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PLR/SS Section

Phase II Environmental Site Assessment

Hi-Lake Shopping Center
2100-2218 East Lake Street
Minneapolis, Minnesota

Prepared for

Wellington Management, Inc.

Professional Certification:

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Geologist under the laws of the State of Minnesota.



Michael L. Bratrud, PG
Associate Principal
License Number: 30030
May 27, 2004



Project BL-04-03622A

Braun Intertec Corporation

May 27, 2004

Project BL-04-03622A

Mr. Steve Wellington
Wellington Management, Inc.
1625 Energy Park Drive, Suite 100
St. Paul, Minnesota 55108

Dear Mr. Wellington:

Re: Phase II Environmental Site Assessment, Hi-Lake Shopping Center Site,
2100-2218 East Lake Street, Minneapolis, Minnesota

As requested, Braun Intertec Corporation conducted a Phase II environmental site assessment (ESA) at the Hi-Lake Shopping Center site in Minneapolis, Minnesota. The purpose of the Phase II ESA was to evaluate if previous uses of the site had impacted soil or groundwater at the site.

If you have any questions regarding the enclosed Phase II ESA or the project in general, please call Jennifer Force at (952) 995-2454 or Mike Bratrud at (952) 995-2430.

Sincerely,

BRAUN INTERTEC CORPORATION

Jennifer A. Force, PG
Project Manager



Michael L. Bratrud, PG
Associate Principal

Enclosure:
Phase II Environmental Site Assessment

c: Mr. Robert Devolve, Leonard, Street and Deinard
Mr. A. Peter Hilger, Portfolio Design Services, Inc.
Ms. Shannon Hoagland, Leonard, Street and Deinard

-Phase II esa-Hi-Lake Shopping Ctr

Table of Contents

1.0	Introduction	1
2.0	Background.....	1
2.1	Location	1
2.2	Previous Environmental Investigations.....	2
3.0	Investigative Procedures.....	3
3.1	Soil Borings	4
3.2	Test Pits.....	4
3.3	Soil Classification and Monitoring	4
3.4	Groundwater Evaluation.....	5
3.5	Chemical Analysis	5
4.0	Phase II ESA Results.....	6
4.1	Geologic Conditions	6
4.2	Organic Vapor Screening Results	6
4.3	Soil Analytical Testing Results	7
4.4	Groundwater Analytical Testing Results	7
5.0	Conclusions	8
6.0	Assessment Limitations.....	8

Tables

Table 1: Soil Analytical Results

Table 2: Groundwater Analytical Results

Figures

Figure 1: Site Location Map

Figure 2: Sampling Locations

Appendices

Appendix A: Standard Operating Procedures

Appendix B: Soil Boring Logs

Appendix C: Laboratory Analytical Reports

Phase II Environmental Site Assessment Hi-Lake Shopping Center Site Minneapolis, Minnesota

1.0 Introduction

Wellington Management, Inc. retained Braun Intertec Corporation (Braun Intertec) to conduct a Phase II environmental site assessment (ESA) of the Hi-Lake Shopping Center site in Minneapolis, Minnesota (site). A site location map is included as Figure 1. The purpose of the Phase II ESA was to evaluate if previous uses of the site had impacted soil or groundwater at the site. The scope of work, laboratory analytical results, and conclusions from the Phase II ESA are summarized herein.

2.0 Background

2.1 Location

The site is located within the southeast quarter of the southwest quarter of Section 36, Township 29 North, Range 24 West, in the city of Minneapolis, Hennepin County, Minnesota, and is located northwest of the intersection of East Lake Street and Hiawatha Avenue at 2100-2218 East Lake Street. A site location map is included as Figure 1.

The site is currently occupied by an "L" shaped retail shopping center, an associated paved parking lot, and two out-lot buildings that house fast-food restaurants. Current tenants in the shopping center include a hardware store, a discount department store, a rental center, an H&R Block, a discount tobacco store, a laundromat, and a resale building supply store.

