. TCE was not detected above the laboratory reporting limit in near surface fill samples analyzed from borings GP-17A, GP-17C, and GP-17D. Based on the above, we conclude the TCE impacts were limited to shallow depth soils in the area of borings GP-17 and GP-17B.

- Arsenic was measured in samples of fill and fine alluvium collected from borings GP-20 through GP-25 at concentrations ranging from 2.7 to 11.0 mg/kg and below the residential SRV in the underlying coarse alluvium samples. DRO was measured at concentrations ranging from 570 to 3000 mg/kg in near surface fill samples collected from borings GP-20 through GP-22. DRO was not detected above the laboratory reporting limit in the underlying fine alluvium and coarse alluvium samples collected from these three borings and DRO was not detected above the laboratory reporting limit in the fill, fine alluvium, and coarse alluvium samples analyzed from borings GP-23 through GP-25.

- PID readings ranged from 0.0 to 0.6 ppm in samples collected from borings GP-26 through GP-32. Low concentrations of DRO were measured in three of the near surface fill samples from these borings. DRO was not detected above the laboratory reporting limit in the other near surface fill samples submitted for analysis. Arsenic was measured at concentrations above the residential SRV in the fill and most of the fine alluvium samples analyzed. The arsenic concentration was more than 10 mg/kg in 2 of the 24 samples in which arsenic concentrations exceeded the residential SRV. The concentrations of the other RCRA metals were measured below the laboratory reporting limits or at concentrations normally associated with background levels of metals in naturally occurring soils. VOCs and PCBs were not detected above the laboratory reporting limits in any of the samples submitted for analysis. Except for two PAH constituents, which were detected in a sample collected from boring GP-29, PAHs, were not detected above the laboratory reporting limit. The two PAH constituents, pyrene and fluoranthene, were measured in the near surface sample collected at boring GP-29 at concentrations below any regulatory limits that would prompt or require remediation.

On July 5, as excavation proceeded at the south end of the Site, nine test pits were dug further north within the area of the proposed building in the first phase of the project that had not yet been excavated. The locations of these test pits, identified as 12-t.3, 14-x, 15-u, 17-u, 20-u, 18.5-x.4, 21-x.3, 16.6-x.4, and 21.5-w are shown on Figures 4 through 4.C. The purpose of these pits was to assess whether the fill soils overlying the fine alluvium in this area could be re-used on the site as backfill. Samples of the fill were collected and screened with a PID and observed for evidence of contamination (odors, stains, etc.). Samples were also collected and submitted to the laboratory for arsenic analysis. The results of the screening and arsenic analysis are included in Table A. The results of the arsenic analysis and/or elevated PID readings associated with the nine samples did not meet the original criteria for re-use of these soils on the Site.

On September 15, two test pits, identified as TP-1 and TP-2, were dug in the area of the east building in the second (future) phase of the project. The locations of these two test pits are shown on Figures 4 and 4.C. The purpose of these pits was to assess whether soils that will need

to be excavated to attain the proposed basement grade could potentially be used as backfill in the first phase (the west half of the Site). Samples of fill, fine alluvium, and underlying coarse alluvium were screened with a PID and observed for evidence of contamination (odors, stains, etc.). Samples were also collected and submitted to the laboratory for arsenic analysis. The results of screening and arsenic analysis are included in Table A. The results of the arsenic analysis performed on the test pit samples and samples from previous borings GP-24 through GP-32 were used to identify an area from which soils that needed to be excavated to attain basement grade in the future building area met the criteria for re-use as backfill in the first phase of the project.

2.2 Excavation Observation and Monitoring

AET was present at the Site between June 23 and October 24, 2006. AET was present on a full time basis prior to July 21, 2006 and on an intermittent basis thereafter.

The excavation began on the south end of the Site (the end of the site adjacent to 44th Street East) and proceeded north to Grid 13.5. The location of Grid 13.5 is shown on Figures 3, 4, and 5. The excavation extended from the west property line to the east property line in the above area. From Grid 13.5 the excavation continued north from the west property line to 10 feet to 15 feet east of the east building line and to the north end of the Site (the end of the Site adjacent to 43rd Street East). The excavation performed in the area described above was performed between June 23 and July 21.

The area of the infiltration basin was excavated between September 11 and 13. The infiltration basin is north of Grid 13.5 and east of the building and is overlain with a parking-drive area. The location of the infiltration basin is shown on Figures 5, 5.B and 5.C.

Underground utilities (sewer and water) were installed on an intermittent basis between August 28 and October 11, 2006. Sanitary sewer services were extended from 43rd Street East and 44th Street East into the north and south ends of the apartment building, respectively. The water service entered the north end of the apartment building from 43rd Street East. Most of the

underground utilities installed within the area of the Site were storm sewer lines. Figures 5 through 5C show the locations of the sanitary and water services as well as storm sewers.

Because the apartment building being constructed at the Site has a basement, and proposed exterior finished grades are relatively similar to the pre-existing grades, excess soils generated at the Site needed to be removed from the Site. Results of laboratory analysis performed on the fill and fine alluvium, which extended to an average depth of about 5¾-feet over the Site, identified arsenic and DRO impacts. A VOC - trichloroethene (TCE) - was identified in an isolated area of the Site.

Fill and fine alluvium soils excavated through July 14 were transported off-site for disposal. Most of these soils were transported to the Onyx FCR Landfill in Buffalo, Minnesota. Some of the excess soils were transported to the East Bethel Landfill in East Bethel, Minnesota. The soils that went to the East Bethel Landfill were arsenic and low level DRO impacted.

After further conversation with MPCA VIC personnel on July 14, the cleanup goal for arsenic was modified such that arsenic impacts of less than 10 mg/kg could be used below floor slabs and bituminous pavements, impacts of less than 5 mg/kg could be used in the upper 1 foot of green areas, and impacts of less than 10 mg/kg could be used at depths of 1 foot to 4 feet in green areas.

AET personnel were at the Site to observe the excavation activities. In addition, AET collected soil confirmation samples for laboratory analysis at the base and sidewalls of the final excavations.

As outlined in the approved RAP/DRAP, soil screening samples were collected during excavation activities at a frequency of one sample for about every 50 to 100 cubic yards of soil excavated. Soil vapor headspace sampling was conducted in accordance with MPCA fact sheet 3.22 *Soil Sample Collection and Analysis* Procedures. The PID was equipped with a 10.6 eV lamp.

About 150 samples representing the soils that went off-site for disposal were screened with a PID. About half the samples exhibited PID readings of more than 1 ppm. The other half exhibited PID readings of 1 ppm or less. PID readings of 1 ppm or less are considered background levels.

As excavating operations were performed, a number of unexpected environmental issues were encountered. These issues were managed in accordance with the Contingency Plan included in the approved RAP/DRAP and included the following: a fuel oil UST was encountered along the west wall of the basement boiler room on June 26; a buried pipe with wrapping that was suspected of containing asbestos was unearthed on June 27; a tank/waste trap structure with a small volume of sludge was encountered on June 30. In addition, a 10,000 gallon alcohol UST, that was known to exist near the southeast corner of the former building, was removed on June 29 and VOC impacted soils that were previously identified in the area of borings GP-17 and GP-17 D, were excavated between July 7 and July 11. Below is a summary of our observations and testing performed in the areas described above.

Fuel Oil Underground Storage Tank

A 500 gallon fuel oil UST was encountered along the west side of the basement boiler room on June 26, 2006. This UST was buried in soil west of the basement wall and below the first floor slab. The location of the UST is shown on Figures 4 and 4.A. The base of the UST was about 12 feet below the first floor slab. This UST was rusty/corroded. Floor dry was placed within the UST to absorb a small volume of sludge present. Determan Brownie, Inc. removed and disposed of the UST.

PID readings of 38.4 ppm and 0.0 ppm were recorded in soil samples collected directly below and 1 foot below the base of the UST, respectively. In referring to Tables A and A.1, these two samples are identified as B-2 (12) and B-2 (13), respectively. The soils present directly below the base of the UST also exhibited a petroleum odor. The soils that exhibited a petroleum odor and elevated PID reading were excavated and transported off-site for disposal. A soil sample collected from 1 foot below the base of the UST, i.e., sample B-2 (13), was submitted to the

laboratory for DRO, VOC, PAH, PCB, and RCRA metals analysis. The laboratory analytical results are summarized in Tables A and A.1. VOCs, PAHs, and PCBs were not detected above the laboratory reporting limits. RCRA metals were not detected above the laboratory reporting limit or they were detected at concentrations normally associated with background concentrations of metals in naturally occurring soils. DRO was measured at 760 mg/kg in the soil sample.

Asbestos Containing Materials

As the excavation proceeded north of the basement boiler room on June 27, 2006, a pipe buried beneath the floor slab was encountered. The pipe was wrapped with an insulating material suspected of containing asbestos. An AET AHERA certified environmental technician collected three samples of the suspect ACM and the samples were submitted to Carolina Environmental, Inc. (CEI) to determine if they contained asbestos.

The CEI report is included in Appendix D. The report indicates the three samples contained asbestos. Based on these results, KK-Five Corporation retained Envirobate to remove the materials confirmed to contain asbestos. Envirobate was present at the Site on July 6, 2006, at which time a backhoe was used to expose the buried pipe. The pipe and the asbestos containing wrapping, as well as some of the surrounding soils, were placed in lined dumpsters by Envirobate. The area where the asbestos containing pipe wrapping was encountered extended from the north wall of the basement diagonally to the area of boring GP-15. This one pipe run was the only instance where suspect ACM was encountered. A copy of the Envirobate document pertaining to the removal of the ACM is included with Appendix D.

Tank/Waste Trap Structure

A tank type structure was encountered in the excavation along with west side of the proposed building about 110 feet north of the south property line on June 30, 2006. This structure was 200 to 300 gallons in size and was likely a waste trap associated with the floor drain system. The location of the waste trap is shown on Figures 4 and 4.A. The structure contained a small volume of sludge within the base, which was removed and disposed of by Determan Brownie,

Inc. A soil sample collected directly below the structure – B-4 (6) – exhibited a PID reading of 225 ppm. PID screening performed on a soil sample collected from 2' below the base of the structure (B-4 (8)) resulted in a reading of 0.1 ppm. No visual or olfactory evidence of contamination was noted in soil adjacent to or below the structure (other than sample B-4 (6) which was collected directly below the structure). Soil sample B-4 (8) was collected from 2' below the structure and submitted to the laboratory for DRO, GRO, VOC, and RCRA metals analysis. The analytical results are summarized in Tables A and A.1. DRO, GRO, and VOCs were not detected above the laboratory reporting limit. RCRA metals were not detected above the laboratory reporting limit or they were detected at concentrations normally associated with background concentrations of metals in naturally occurring soils.

Alcohol Underground Storage Tank

A 10,000 gallon UST that had been used to store alcohol was removed from near the southeast corner of the Site on June 29, 2006. The location of the alcohol UST is shown on Figures 4 and 4.A. Prior to removing the UST, Determan Brownie, Inc. removed and disposed of sludge within the base of the UST. An AET environmental technician was present to observe the removal of the UST. The UST appeared in good condition with no leaks or evidence of significant corrosion. Soils exposed in the base and sidewalls of the excavation did not exhibit any obvious odors and PID readings of 0.0 ppm were recorded in soils exposed in the base of the excavation. Soil samples AT-S (11) and AT-N (11) were collected from below the south and north ends of the UST, respectively, and submitted for VOC (including tentatively identifiable compounds), DRO, and GRO analysis. The locations where samples AT-S (11) and AT-N (11) were collected are shown on Figures 4 and 4.A. The analytical results are summarized in Tables A and A.1. None of the constituents that were analyzed for were detected above the laboratory reporting limits.

Borings GP-17 and GP-17B

As the excavation progressed in the area of former borings GP-17 and GP-17B where TCE was previously detected, we collected confirmation sidewall samples (GP-17NW and GP-17SW). The locations where these samples were collected are shown on Figures 4, 4.A and 4.C. Both

samples were collected in the fine alluvium below the fill or at depths of about 3 feet below the surface. TCE was measured in the GP-17NW sidewall sample. The excavation in this area continued north and west and was taken down to the coarse alluvium. TCE was not detected in the base of excavation sample GP-17 (bottom) which was collected in the area of former borings GP-17 and GP-17B and recent sidewall confirmation sample GP-17NW. The results of laboratory analysis performed on soil samples collected and analyzed from the areas of former GP-17 and GP-17B are summarized in Tables A and A.1.

2.3 Confirmation Sampling

The following list summarizes confirmation soil samples.

- Arsenic: 89 bottom samples and 39 sidewall samples
- VOCs: 6 bottom samples and 2 sidewall samples
- DRO: 14 bottom samples and 5 sidewall samples

In most cases the bottom samples were labeled with the prefix B and the sidewall samples were labeled with the prefix SW. Tables A and A.1 summarize the laboratory analytical results and Figures 4 through 4.C show the locations where the bottom and sidewall soil samples were collected. The laboratory analytical reports for the bottom and sidewall samples are included in Appendix B.

DRO

DRO was not detected in the bottom samples, except for B-2 (13 feet) [760 mg/kg] and B-75 [43 mg/kg]. No organic vapors were detected with the PID at either of these locations.

DRO was detected in sidewall samples A-100 (57 mg/kg), A-150 (60 mg/kg), and SW-4 (20 mg/kg). Samples A-100 and A-150 were collected from the sidewall along the west property line (along the railroad right-of-way). The area of sidewall sample SW-4 was excavated on October 24. The soils excavated from this area were transported to and disposed of at the Onyx Landfill.

Arsenic

Arsenic was not detected at concentrations above the residential SRV in any of the samples collected from the excavation made within the building area.

Arsenic was measured at more than 10 mg/kg in the following samples: A-150 (23 mg/kg), A-200 (13 mg/kg), A-250 (16 mg/kg), A-300 (57 mg/kg), SW-4 (13 mg/kg), TP-1 (12 mg/kg), R11 (12 mg/kg), R12 (11 mg/kg), S12 (14 mg/kg), S13 (69 mg/kg), and TP-3 (11mg/kg). Samples A-150, A-200, A-250, and A-300 were collected from the sidewall along the west property line (along the railroad right-of-way). Soils excavated from the areas of samples SW-4, R11, R12, S12, S13, and TP-3 were transported to the Onyx Landfill for disposal between October 24 and 26, 2006. The area of TP-1, which was near the south end of the proposed building in the second (east) phase of the Hiawatha Flats project, has not yet been excavated. This area will not be excavated until the second phase is constructed.

VOCs

VOCs were not detected above the laboratory reporting limit in any of the base of excavation samples that were submitted for analysis. One VOC constituent – trichloroethene (TCE) – was measured at a concentration of 2.6 mg/kg in sample GP-17 NW which was a sidewall sample that was collected slightly northwest of GP-17. The soil in the sidewalls at GP-17 NW, and the surrounding area, were excavated down to the underlying coarse alluvium soils and transported to and disposed of at the Onyx Landfill.

2.4 Stockpile Sampling

AET collected samples from stockpiles that were generated during grading operations. The stockpile locations are shown on Figure 6. The soil samples were screened with a PID and submitted to the laboratory for analysis of arsenic. A brief summary of the stockpiles and the disposition of the soil within the stockpiles follows. The results of the PID screening and laboratory analysis are summarized in Tables A and A.1.

Two soil samples, identified as SP East and SP West, were collected on July 5 from a stockpile

that had been placed near the northeast corner of the Site. The stockpile contained about 300 cubic yards and was comprised of fill soils overlying fine alluvium that had been excavated from the south end of the Site. Based on the results of PID screening (PID readings above background) and the laboratory analytical results (arsenic concentrations above the residential SRV), these soils were transported to and disposed of at the Onyx Landfill.

On July 19, six samples, identified as Stockpile 1 through Stockpile 6, were collected from a stockpile located east of the north half of the building (in the area of the infiltration basin). This stockpile contained about 2850 cubic yards that had been excavated from the area of test pits 18.5-X.4, 20-U, 21-X.3, and 21.5-W that were previously dug and sampled on July 5. Based on the results of PID screening and the laboratory analytical results (arsenic concentrations at or below 10 mg/kg), these soils were re-used as backfill, i.e. as fill below parking-driveway areas or more than 1foot below finished grade in green space areas.

Sample SP-1 was collected on August 29 from a stockpile that contained less than 50 cubic yards of soil that had been generated in excavating the water service between the north end of the building and 43rd Street East. Based on the results of PID screening and the laboratory analytical results (arsenic concentrations at or below 10 mg/kg), these soils were re-used as backfill.

Samples SP-1 through SP-3 were collected on September 13. The stockpile was comprised of about 700 cubic yards of coarse alluvial soils that were encountered below the fill and fine alluvium in the infiltration basin excavation. (The fill and fine alluvium encountered above the coarse alluvium in this area were transported to and disposed of at the Onyx Landfill.) Based on the results of PID screening and the laboratory analytical results (arsenic concentrations at or below 10 mg/kg), these soils were re-used as backfill.

Sample R9 was collected from a stockpile containing soil excavated in conjunction with installing a storm sewer south of the infiltration basin, i.e., the storm sewer trench between the infiltration basin and Grid 13.5, on October 11. The volume of the stockpile was approximately 60 cubic yards. Based on the results of PID screening and the laboratory analytical results

(arsenic concentrations at or below 10 mg/kg), these soils were re-used as backfill.