The site is bordered on the north by 29th Street East with a warehouse located beyond, on the east by the Hiawatha Avenue Bridge with a retail development located beyond, on the south by Lake Street with a YMCA located beyond, and on the west by 21st Avenue with a cemetery located beyond. The site is located in a mixed residential, commercial, and industrialized area of Minneapolis.

A site map is included as Figure 2.

2.2 Previous Environmental Investigations

In May 2000, Bay West, Inc. (Bay West) completed a Phase I ESA of the site, the results of which were summarized in a report entitled:

- *Phase I Environmental Assessment, Hi-Lake Shopping Center, Minneapolis* and dated May 15, 2000.

The scope of work for the Phase I ESA included a review of available historical records, and a limited site reconnaissance. The results of the Phase I ESA indicated that the Twin City Rapid Transit Company used the site for streetcar storage from 1910 to 1955. A barn was located on the southern portion of the site, and a freight elevator was located in the streetcar barn. A series of several railroad tracks were located to the north of the barn. According to City of Minneapolis records, a gas station was located on the southwest corner of the site from 1950 through 1954. Two 4,000-gallon underground storage tanks (USTs) were associated with the gas station, and according to city records were removed in 1954. The current shopping center was constructed in 1957. A second gas station also was constructed in the southwest portion of the site in 1957. According to City of Minneapolis records one 560-gallon, drain-oil UST and two 6,000-gallon, gasoline USTs were located at the gas station. According to fire department files, the gasoline USTs were installed "30 feet from Lake Street sidewalk" and that the drain-oil tank was located at the southeast corner of the building. The fire department files also indicate that two pumps for the gas station were located 20 feet from the 21st Avenue sidewalk and 18 feet from the Lake Street sidewalk. According to Building Permit Files the gas station was demolished in 1974. During the Phase I ESA, no records were found related to the removal of the USTs. According to the Phase I ESA, a drycleaners operated in the northeast corner of the shopping center from 1958 to 1972. A 250-gallon, above-ground storage tank (AST), which was associated with an auto-parts store, was observed during the site reconnaissance on the north side of the shopping center. The Phase I ESA concluded that "historical property use, specifically the usage as a streetcar storage yard and gasoline filling station (southwest portion of the property on two occasions), impacts could exist to the site subsurface soils and ground water."

Following the Phase I ESA, Bay West completed a Phase II ESA at the site to evaluate potential environmental impacts associated with the historical streetcar, petroleum retail, and dry-cleaning operations. The scope of work for the Phase II ESA included conducting geophysical surveys to evaluate if USTs associated with the former gas station were present, advancement of 13 soil borings, and collection and analyses of soil samples. Soil borings were located in the southwest corner of the site near the location of the former gas station, near the former streetcar barn and storage yard, and near the former drycleaners. Based on the results of the geophysical survey, two possible UST locations were identified. A third anomaly was identified as a possible buried foundation. During the Phase II ESA, a photoionization detector (PID) reading of 6 parts per million (ppm) was observed at a depth of 2 feet to 4 feet below ground surface (bgs) in one of the soil borings located north of the former streetcar barn. A black, "ash/charcoal-like material" also was observed in this interval. "Slight

black staining" was observed in a second boring (GP-6) advanced in this area at a depth of 6 feet bgs. No other PID readings above background or other indications of contamination were observed in the other soil borings.

Analytical results from the Phase II ESA indicated that no metals, volatile organic compounds (VOCs), or individual semi-volatile organic compounds (SVOCs), were detected at concentrations above the Residential Soil Reference Values (SRVs) or Soil Leaching Values (SLVs). In addition, metals concentrations were within the expected range for background concentrations. Diesel-range organics (DRO) and low concentrations of VOCs were detected in a soil sample collected near the former gas station. In addition, the benzo(a)pyrene (BaP) equivalent, which is a calculated value based on the value based on the concentrations of carcinogenic polynuclear aromatic hydrocarbons (PAHs), for a sample collected from GP-6 of black stained material was 4.4 milligrams per kilogram (mg/kg); this value exceeds the Industrial SRV of 4 mg/kg for the BaP equivalent.