Samples R11 and R12 were collected from a stockpile containing soil excavated in conjunction with installing a storm sewer north of the infiltration basin, i.e., the storm sewer trench between the infiltration basin and the manhole located about 120 feet farther north. This stockpile contained about 75 cubic yards. Based on the results of PID screening and the laboratory analytical results (arsenic concentrations above 10 mg/kg), these soils were transported to and disposed of at the Onyx Landfill.

2.5 Disposal

Impacted soils removed from the Site were transported with manifests by truck to the Onyx FCR Landfill in Buffalo, Minnesota. The Onyx facility received 12,110 tons (approximately 8,650 cubic yards); this soil was used as landfill daily cover. In addition, approximately 7,000 cubic yards of impacted soil were transported to the East Bethel Landfill where the soil was used as cover material.

2.6 Air Monitoring

Dust levels were visually monitored during excavation activities. Excess dust was not observed.

3.0 DISCUSSION

The results of laboratory analysis indicate that soils with arsenic concentrations above 10 mg/kg have been removed from the first phase I of the Hiawatha Flats project. The results of arsenic analysis performed on soil samples collected from sidewalls of excavations around the perimeter of the Site indicate arsenic concentrations below 10 mg/kg, except for an area along the west property line between 150 to 300 feet north of the southwest property corner where arsenic concentrations of 13 to 57 mg/kg were measured in excavation sidewall samples.

DRO was not detected above the laboratory reporting limit in representative confirmation samples analyzed from the base of the building excavation. DRO was measured at a concentration of 760 mg/kg in a soil sample collected from below a 500 gallon fuel oil UST that

was encountered and removed west of the former boiler room. VOCs, PCBs, and PAHs were not detected above the laboratory reporting limit and RCRA metals were not detected above concentrations of metals in naturally occurring soils. In addition, elevated PID readings were not measured, no obvious odors were noted, and no visual evidence of contamination was observed. A soil boring previously drilled in this area for geotechnical purposes was sampled to a depth of 31 feet and did not encounter groundwater. The area of the removed fuel oil tank will be overlain by a bituminous driveway. Based on the above information, we conclude that no further assessment relating to DRO in the area of the former fuel oil tank is warranted. Relatively low levels of DRO, 57 and 60 mg/kg, were detected in two excavation sidewall samples collected along the west property line. PID screening did not detect organic vapors above background associated with these samples. Low level DRO, 43 mg/kg, was measured in soil sample B-75 which was collected in the area of former GP-1 and GP-1A-which is slightly east of the infiltration basin. PID screening did not identify organic vapors above background concentrations. We do not consider this low level DRO of environmental concern.

The VOC TCE was measured at a concentration of 2.6 mg/kg in sidewall sample GP-17 NW. Between the time this sidewall sample was collected and the laboratory analytical results became available, the area west to the building and north to Grid 13.5, i.e., the area represented by sample GP-19NW, was excavated down to the coarse alluvial soils and these excavated soils were transported to and disposed of at the Onyx facility. Since previous sampling and laboratory analysis performed on samples collected from this area did not detect VOCs in the underlying coarse alluvial soils, it is our opinion the VOC impacted soils have been removed from this area.

4.0 CONCLUSIONS

Corrective actions at the Site have been performed in accordance with all requirements regarding the proper handling and disposal of impacted soils. Activities completed in the first (west) phase of the Hiawatha Flats project have addressed soil contamination concerns by removing the impacted soils from the first (west) phase of the Hiawatha Flats project.

5.0 RECOMMENDATIONS

AET does not recommend any further excavation and removal of impacted soils in the first (west) phase of the Hiawatha Flats project.

6.0 CLOSURE

The services performed by American Engineering Testing, Inc. for this project have been conducted in a manner consistent with that level of skill and care ordinarily exercised by other members of the profession currently practicing in this area, under similar budgetary and time constraints.

7.0 SIGNATURES

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Robert A. Kaiser, Vice President
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Table 1
Summary of Recent Soil Sample Analysis
Hiawatha Flats, Minneapolis, MN
AET Project No. 03-02255

Sample Location	Depth (ft)	DRO	Metals	VOCs	PCBs	PAHs
GP-12A	4-6	X				
	6-8	X				
GP-13B	4-6	X				
GP-14A	2-4		X			
	4-6		X			
GP-17A	1-2	X	X	X		
	4-5		X			
	7-8		X			
GP-17B	1-2	X	X	X		
	7-8			X		
GP-17C	1-2	X	X	X		
	4-5	X				
GP-17D	1-2	X	X	X		
GP-18A	8-10		X			
	12-14		X			
GP-20	0-1	X	X	X		
	2-4	X	X			
	5-6	X	X			
GP-21	0-2	X	X			
	2-4	X	X			
	4-6	X	X			
GP-22	0-2	X	X			
	2-4	X	X			
	4-6	X	X			
GP-23	0-2	X	X			
	2-4	X	X			
	4-6	X	X			
GP-24	0-2	X	X			
	2-4	X	X			
	4-6	X	X			
GP-25	0-2	X	X			
	2-4	X	X			
	4½-4¾	X	X			
	4¾-6	X	X			
GP-26	0-2	X	X	X	X	X
	2-4	X	X			
	5-6		X			

Table 1
Summary of Recent Soil Sample Analysis
Hiawatha Flats, Minneapolis, MN
AET Project No. 03-02255

Sample Location	Depth (ft)	DRO	Metals	VOCs	PCBs	PAHs
GP-27	0-1	X	X	X	X	X
	1-2	X	X			
	2-4		X			
	4-5½		X			
	5½-6½		X			
GP-28	0-½	X				
	½-2	X	X			
	2-4		X	X	X	X
	4-6		X			
	6-7		X			
	7-8		X			
GP-29	0-2	X	X	X	X	X
	2-4	X	X	X		X
	4-6		X			
	6-7		X			
	7-9		X			
GP-30	0-2	X	X	X	X	X
	4-6	X	X			
	6-7½		X			
	7½-8½		X			
	8½-11		X			
GP-31	0-1½	X	X	X	X	X
	2-4	X	X			
	4-6			X		X
	5-7		X			
	8-10		X			
GP-32	1-2		X			
	2-4	X	X			
	4-6	X	X			
	7-9		X			
7B	2-4		X			
	4-6		X			
8B	2-4		X			
	4-6		X			

Table 2
Summary of PID Screening Results (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in ppm)

Boring Number	Depth (ft)							
	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16
GP-1	0.0	0.0	5.0	0.0	0.0	0.0	-	-
GP-1A	0.4	0.6	0.4	-	-	-	-	-
GP-2	0.5	1.2	1.5	6.5	0.2	0.2	-	-
GP-3	0.3	0.2	2.5	4.5	4.0	2.0	-	-
GP-4	1.5	5.0	1.5	3.0	1.0	1.5	-	-
GP-5	1.5	2.0	5.5	6.0	1.5	1.5	-	-
GP-6	4.0	.05	1.0	1.0	0.0	0.0	-	-
GP-6A	0.5	0.4	-	-	-	-	-	-
GP-7	5.9	7.0	2.0	2.0	1.6	2.0	-	-
GP-8	0.5	0.5	1.0	2.0	1.0	1.0	-	-
GP-9	0.5	0.5	24.5	1.5	-	-	-	-
GP-10	0.5	1.0	1.0	1.0	0.5	0.5	-	-
GP-11	0.0	0.0	1.0	0.5	0.0	0.0	-	-
GP-12	0.4	0.3	0.6	0.5	0.4	0.3	-	-
GP-12A	0.0	0.0	0.1	0.0	0.1	0.1	-	-
GP-13	0.5	0.4	-	-	-	-	-	-
GP-13A	0.9	0.7	0.8	0.7	0.7	0.4	-	-
GP-13B	5.1	6.2	0.1	0.0	0.0	0.0	-	-
GP-14	0.6	0.8	0.9	0.8	-	-	-	-
GP-14A	0.4	0.2	0.0	0.0	0.0	0.0	-	-
GP-15	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP-16	0.8	0.8	0.9	0.8	0.7	0.7	-	-
GP-17	0.8	0.9	0.8	0.8	-	-		
GP-17A	0.0	0.0	0.0	0.1	-	-	-	-
GP-17B	0.3	0.0	0.1	0.0	-	-	-	-
GP-17C	0.0	0.0	0.0	0.0	-	-	-	-
GP-17D	0.1	0.0	0.0	0.0	-	-	-	-
GP-18	0.6	0.6	0.8	0.8	-	-	-	-
GP-18A	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
GP19	-	0.8	0.8	0.7	0.8	0.8	-	-
GP-20	1.9	0.1	0.0	0.1	0.0	0.0	-	-
GP-21	0.0	0.1	0.0	0.2	0.0	0.0	-	-
GP-22	0.1	0.7	0.0	0.0	0.0	0.0	-	-
GP-23	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP-24	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP-25	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP-26	0.0	0.0	0.0	0.0	0.0	0.0	-	-

Table 2
Summary of PID Screening Results (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in ppm)

Boring Number	Depth (ft)							
	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16
GP-27	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP-28	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP-29	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP-30	0.6	0.3	0.0	0.0	0.0	0.0	-	-
GP-31	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP-32	0.0	0.0	0.0	0.0	0.0	0.0	-	-
HA-1	0.0	-	-	-	-	0.0	-	-
HA-1A	0.01/0.2*	0.5/3.2*	22.3/0.4*	0.5**	-	-	-	-

Boring Number	Depth (ft)									
	0-2	2-4	4½-6	7-8½	9½-11	12-13½	14½-16	19½-21	24½-26	29½-31
1	0.1	0.3	0.7	0.6	0.1	0.0	-	-	-	-
2	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
5	0.0	0.4	0.0	0.0	0.0	0.0	-	-	-	-
6	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	-
6A	0.2	0.3	0.2	-	-	-	-	-	-	-
7	0.4	0.0	0.0	0.0	0.0	0.0	-	-	-	-
7A	0.2	0.2	0.2	-	-	-	-	-	-	-
7B	0.3	0.4	0.2	0.2	0.0	0.0	-	-	-	-
8	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	-
8A	0.5	0.5	0.4 (1)	-	-	-	-	-	-	-
8B	0.0	0.0	0.0 (1)	0.0 (2)	0.1 (3)	0.0 (4)	-	-	-	-

- Indicates sample not screened with PID
* PID readings of top half of sample/bottom half of sample
** Boring terminated at 7'
(1) Screening performed on 4' to 6' depth sample
(2) Screening performed on 6' to 8' depth sample
(3) Screening performed on 8' to 10' depth sample
(4) Screening performed on 10' to 12' depth sample

Table 3
Summary of DRO Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	DRO
GP-1	4-6	35 (LI)
	8-10	ND
GP-1A	0-2	32 (LI)
GP-2	6-8	ND
GP-3	6-8	ND
GP-4	6-8	ND
GP-5	6-8	ND
GP-6	4-6	16
	8-10	ND
GP-6A	0-2	18 (A, LI)
	2-4	ND
GP-7	4-6	ND
	8-10	ND
GP-8	6-8	ND
GP-9	4-6	14
	6-8	ND
GP-10	2-4	11 (A)
	6-8	ND
GP-11	4-6	ND
	8-10	ND
GP-12	2-2½	21 (LI)
	11½-12	ND
GP-12A	4-6	ND
	6-8	ND
GP-13	0-2	99 (LI)
	2-4	110 (LI)
GP-13A	11-12	ND
GP-13B	4-6	ND
GP-14	1-2	ND
GP-15	5-6	14 (LI)
	11-12	ND
GP-16	7-8	ND
GP-17	1-2	16 (A, LI)
	7-8	ND

Table 3
Summary of DRO Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	DRO
GP-17A	1-2	ND
GP-17B	1-2	ND
GP-17C	1-2	10
	4-5	17
GP-17D	1-2	ND
GP-18	1-2	68 (LI)
	7-8	ND
GP-19	7-8	ND
GP-20	0-1	1800
	2-4	ND
	5-6	ND
GP-21	0-2	3000
	2-4	ND
	5-6	ND
GP-22	0-2	570
	2-4	ND
	4-6	ND
GP-23	0-2	ND
	2-4	ND
	4-6	ND
GP-24	0-2	ND
	2-4	ND
	4-6	ND
GP-25	0-2	ND
	2-4	ND
	4½-4¾	ND
	4¾-6	ND
GP-26	0-2	ND
	2-4	ND
GP-27	0-1	ND
	1-2	ND
GP-28	0-½	13(A)
	½-2	ND
GP-29	0-2	24(A)
	2-4	ND

Table 3
Summary of DRO Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	DRO
GP-30	0-2	ND
	4-6	ND
GP-31	0-1½	15(A)
	2-4	ND
GP-32	2-4	ND
	4-6	ND
HA-1	0-½	80 (LI)
	2-2½	280 (LI)
HA-1A	4½-5	ND
	6½-7	ND
1	4½-6	ND
	12-13½	ND
2	0-2	ND
3	0-2	ND
4	2-4	ND
5	2-4	ND
6	0-2	10 (A,LI)
	12-13½	ND
6A	2-4	ND
	4-6	ND
7	0-2	46 (LI)
	12-14	ND
7A	2-4	ND
	4-6	ND
8	0-2	24 (A,LI)
	12-13½	ND
8A	2-4	ND
	4-6	ND

ND: Not Detected above Laboratory Reporting Limit.
LI: Results in the DRO range are primarily due to overlap from a heavy oil range product.
A: Sample does not display a fuel oil pattern. Sample contains several discreet peaks.

Table 4
Summary of Metals Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	Arsenic	Barium	Cadmium	Chromium	Copper	Cyanide	Lead	Potassium	Mercury	Selenium	Silver
GP-1	4-6	2.8	49	ND	10	-	-	9.8	-	ND	ND	ND
GP-2	6-8	-	-	-	-	-	-	2.5	-	-	-	-
GP-3	6-8	1.6	34	ND	5.2	-	-	2.4	-	ND	ND	ND
GP-4	6-8	2.8	83	ND	11	-	-	5.6	-	ND	ND	ND
GP-5	6-8	-	-	-	-	-	-	6.1	-	-	-	-
GP-6	4-6	9.4	140	0.34	23	-	ND	11	-	ND	ND	ND
	8-10	1.1	36	ND	5.3	-	-	2.6	-	ND	ND	ND
GP-8	6-8	9.0	-	-	-	-	-	2.5	-	-	-	-
GP-9	4-6	-	-	-	-	-	-	24	-	-	-	-
GP-10	2-4	11	130	ND	26	-	-	14	-	ND	ND	ND
	6-8	1.9	44	ND	5.4	-	-	3.0	-	ND	ND	ND
GP-11	4-6	2.2	47	ND	5.9	-	-	3.3	-	ND	ND	ND
	8-10	1.3	34	ND	4.8	-	-	2.4	-	ND	ND	ND
GP-12	2-2½	1.8	28	ND	12	-	-	6.6	-	ND	ND	ND
	11½-12	-	-	-	-	-	-	11	-	-	-	-
GP-13B	4-6	1.7	22	ND	3.8	-	-	2.3	-	ND	ND	ND
GP-14	1-2	10	110	ND	27	-	-	13	-	ND	ND	ND
GP-14A	2-4	9.0	-	-	-	-	-	-	-	-	-	-
	4-6	2.0	-	-	-	-	-	-	-	-	-	-
GP-15	5-6	1.5	43	ND	5.7	-	-	6.5	-	ND	ND	ND
GP-16	7-8	2.1	40	ND	4.1	-	-	2.7	-	ND	ND	ND
GP-17	1-2	5.8	77	ND	16	18	-	13	890	ND	ND	ND
GP-17A	1-2	5.9	-	-	17	-	-	-	-	-	-	-
	4-5	10	-	-	32	-	-	-	-	-	-	-
	7-8	2.3	-	-	5.5	-	-	-	-	-	-	-
GP-17B	1-2	1.8	-	-	6.2	-	-	-	-	-	-	-
GP-17C	1-2	3.5	-	-	17	-	-	-	-	-	-	-
GP-17D	1-2	4.7	-	-	14	-	-	-	-	-	-	-
GP-18	1-2	14	140	0.39	17	-	-	18	-	ND	ND	ND
	7-8	15	160	ND	17	-	-	11	-	ND	ND	ND
GP-18A	8-10	2.3	-	-	6.4	-	-	-	-	-	-	-
	12-14	2.0	-	-	5.8	-	-	-	-	-	-	-
GP-19	7-8	1.8	26	ND	4.1	-	-	2.3	-	ND	ND	ND