The BaP equivalent of 4.4 mg/kg is a value that was recalculated by Braun Intertec. Braun Intertec recalculated the BaP equivalents for the samples collected during the 2000 Phase II ESA using the reporting limit if the compound was not detected at or above the reporting limit instead of zero, as was done previously. It is our professional opinion that even though use of the reporting limit results in a more conservative calculation of the BaP equivalent, it is more representative of site conditions because compounds might be present in the sample at concentrations just below the reporting limit, but above the method detection limit.

In February 2004, Bay West completed an additional Phase I ESA of the site. Conditions at the site and historic data reviewed for the site was similar to the Phase I ESA conducted in 2000 by Bay West.

3.0 Investigative Procedures

The scope of work for the Phase II ESA included the following:

- Conduct environmental monitoring during advancement of 13 soil borings (ST-A through ST-M) that were completed as part of the geotechnical assessment for the site.
- Conduct environmental monitoring during excavation of test pits to evaluate presence of USTs associated with former gas station.
- Advancement of three additional soil borings at the site (ST-N through ST-P) to evaluate potential impacts from former dry cleaners and AST.
- Collection and chemical analyses of soil samples from the borings and test pits.

- Collection and chemical analyses of groundwater samples collected from temporary wells installed in soil borings ST-K, ST-N, and ST-P.

The following sections outline the work effort for the Phase II ESA. Fieldwork for the Phase II ESA was conducted between May 7 and May 12, 2004. Methods and procedures that were used during the investigation are included in Appendix A. Sampling locations are shown on Figure 2.

3.1 Soil Borings

Soil borings were performed to obtain soil samples for visual inspection, on-site monitoring, and chemical analyses. During the Phase II ESA, 16 soil borings were advanced at the site to depths ranging from 10.5 feet to 54.1 feet bgs using 3.25-inch inside-diameter, hollow-stem augers in accordance with Braun Intertec SOP No. 5200. The locations of soil borings ST-A through ST-M were determined by Wellington Management, Inc. and were completed for geotechnical purposes. The locations of soil borings ST-N through ST-P were determined by Braun Intertec and were completed for environmental purposes. In general, soil samples were collected at 2.5-foot intervals to a depth of 15 feet and then at 5-foot intervals to the termination depth of the boring.

Upon completion, the soil borings were abandoned in accordance with MDH regulations.

3.2 Test Pits

A total of five test pits (TP-1 through TP-5) were completed at the site to evaluate anomalies that were identified during the previous geophysical surveys at the site, which might represent USTs or buried foundations. Test pits also were advanced in areas where USTs might have been installed based on information contained in fire department records (see Section 2.2).

The test pits were dug using a backhoe to depths ranging from 6 feet to 13 feet bgs; because of possible building footings in test pits TP-4 and TP-5, these test pits were not advanced below 6 feet bgs. The type of soil and non-soil fill was described and recorded on a test pit log, and following field evaluation and sampling, the excavated material was replaced in the excavation.

3.3 Soil Classification and Monitoring

A Braun Intertec environmental field technician monitored the subsurface materials encountered at each soil boring and test pit location. Soils were classified in the field in accordance with ASTM D 2487 "Unified Soils Classification System" and ASTM D 2488 "Recommended Practice for Visual and Manual Description of Soils." Soil discoloration and odors also were documented if detected.

In addition, soil samples were screened for the presence of organic vapors with a PID using both direct readings from each sample and the headspace method of analysis recommended in "Soil Sample Collection and Analysis Procedures," MPCA Tanks and Emergency Response Section Fact Sheet #3.22 (April 1996). The sample used for the bag headspace measurements was not used for chemical analysis. The PID was equipped with a 10.6-eV lamp and calibrated at least daily to an isobutylene standard. The PID was operated in accordance with Braun Intertec SOP No. 9003.

3.4 Groundwater Evaluation

Following advancement of soil borings ST-K, ST-N, and ST-P, temporary monitoring wells were installed in the soil borings to evaluate groundwater quality near the former dry cleaner. Based on groundwater flow direction at nearby sites, groundwater flow direction at the site is assumed to be to the west, and the temporary wells were placed in areas in the presumed upgradient and downgradient directions from the former dry cleaner.

After advancing the borings approximately 20 feet below the water table, a temporary monitoring well was constructed in the hollow-stem auger and used to collect groundwater samples for laboratory chemical analyses. The temporary wells were constructed with 1-inch PVC screen and riser pipe. New dedicated polyethylene tubing fitted with a stainless-steel check-ball valve was used to collect groundwater samples from each of the temporary wells.

After the groundwater samples were collected, the boreholes were grouted to the surface through a tremie pipe using neat cement grout in accordance with Minnesota Department of Health (MDH) requirements. All groundwater sampling equipment was cleaned with soap and water prior to the collection of each sample.

3.5 Chemical Analysis

Soil samples were collected from the borings and test pits from intervals with elevated PID readings or where soil staining and/or odors were encountered. If no indications of contamination were encountered based on field monitoring, a soil sample was not collected for chemical analysis.

Soil samples collected at the site were analyzed for a combination of the following parameters:

- VOCs using United States Environmental Protection Agency (EPA) Method 8260.
- SVOCs using EPA Method 8270.
- Gasoline-range organics (GRO) using the Wisconsin Department of Natural Resources (WDNR) Method.
- Total lead using EPA Method 6010.

Chemical parameters were selected based upon previous land use in that portion of the site and field observations.

Groundwater samples that were collected during the Phase II ESA were analyzed for VOCs using EPA Method 8260.

4.0 Phase II ESA Results

4.1 Geologic Conditions

In general, the soil borings and test pits encountered between 2 feet and 12 feet of fill consisting of silty sand, clayey sand, and sand overlying loose to medium-dense sands. Soil boring ST-K, which was advanced to a depth of 54 feet bgs, encountered weathered shale at 45 feet bgs. Soil borings ST-N, and ST-P, which also were advanced below the water table, were terminated in hard, sandy lean clay at a depth of 50 feet bgs.

Debris consisting of brick and concrete was observed in soil boring ST-H at depths between 2 feet and 12 feet bgs. Debris consisting of brick and concrete also was observed in all of the test pits advanced at the site (i.e., TP-1 through TP-5). In addition, former building foundations were encountered in test pits TP-1, TP-4, and TP-5. In test pit TP-1, the former foundations were oriented north to south, and in test pits TP-4 and TP-5, the former foundations were oriented east to west.

During the Phase II ESA, groundwater was encountered at depths ranging from 23 feet to 29 feet bgs.

Soil boring logs are included in Appendix B.

4.2 Organic Vapor Screening Results

The soil samples retrieved from the soil borings and test pits were examined by a Braun Intertec environmental technician for staining and other apparent signs of contamination. In addition, the soil samples were screened for the presence of organic vapors with a PID. The PID was equipped with a 10.6-eV lamp and was calibrated to an isobutylene standard. The PID was used to test fresh surfaces of soil retrieved and to perform headspace analyses.

No PID readings above 0.0 part per million (ppm) were detected in the soil samples collected from the soil borings at the site. During advancement of the test pits, elevated PID readings, petroleum-like odors, and staining were observed in soil as summarized below:

Test Pit	Depth	Observations
TP-1	2 feet to 3 feet	Petroleum-like odor and a PID reading of 2.4 ppm.
TP-2	3 feet to 12 feet	Petroleum-like odor, staining, and a PID reading of 424 ppm. Contamination appeared thickest in southwest corner of test pit and thinned to the north and east.
TP-3	8 feet to 12 feet	Petroleum-like odors and staining. No indications of contamination observed at 13 feet.
TP-4	2 feet to 3 feet	Petroleum-like odors and staining. PID readings range from 3.4 ppm ^a to 9.4 ppm.
TP-5	1 foot to 2 feet	Stained soil and petroleum-like odor. PID reading of 16.9 ppm.