Table 4
Summary of Metals Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	Arsenic	Barium	Cadmium	Chromium	Copper	Cyanide	Lead	Potassium	Mercury	Selenium	Silver
GP-20	0-1	7.1	-	-	46	-	-	-	-	-	-	-
	2-4	9.9	-	-	27	-	-	-	-	-	-	-
	5-6	1.6	-	-	5.4	-	-	-	-	-	-	-
GP-21	0-2	7.9	-	-	31	-	-	-	-	-	-	-
	2-4	9.5	-	-	27	-	-	-	-	-	-	-
	5-6	1.7	-	-	6.4	-	-	-	-	-	-	-
GP-22	0-2	7.6	-	-	57	-	-	-	-	-	-	-
	2-4	10	-	-	23	-	-	-	-	-	-	-
	4-6	2.1	-	-	4.8	-	-	-	-	-	-	-
GP-23	0-2	2.7	-	-	6.5	-	-	-	-	-	-	-
	2-4	3.6	-	-	6.4	-	-	-	-	-	-	-
	4-6	3.0	-	-	7.7	-	-	-	-	-	-	-
GP-24	0-2	2.7	-	-	4.8	-	-	-	-	-	-	-
	2-4	11	-	-	25	-	-	-	-	-	-	-
	4-6	8.5	-	-	27	-	-	-	-	-	-	-
	10-12	2.3	-	-	4.8	-	-	-	-	-	-	-
GP-25	0-2	3.2	-	-	5.5	-	-	-	-	-	-	-
	2-4	2.8	-	-	7.3	-	-	-	-	-	-	-
	4½-4¾	7.5	-	-	18	-	-	-	-	-	-	-
	4¾-6	1.8	-	-	4.0	-	-	-	-	-	-	-
GP-26	0-2	10	130	ND	31	-	-	15	-	ND	ND	ND
	2-4	11	130	0.36	20	-	-	11	-	ND	ND	ND
	5-6	1.8	-	-	-	-	-	-	-	-	-	-
GP-27	0-1	6.9	130	ND	28	-	-	14	-	ND	ND	ND
	1-2	7.4	-	-	-	-	-	-	-	-	-	-
	2-4	8.7	140	0.37	25	-	-	13	-	ND	ND	ND
	4-5.5	8.5	-	-	-	-	-	-	-	-	-	-
	5.5-6.5	1.8	-	-	-	-	-	-	-	-	-	-
GP-28	0.5-2	6.5	110	ND	25	-	-	9.6	-	ND	ND	ND
	2-4	8.9	130	ND	23	-	-	11	-	ND	ND	ND
	4-6	9.8	-	-	-	-	-	-	-	-	-	-
	6-7	8.9	-	-	-	-	-	-	-	-	-	-
	7-8	1.7	-	-	-	-	-	-	-	-	-	-

Table 4
Summary of Metals Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	Arsenic	Barium	Cadmium	Chromium	Copper	Cyanide	Lead	Potassium	Mercury	Selenium	Silver
GP-29	0-2	8.7	170	0.35	17	-	-	17	-	ND	ND	ND
	2-4	11	-	-	-	-	-	-	-	-	-	-
	4-6	9.1	160	0.38	26	-	-	13	-	ND	ND	ND
	6-7	9.5	-	-	-	-	-	-	-	-	-	-
	7-9	1.7	-	-	-	-	-	-	-	-	-	-
GP-30	0-2	8.7	140	0.44	24	-	-	68	-	ND	ND	ND
	4-6	9.3	140	ND	23	-	-	11	-	ND	ND	ND
	6-7.5	7.4	-	-	-	-	-	-	-	-	-	-
	7.5-8.5	4.5	-	-	-	-	-	-	-	-	-	-
	8.5-11	5.7	-	-	-	-	-	-	-	-	-	-
GP-31	0-1.5	8.5	93	ND	25	-	-	10	-	ND	ND	ND
	2-4	7.1	-	-	-	-	-	-	-	-	-	-
	5-7	7.5	100	ND	22	-	-	9.3	-	ND	ND	ND
	8-10	1.9	-	-	-	-	-	-	-	-	-	-
GP-32	1-2	8.5	120	ND	25	-	-	16	-	ND	ND	ND
	2-4	8.6	130	ND	27	-	-	14	-	ND	ND	ND
	4-6	7.3	-	-	-	-	-	-	-	-	-	-
	7-9	2.0	-	-	-	-	-	-	-	-	-	-
7A	0-2	13	130	ND	19		-	15		ND	ND	ND
7B	2-4	8.9	-	-	-	-	-	-	-	-	-	-
	4-6	2.6	-	-	-	-	-	-	-	-	-	-
8	0-2	6.4	100	ND	15		ND	28		ND	ND	ND
8B	2-4	9.4	-	-	2.6	-	-	-	-	-	-	-
	4-6	1.9	-	-	5.9	-	-	-	-	-	-	-

- : Not Analyzed
ND: Not Detected above Laboratory Reporting Limit.

Table 5
Summary of VOC Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	VOCs
GP-3	6-8	ND
GP-4	6-8	ND
GP-6	4-6	ND
GP-7	4-6	ND (1)
	8-10	ND (1)
GP-9	4-6	ND (1)
	6-8	ND (1)
GP-10	2-4	ND (1)
	6-8	ND (1)
GP-11	4-6	ND (1)
	8-10	ND (1)
GP-12	11½-12	ND
GP-13B	3	ND
	4-6	ND
GP-14	1-2	ND
GP-15	5-6	ND
GP-16	7-8	ND
GP-17	1-2	0.30 TCE
	7-8	ND
GP-17A	1-2	ND
GP-17B	1-2	0.41 TCE
	7-8	ND
GP-17C	1-2	ND
GP-17D	1-2	ND
GP-18	1-2	ND
GP-19	7-8	ND
GP-20	0-1	ND
GP-26	0-2	ND
GP-27	0-1	ND
GP-28	2-4	ND
GP-29	0-2	ND
	2-4	ND

Table 5
Summary of VOC Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	VOCs
GP-30	0-2	ND
GP-31	0-1½	ND
	4-6	ND
HA-1	0-½	ND (1)
HA-1A	4½-5	ND (1)
	6½-7	ND (1)
1	12-13½	0.97 TCFM*
7	0-2	ND
8	0-2	ND (1)

*: 0.49 mg/kg detected in trip blank
TCFM: Trichlorofluoromethane
TCE: Trichloroethene
ND: Not Detected above Laboratory Reporting Limit.
(1) VOC analysis included tentatively identfiable compounds (tics)

Table 5A
Summary of GRO and BETX Analysis
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	GRO	BETX
GP-1	4-6	ND	-
GP-2	6-8	ND	ND
GP-5	6-8	ND	ND
GP-7	0-2	ND	-
GP-8	6-8	ND	ND
GP-9	4-6	ND	Xylene @ 0.099*
	6-8	ND	-
GP-12	11½-12	ND	-
5	2-4	ND	ND

*: The SRV and SLV for xylene are 110 and 45mg/kg, respectively.

- : Not Analyzed

ND: Not Detected above Laboratory Reporting Limit.

Table 6
Summary of PAH Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	PAHs
GP-1A	4-6	ND
GP-12	2-2½	ND
GP-13A	11-12	ND
GP-14	1-2	ND
GP-15	5-6	ND
GP-16	7-8	ND
GP-18	1-2	ND
GP-19	7-8	ND
GP-26	0-2	ND
GP-27	0-1	ND
GP-28	2-4	ND
GP-29	0-2	0.45 Fluor(1) 0.50 Pyre(2)
	2-4	ND
GP-30	0-2	ND
GP-31	0-1½	ND
	4-6	ND
6A	0-2	ND
7A	0-2	ND
8A	0-2	ND

ND: Not Detected above Laboratory Reporting Limit.
(1): Fluoranthene
(2): Pyrene

Table 7
Summary of PCB Analysis (Pre-Development)
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Boring Number	Depth (ft)	PCBs
GP-3	6-8	ND
GP-4	6-8	ND
GP-6	4-6	ND
GP-6A	0-2	ND
	4-6	ND
GP-10	2-4	ND
	6-8	ND
GP-11	4-6	ND
	8-10	ND
GP-14	1-2	ND
GP-15	5-6	ND
GP-16	7-8	ND
GP-17	1-2	ND
GP-18	1-2	ND
GP-19	7-8	ND
GP-26	0-2	ND
GP-27	0-1	ND
GP-28	2-4	ND
GP-29	0-2	ND
GP-30	0-2	ND
GP-31	0-1½	ND
7A	0-2	ND
8	0-2	ND

ND: Not Detected above Laboratory Reporting Limit.