4.3 Soil Analytical Testing Results

The analytical testing results for soil samples collected during the Phase II ESA are summarized in Table 1. The table also includes MPCA SRVs and SLVs for comparison purposes. Laboratory analytical reports and chain-of-custody forms are included in Appendix C.

The analytical results for soil samples indicate:

- Several petroleum-related VOCs were detected in samples collected from test pits TP-1, TP-2, and TP-5 including ethyl benzene, naphthalene, and total xylenes. With the exception of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene, none of the VOCs were detected at concentrations greater than the Residential SRVs. The concentrations of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene detected in test pit TP-2 also are greater than the Industrial SRV established for those compounds. Benzene, ethylbenzene, and naphthalene were detected at concentrations greater than the SLVs in test pit TP-2.
- No SVOCs were detected in the soil samples at concentrations greater than the laboratory reporting limit.
- Lead was detected in samples collected from test pits TP-1 and TP-2. However, concentrations of lead detected were less than the Residential SRV and the SLV and within the expected range for background concentrations.
- GRO was detected in samples collected from test pits TP-1, TP-2, and TP-5 at concentrations ranging from 31 mg/kg to 980 mg/kg. No SRV or SLV is established for GRO.

4.4 Groundwater Analytical Testing Results

The analytical testing results for groundwater samples collected during the Phase II ESA are summarized in Table 2. The table also includes Health Risk Limits (HRLs) established by the MDH for drinking water for comparison purposes. Laboratory analytical reports and chain-of-custody forms are included in Appendix C.

The analytical results indicate that one VOC; 1,2-dichloroethane, was detected in groundwater samples collected from ST-N and ST-P. Soil boring ST-N was advanced on the west side of the building in the presumed downgradient direction from the dry cleaner, and soil boring ST-P was advanced on the east side of the building in the presumed upgradient direction from the dry cleaner. The concentrations of 1,2-dichloroethane detected ranged from 27 micrograms per liter ($\mu\text{g/l}$) to 43 $\mu\text{g/l}$; both of these concentrations exceed the HRL of 4 $\mu\text{g/l}$ established for the compound.

5.0 Conclusions

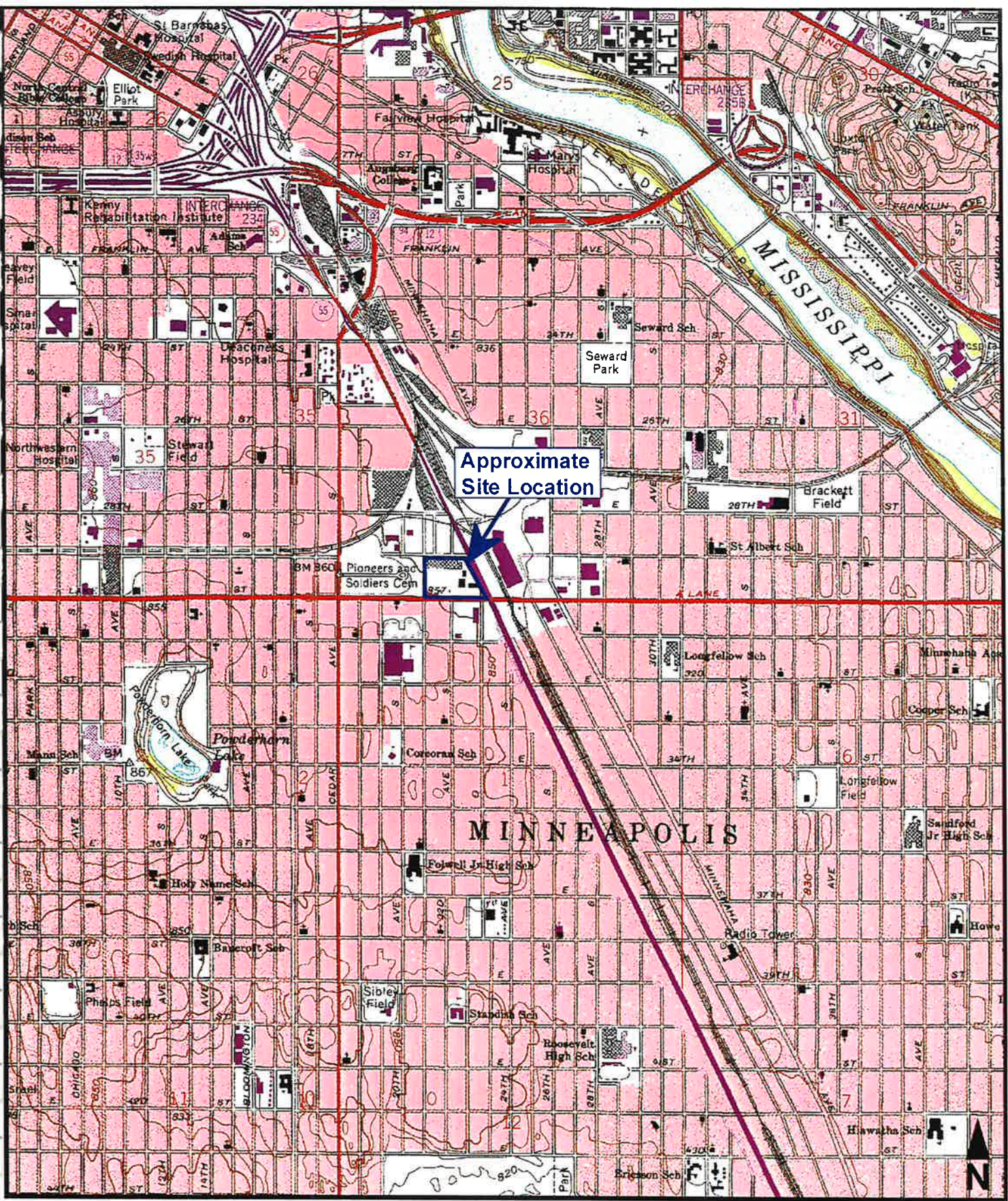
No USTs were encountered on the southwest portion of the site near the former gas station; however, petroleum-impacted soil was encountered in this area, which appears to be associated with the former USTs. PID headspace readings ranging from 2.4 ppm to 424 ppm were observed in soil collected from the test pits. Petroleum-like odors and staining also were observed in the test pits. Two petroleum-related VOCs were detected in soil samples collected from the test pits; 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected at concentrations exceeding the Industrial SRVs established for those compounds. Concentrations of petroleum-related VOCs detected in TP-2 also exceeded the SLVs. GRO were detected in soil samples collected from the test pits at concentrations ranging from 31 mg/kg to 980 mg/kg. In addition, debris including brick and concrete and former building foundations were encountered in the test pits advanced on the southwest portion of the site. Following detection of the petroleum contamination, a release was reported to the state duty officer. No indications of contamination were observed in soil samples collected from the soil borings.

Groundwater impacts also are present at the site. One VOC, 1,2-dichloroethane, was detected in two of the three groundwater samples collected at concentrations exceeding the HRL for that compound. Because impacted groundwater was detected during the Phase II ESA, it is our professional opinion that this constitutes a reportable release under Minnesota Statute.

6.0 Assessment Limitations

The analyses and conclusions submitted in this report are based on our field observations and the results of laboratory chemical analyses of soil and groundwater samples collected from the soil borings and test pits completed for this project.

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same location. No other warranty is made or intended.