Table 8
Summary of Nitrogen Analysis and pH Determinations
Hiawatha Flats
Minneapolis, MN
AET No. 03-02255
(results in mg/kg)

Nitrogen Results

Boring Number	Depth (ft)	TKN
GP-6	4-6	544 mg/kg
GP-13	0-2	462
1	12-13½	ND
8	0-2	16 mg/kg
8A	0-2	134

TKN: Total Kjeldahl Nitrogen
ND: Not Detected above Laboratory Reporting Limit.

pH Determinations

Boring Number	Depth (ft)	pH
GP-6	4-6	8.4
GP-10	2-4	7.1
	6-8	9.0
GP-11	4-6	10.0
	8-10	9.8
8	0-2	8.1

Table A
Summary of Arsenic Sampling/Laboratory Analysis (Performed in Conjunction with Grading)
Hiawatha Flats, Minneapolis, MN
AET Project No. 03-02255
(results in mg/kg)

Sample ID (depth-ft)	Date	Sample Location	PID	Arsenic	Remarks
B-2 (12)	6/26	Pkg-Drive	38.4	-	Sample below fuel oil tank removed on 6-26; soil removed and disposed off-site
B-2 (13)	6/26	Pkg-Drive	0.0	1.9	Confirmation sample below fuel oil tank (1)
B-1 (4½)	6/27	Pkg-Drive	0.2	2.7	Confirmation sample in coarse alluvium (1)
B-2 (5)	6/27	Pkg-Drive	0.2	2.6	Confirmation sample in coarse alluvium (1)
AT-S (11)	6/29	Alcohol UST	0.0	-	Confirmation sample below alcohol UST removed on 6-29; (1)
AT-N (11)	6/29	Alcohol UST	0.0	-	Confirmation sample below alcohol UST removed on 6-29; (1)
B-3 (5)	6/30	Bldg	0.0	1.3	Confirmation sample at floor drain in coarse alluvium
B-4 (6)	6/30	Bldg	225.0	-	Sample collected directly below waste trap, soil removed 6-30
B-4 (8)	6/30	Bldg	0.1	2.2	Confirmation sample below waste trap (1)
B-5 (5)	6/30	Bldg	0.0	2.3	Confirmation sample in coarse alluvium
B-6 (6)	7/3	Bldg	0.2	2.0	Confirmation sample in coarse alluvium
B-7 (6)	7/3	Bldg	0.2	1.5	Confirmation sample in coarse alluvium
B-8 (5)	7/5	Bldg	0.1	2.0	Confirmation sample at GP-10 and trench drain in coarse alluvium
B-9 (6)	7/5	Bldg	0.1	2.1	Confirmation sample at floor drain in coarse alluvium
B-10 (6)	7/5	Bldg	0.1	2.0	Confirmation sample in coarse alluvium
T-5 (5)	7/5	Bldg	0.7	3.4	Confirmation sample at waste trap at GP-19
12-T.3 (2)	7/5	Bldg	0.5	8.4	Soil excavated and disposed off-site on 7-10 and 7-11
20-U (2½)	7/5	Bldg	0.0	10	Soil stockpiled east of north half of building on 7-14 through 7-18
18.5-X.4 (2¼)	7/5	Bldg	0.3	10	Soil stockpiled east of north half of building on 7-14 through 7-18
21-X.3 (2½)	7/5	Bldg	0.2	9.0	Soil stockpiled east of north half of building on 7-14 through 7-18
17-U (2)	7/5	Bldg	1.6	6.5	Soil excavated and disposed off-site on 7-10 and 7-11
14-X (2½)	7/5	Bldg	9.7	5.5	Soil excavated and disposed off-site on 7-10 and 7-11
16.6-X.4 (2)	7/5	Bldg	0.5	5.0	Soil stockpiled east of north half of building on 7-14 through 7-18
15-U (2)	7/5	Bldg	11.4	3.3	Soil excavated and disposed off-site on 7-10 and 7-11
21.5-W (4)	7/5	Bldg	0.0	5.8	Soil stockpiled east of north half of building on 7-14 through 7-18
SP-West	7/5	Bldg	1.3	5.4	Soil excavated and disposed off-site
SP-East	7/5	Bldg	1.4	7.0	Soil excavated and disposed off-site
B-11 (5)	7/6	Bldg	0.1	1.5	Confirmation sample in coarse alluvium
B-12 (4)	7/6	Bldg	0.1	1.9	Confirmation sample in coarse alluvium
B-13 (4)	7/6	Bldg	0.1	1.4	Confirmation sample in coarse alluvium
B-14 (3)	7/6	Bldg	0.1	1.4	Confirmation sample in coarse alluvium
B-15 (5)	7/6	Bldg	0.1	1.3	Confirmation sample at GP-21 in coarse alluvium
B-16 (5)	7/6	Bldg	0.1	1.2	Confirmation sample in coarse alluvium
HA-1 Pit (5)	7/6	Pkg-Drive	0.1	-	Sample collected at same location as previous HA-1 & HA-1A
HA-1 Pit (8)	7/6	Pkg-Drive	0.1	-	Sample collected at same location as previous HA-1 & HA-1A
B-17 (5)	7/7	Bldg	0.1	2.2	Confirmation sample in coarse alluvium
B-18 (5)	7/7	Bldg	0.2	2.2	Confirmation sample at floor drain in coarse alluvium

Table A
Summary of Arsenic Sampling/Laboratory Analysis (Performed in Conjunction with Grading)
Hiawatha Flats, Minneapolis, MN
AET Project No. 03-02255
(results in mg/kg)

Sample ID (depth-ft)	Date	Sample Location	PID	Arsenic	Remarks
B-19 (4)	7/7	Bldg	0.2	2.2	Confirmation sample in coarse alluvium
B-20 (4)	7/7	Bldg	0.1	1.7	Confirmation sample at GP-16 in coarse alluvium
GP-17 (bottom) (4)	7/7	Pkg-Drive	0.2	2.5	Confirmation sample at GP-17 in base of excavation (1)
B-21 (3½)	7/10	Bldg-Base	0.1	1.7	Confirmation sample in coarse alluvium
B-25 (5)	7/10	Bldg-Base	0.3	1.6	Confirmation sample in coarse alluvium
B-22 (4)	7/10	Pkg-Drive	0.3	2.2	Confirmation sample in base of excavation
GP-17 NW (3)	7/10	Sidewall	0.1	-	Sample collected from sidewall 15' NW of GP-17; soil removed on 7-11 (1)
GP-17 SW (3)	7/10	Sidewall	0.1	-	Sample collected from sidewall 15' SW of GP-17; soil removed on 7-11 (1)
B-23 (7)	7/10	Pkg-Drive	0.2	2.0	Confirmation sample in base of excavation
B-24 (4)	7/10	Pkg-Drive	0.2	2.7	Confirmation sample at GP-15 and drain in base of excavation
B-26 (5)	7/11	Bldg	0.2	1.8	Confirmation sample at GP-25 in coarse alluvium
B-27 (4)	7/11	Pkg-Drive	0.5	1.5	Confirmation sample in base of excavation
B-28 (5)	7/11	Bldg	0.3	1.8	Confirmation sample at GP-13A and B in coarse alluvium
1-50 (3)	7/11	Sidewall	0.6	9.1	Sample from south property line sidewall
1-100 (1)	7/11	Sidewall	0.3	5.4	Sample from south property line sidewall
1-150 (2)	7/11	Sidewall	0.5	4.1	Sample from south property line sidewall
Z-50 (2)	7/11	Sidewall	0.2	2.3	Sample from east property line sidewall
Z-100 (2)	7/11	Sidewall	1.2	2.6	Sample from east property line sidewall
Z-150 (3)	7/11	Sidewall	0.4	1.4	Sample from east property line sidewall (1)
Z-200 (2)	7/11	Sidewall	0.9	5.8	Sample from east property line sidewall
Z-250 (3)	7/11	Sidewall	1.0	3.6	Sample from east property line sidewall
B-29 (3½)	7/12	Bldg	0.3	1.2	Confirmation sample in coarse alluvium
B-30 (3)	7/12	Pkg-Drive	0.2	1.9	Confirmation sample in base of excavation
B-31 (3)	7/12	Pkg-Drive	0.1	1.6	Confirmation sample in base of excavation
B-32 (4)	7/12	Pkg-Drive	0.2	2.4	Confirmation sample in base of excavation
B-33 (5)	7/12	Bldg	0.2	1.6	Confirmation sample in coarse alluvium
B-34 (4)	7/12	Bldg	0.2	2.1	Confirmation sample in coarse alluvium
B-35 (4)	7/12	Bldg	0.2	2.0	Confirmation sample in coarse alluvium
A-50 (3)	7/13	Sidewall	0.7	8.0	Sample from west property line sidewall
B-36 (3)	7/13	Bldg	0.2	1.7	Confirmation sample in coarse alluvium (1)
B-37 (4)	7/13	Pkg-Drive	0.4	2.2	Confirmation sample at floor drain in base of excavation
B-38 (4)	7/13	Pkg-Drive	0.2	1.5	Confirmation sample at floor drain in base of excavation
B-39 (5)	7/13	Bldg	0.3	1.9	Confirmation sample at GP-19 in coarse alluvium
B-40 (5)	7/13	Bldg	0.3	3.3	Confirmation sample in coarse alluvium
B-41 (6)	7/14	Bldg	0.2	1.7	Confirmation sample in coarse alluvium (1)
B-42 (4)	7/14	Bldg	0.2	4.8	Confirmation sample in coarse alluvium

Table A
Summary of Arsenic Sampling/Laboratory Analysis (Performed in Conjunction with Grading)
Hiawatha Flats, Minneapolis, MN
AET Project No. 03-02255
(results in mg/kg)

Sample ID (depth-ft)	Date	Sample Location	PID	Arsenic	Remarks
B-43 (5)	7/14	Bldg	0.1	2.1	Confirmation sample in coarse alluvium
B-44 (5)	7/14	Bldg	0.1	2.6	Confirmation sample in coarse alluvium
B-45 (4)	7/14	Bldg	0.3	1.9	Confirmation sample in coarse alluvium
B-46 (4)	7/14	Bldg	0.3	1.8	Confirmation sample in coarse alluvium
B-47 (4)	7/14	Bldg	0.3	2.0	Confirmation sample at test pit 15-U in coarse alluvium
B-48 (4)	7/14	Pkg-Drive	0.4	1.3	Confirmation sample in base of excavation
B-49 (2½)	7/14	Pkg-Drive	0.2	1.9	Confirmation sample in base of excavation
B-50 (4)	7/14	Bldg	0.2	1.2	Confirmation sample at test pit 17-U in coarse alluvium
B-51 (4)	7/18	Bldg	0.3	1.5	Confirmation sample in coarse alluvium (1)
B-52 (5)	7/18	Bldg	0.3	1.5	Confirmation sample in coarse alluvium (1)
B-53 (6½)	7/18	Bldg	0.3	2.0	Confirmation sample at GP-5 in base of excavation (1)
B-54 (3)	7/18	Bldg	0.5	2.1	Confirmation sample in coarse alluvium
B-55 (3)	7/18	Bldg	0.5	1.5	Confirmation sample in coarse alluvium
B-56 (3)	7/18	Bldg	0.6	1.7	Confirmation sample in coarse alluvium
R-50 (2)	7/18	Pkg-Drive	0.7	5.5	Sample from east property line sidewall
R-100 (1)	7/18	Pkg-Drive	0.6	6.4	Sample from east property line sidewall
R-150 (½)	7/18	Pkg-Drive	0.0	9.6	Sample from east property line sidewall
R-200 (2)	7/18	Pkg-Drive	0.9	6.7	Sample from east property line sidewall
R-250 (½)	7/18	Pkg-Drive	0.7	6.5	Sample from east property line sidewall
B-57 (4)	7/19	Bldg	0.2	1.6	Confirmation sample in coarse alluvium (1)
B-58 (4)	7/19	Bldg	0.3	2.1	Confirmation sample in coarse alluvium
B-59 (4)	7/19	Bldg	0.3	1.5	Confirmation sample in coarse alluvium
B-60 (4)	7/19	Bldg	0.2	1.3	Confirmation sample in coarse alluvium
B-61 (4½)	7/19	Bldg	0.1	1.8	Confirmation sample in coarse alluvium
B-62 (4)	7/19	Bldg	0.3	1.7	Confirmation sample at borings 8, A and B in coarse alluvium
B-63 (4)	7/19	Bldg	0.3	1.7	Confirmation sample in coarse alluvium
B-64 (4½)	7/19	Bldg	0.1	1.4	Confirmation sample at boring 5 in coarse alluvium
B-65 (4)	7/19	Bldg	0.2	1.9	Confirmation sample at borings 6 and A in coarse alluvium
B-66 (5)	7/19	Bldg	0.1	2.3	Confirmation sample in coarse alluvium
B-67 (4)	7/19	Bldg	0.2	2.8	Confirmation sample in coarse alluvium
B-68 (5)	7/19	Bldg	0.3	2.2	Confirmation sample in coarse alluvium
B-69 (4)	7/19	Bldg	0.2	2.2	Confirmation sample in coarse alluvium (1)
B-70 (4)	7/19	Bldg	0.3	1.9	Confirmation sample in coarse alluvium
Stockpile 1	7/19	Stockpile	0.2	9.0	Soil re-used below Pkg-Drive
Stockpile 2	7/19	Stockpile	0.2	8.7	Soil re-used below Pkg-Drive
Stockpile 3	7/19	Stockpile	0.4	8.4	Soil re-used below Pkg-Drive
Stockpile 4	7/19	Stockpile	0.2	8.4	Soil re-used below Pkg-Drive
Stockpile 5	7/19	Stockpile	0.4	10	Soil re-used below Pkg-Drive

Table A
Summary of Arsenic Sampling/Laboratory Analysis (Performed in Conjunction with Grading)
Hiawatha Flats, Minneapolis, MN
AET Project No. 03-02255
(results in mg/kg)

Sample ID (depth-ft)	Date	Sample Location	PID	Arsenic	Remarks
Stockpile 6	7/19	Stockpile	0.2	5.6	Soil re-used below Pkg-Drive
A-100 (2)	7/20	Sidewall	0.4	5.5	Sample from west property line sidewall (1)
A-150 (3)	7/20	Sidewall	0.5	23.0	Sample from west property line sidewall (1)
A-200 (2)	7/20	Sidewall	0.6	13.0	Sample from west property line sidewall
A-250 (3)	7/20	Sidewall	0.6	16.0	Sample from west property line sidewall
A-300 (3)	7/20	Sidewall	0.7	57.0	Sample from west property line sidewall
A-350 (2)	7/21	Sidewall	0.0	9.3	Sample from west property line sidewall
A-400 (2)	7/21	Sidewall	0.1	6.1	Sample from west property line sidewall
A-450 (3)	7/21	Sidewall	0.2	8.1	Sample from west property line sidewall
A-500 (3)	7/21	Sidewall	0.2	9.0	Sample from west property line sidewall
A-550 (2)	7/21	Sidewall	0.2	9.1	Sample from west property line sidewall
26-40 (2)	7/21	Sidewall	0.1	7.0	Sample from north property line sidewall
26-80 (3)	7/21	Sidewall	0.1	8.2	Sample from north property line sidewall
SP-1	8/29	Stockpile	0.0	6.6	50 cubic yd stockpile soil from 43rd St water service trench
B-71 (10)	9/11	Pkg-Drive	0.0	1.4	Confirmation sample at GP-18 in base of infiltration basin
B-72 (10)	9/11	Pkg-Drive	0.0	1.7	Confirmation sample in base of infiltration basin
B-73 (10)	9/11	Pkg-Drive	0.2	1.4	Confirmation sample in base of infiltration basin
SW-1 (4½)	9/11	Sidewall	1.0	1.5	Confirmation sample from sidewall at SE corner of infiltration basin
B-74 (10)	9/12	Pkg-Drive	0.0	2.6	Confirmation sample in base of infiltration basin
B-75 (10)	9/13	Pkg-Drive	0.1	1.8	Confirmation sample at GP-1 and 1A (1)
SW-1 (1)	9/13	Sidewall	2.6	6.9	Sample from east sidewall of infiltration basin (1)
SW-2 (2)	9/13	Sidewall	1.2	4.7	Sample from east sidewall of infiltration basin
SW-3 (1)	9/13	Sidewall	2.2	8.9	Sample from east sidewall of infiltration basin
SW-4 (2)	9/13	Sidewall	4.2	13.0	Sample from north sidewall of infiltration basin (1); soil removed and disposed offsite
SW-5 (1)	9/13	Sidewall	0.5	3.7	Sample from west sidewall of infiltration basin
SW-6 (2)	9/13	Sidewall	0.0	1.9	Sample from west sidewall of infiltration basin
SP-1	9/13	Stockpile	0.0	1.8	700 yard stockpile of coarse alluvium generated from infiltration basin excavation; soil re-used as backfill
SP-2	9/13	Stockpile	0.0	2.9	700 yard stockpile of coarse alluvium generated from infiltration basin excavation; soil re-used as backfill
SP-3	9/13	Stockpile	0.0	2.5	700 yard stockpile of coarse alluvium generated from infiltration basin excavation; soil re-used as backfill
TP-1 (0-1)	9/15	Future Bldg	0.1	4.1	Unexcavated
TP-1 (1-3)	9/15	Future Bldg	0.0	10	Unexcavated
TP-1 (3-5)	9/15	Future Bldg	0.2	12	Unexcavated
TP-1 (5-6)	9/15	Future Bldg	0.0	1.4	Unexcavated
TP-2 (0-1)	9/15	Future Bldg	0.2	4.8	Soil used as backfill in Phase I
TP-2 (1-3)	9/15	Future Bldg	0.2	9.4	Soil used as backfill in Phase I

Table A
Summary of Arsenic Sampling/Laboratory Analysis (Performed in Conjunction with Grading)
Hiawatha Flats, Minneapolis, MN
AET Project No. 03-02255
(results in mg/kg)

Sample ID (depth-ft)	Date	Sample Location	PID	Arsenic	Remarks
TP-2 (3-5)	9/15	Future Bldg	0.1	8.8	Soil used as backfill in Phase I
TP-2 (5-6)	9/15	Future Bldg	0.0	1.2	Soil used as backfill in Phase I
B5 (6)	10/11	Utility Trench - Base	0.0	2.4	Base of storm sewer trench east of infiltration pond
B7 (6)	10/11	Utility Trench - Base	0.0	2.5	Base of storm sewer trench east of infiltration pond
B9 (6)	10/11	Utility Trench - Base	0.0	1.7	Base of storm sewer trench south of infiltration pond
B11 (6)	10/11	Utility Trench - Base	0.1	1.3	Base of storm sewer trench north of infiltration pond
B13 (4)	10/11	Utility Trench - Base	0.4	9.9	Base of storm sewer trench north of infiltration pond
R9	10/11	Utility Trench	0.0	2.0	Stockpiled trench excavated soils south of infiltration basin
R11	10/11	Utility Trench	0.1	12.0	Stockpiled trench excavated soils north of infiltration basin; soils removed and disposed offsite
R12	10/11	Utility Trench	0.1	11.0	Stockpiled trench excavated soils north of infiltration basin; soils removed and disposed offsite
S5 (2)	10/11	Utility Trench	0.0	2.4	East sidewall sample
S7 (2)	10/11	Utility Trench	0.0	4.8	East sidewall sample
S9 (2)	10/11	Utility Trench	0.0	6.1	East sidewall sample
S11 (1)	10/11	Utility Trench	0.2	8.2	East sidewall sample
S13 (1)	10/11	Utility Trench	0.4	69.0	East sidewall sample; soil removed and disposed off-site
S12 (1)	10/11	Utility Trench	0.2	8.1	East sidewall sample
S12 (3)	10/11	Utility Trench	0.2	14.0	East sidewall sample; soil removed and disposed off-site
B-76 (½)	10/13	Pkg-Drive	0.0	3.4	Confirmation sample in driveway subgrade
B-77 (1)	10/13	Pkg-Drive	0.0	4.2	Confirmation sample in driveway subgrade
B-77 (2)	10/13	Pkg-Drive	0.0	4.2	Confirmation sample in driveway subgrade
B-78 (½)	10/13	Pkg-Drive	0.0	7.4	Confirmation sample in driveway subgrade
B-79 (½)	10/13	Pkg-Drive	0.0	7.5	Confirmation sample at borings 7A and B in driveway subgrade
B-80 (½)	10/13	Green Space	0.0	8.9	Confirmation sample in green space
B-81 (½)	10/13	Green Space	0.0	9.1	Confirmation sample in green space
TP-1 (4)	10/24	Pkg-Drive	0.0	3.0	Test pits prior to excavating
TP-2 (4)	10/24	Pkg-Drive	0.0	9.4	Test pits prior to excavating (1)
TP-3 (4)	10/24	Pkg-Drive	0.0	11.0	Test pits prior to excavating; soil removed and disposed off-site
TP-4 (6)	10/24	Pkg-Drive	0.0	1.3	Test pits prior to excavating (1)
TP-5 (6)	10/24	Pkg-Drive	0.0	8.1	Test pits prior to excavating

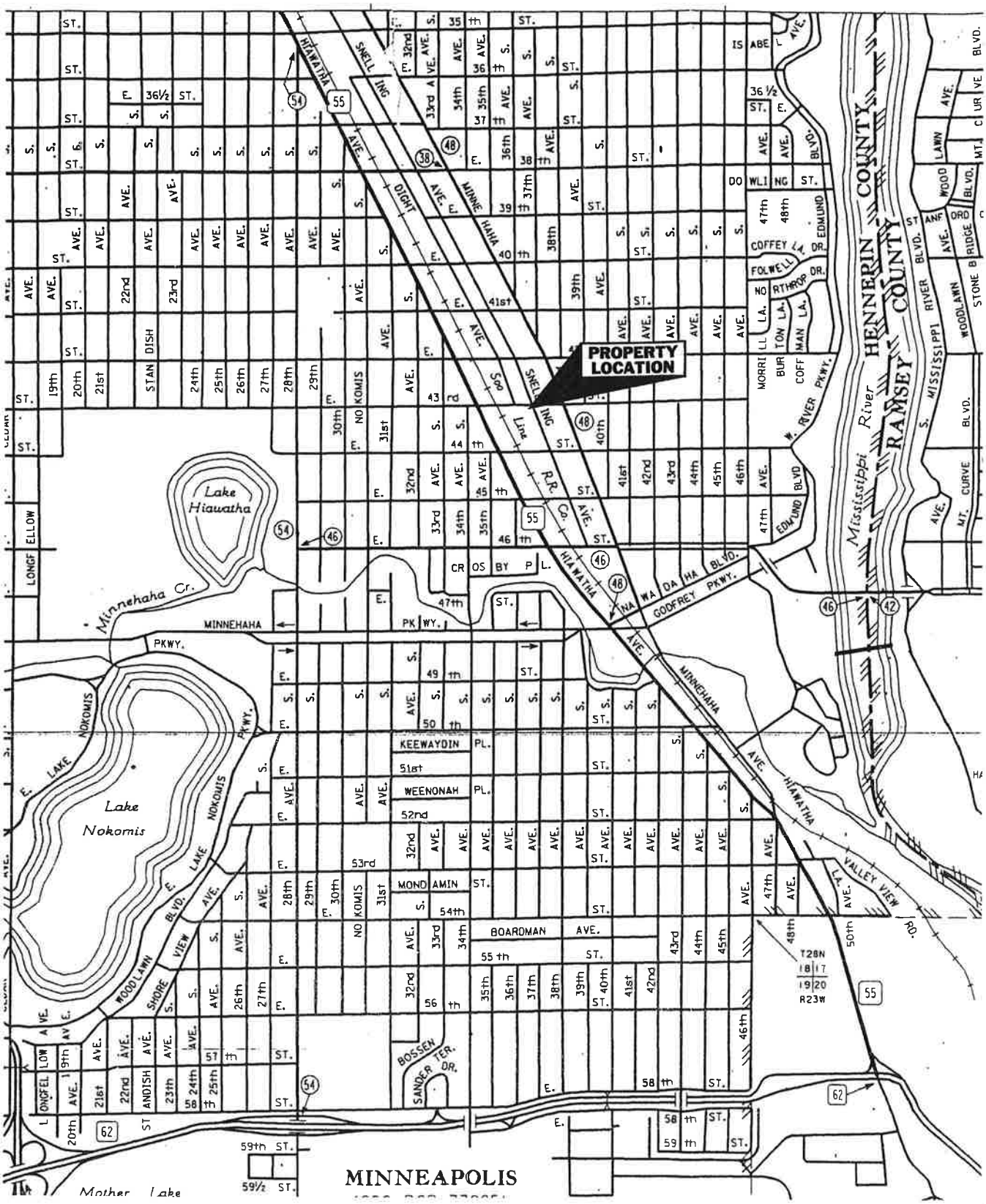
1: Refer to Table A.1 for additional laboratory analytical results.

Table A.1
Summary of Sampling/Laboratory Analysis (Performed in Conjunction with Grading)
Hiawatha Flats, Minneapolis, MN
(results in mg/kg)
AET Project No. 03-02255

Sample ID (depth-ft)	RCRA	VOC	DRO	GRO	PCB	PAH
B-2 (13)	See Below	ND	760	-	ND	ND
B-1 (4½)	-	ND	-	-	-	-
B-2 (5)	-	ND	-	-	-	-
AT-S (11)	-	ND	ND	ND	-	-
AT-N (11)	-	ND	ND	ND	-	-
B-4 (8)	See Below	ND	ND	ND	-	-
GP-17 (bottom) (4)	-	ND	-	-	-	-
GP-17 NW (3)	-	TCE = 2.6	-	-	-	-
GP-17 SW (3)	-	ND	-	-	-	-
Z-150 (3)	-	-	ND	-	-	-
B-36 (3)	-	-	ND	-	-	-
B-41 (6)	-	-	ND	-	-	-
B-51 (4)	-	-	ND	-	-	-
B-52 (5)	-	-	ND	-	-	-
B-53 (6½)	-	-	ND	-	-	-
B-57 (4)	-	-	ND	-	-	-
B-69 (4)	-	-	ND	-	-	-
A-100 (2)	-	-	57	-	-	-
A-150 (3)	-	-	60	-	-	-
B-75 (10)	-	-	43	-	-	-
SW-1 (1)	-	-	ND	-	-	-
SW-4 (2)	-	-	20	-	-	-
TP-2 (4)	-	-	ND	-	-	-
TP-4 (6)	-	-	ND	-	-	-

	RCRA Metals							
	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Boring Location								
B-2 (13)	1.9	38	ND	4.7	2.8	ND	ND	ND
B-4 (8)	2.2	31	ND	6.0	2.9	ND	ND	ND

ND: Not detected above the laboratory reporting limit
- : Not analyzed



AMERICAN ENGINEERING TESTING, INC.	**PROJECT:**	**Hiawatha Flats, Minneapolis, MN**		**AET #03-02255**
	SUBJECT:	**Location Map**		**DATE March-06**
	SCALE:	**None**	**DRAWN BY:**	**CHECKED BY:** CBich
				FIGURE 1