Approximate Site Location

MINNEAPOLIS



BRAUN
INTERTEC

SM

Site Location Map
Phase II Environmental Site Assessment
Hi-Lake Shopping Center
Lake Street and Hiawatha Avenue
Minneapolis, MN

USGS TOPOGRAPHIC MAP	
St. Paul West, MN	
DATE:	5/18/2004
JOB NO:	BL-04-03622A
SCALE:	1 : 24,000
FIGURE NO:	1
DRAWN BY:	FER

Tables

Table 1
 Soil Analytical Results
 Hi-Lake Shopping Center
 Minneapolis, Minnesota
 Project BL-04-03622A

Compound/Parameter	CAS No.	Sample Identifier					Residential Soil Reference Value (mg/kg)	Industrial Soil Reference Value (mg/kg)	Tier I Soil Leaching Value (mg/kg)
		TP-1 (1') 5/10/2004	TP-2 (8') 5/10/2004	TP-4 (2') 5/10/2004	TP-5 (1') 5/10/2004	SI-K-50' 5/11/2004			
Volatiles Organic Compounds (mg/kg)									
Benzene	71-43-2	< 0.050	0.61	< 0.067	< 0.050	< 0.050	1.5	4	0.034
Ethyl Benzene	100-41-4	< 0.050	7.3	< 0.067	< 0.050	< 0.050	200	200	4.7
Isopropylbenzene (cumene)	98-82-8	< 0.050	1.5	< 0.067	< 0.050	< 0.050	30	87	18
p-Isopropyltoluene	99-87-6	< 0.050	0.83	< 0.067	0.061	< 0.050	NE	NE	NE
Naphthalene	91-20-3	0.063	8.7	< 0.067	0.27	< 0.050	10	28	7.5
n-Propylbenzene	103-65-1	< 0.050	5.2	< 0.067	< 0.050	< 0.050	30	93	NE
1,3,5-Trimethylbenzene	95-63-6	< 0.050	14	< 0.067	0.065	< 0.050	5	5	NE
1,2,4-Trimethylbenzene	108-67-8	< 0.050	48	< 0.067	0.27	< 0.050	4	10	NE
o-Xylene	108-38-3/106-42-3	< 0.050	30	< 0.067	< 0.050	< 0.050	110	248	45
m,p-Xylenes	95-47-6	< 0.050	0.51	< 0.067	< 0.050	< 0.050	110	248	45
Semi-Volatile Organic Compounds (mg/kg)									
Total SVOCs		NA	NA	ND	ND	NA	1,200	5,260	50
Metals (mg/kg)									
Lead, Total	7439-92-1	7.4	15	< 3.7	< 3.7	NA	400	700	525
Other Parameters (mg/kg)									
Gasoline Range Organics		31	980	< 10	32	NA	NE	NE	NE

Notes:
 mg/kg = Milligrams per kilogram.
 < - Compound/parameter was not detected above the laboratory reporting limit indicated.
 NE = Not Established
 ND = Not detected.
 NA = Not analyzed for.
 SRV - 1999 Soil Reference Value established by the Minnesota Pollution Control Agency.
 SLV - November 1999 Soil Leaching Value established by the Minnesota Pollution Control Agency.
 Shaded cells indicate concentration exceeds Industrial SRV.

Table 2
Groundwater Analytical Results
Hi-Lake Shopping Center
Minneapolis, Minnesota
Project BL-04-03622A

Compound/Parameter	CAS No.	Sample Identifier			Health Risk Limit (ug/l)
		ST-K-52' 5/12/2004	ST-N-50' 5/12/2004	ST-P-50' 5/11/2004	
Volatile Organic Compounds (ug/L)					
1,2-Dichloroethane	107-06-02	< 2.0	43	27	4

Notes:

ug/l = Micrograms per liter.

< - Compound/parameter was not detected above the laboratory reporting limit indicated.

HRL - January 2001 Health Risk Limit established by the Minnesota Department of Health.

Appendix B

Soil Boring Logs

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-A LOCATION: See attached sketch.
--	--

DRILLER: J.C.	METHOD: 3 1/4" HSA Autohammer	DATE: 5/7/04	SCALE: 1" = 4'
---------------	-------------------------------	--------------	----------------

Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0	FILL	FILL: Silty Sand, fine- to medium-grained, with Gravel, dark brown, moist.			
3.0	FILL	FILL: Silty Sand, with a trace of Gravel, black, moist, loose.	6		
4.0	FILL	FILL: Silty Sand, dark brown, moist, loose.	4		
9.0	SP	POORLY GRADED SAND, fine-grained, light brown to grayish-brown, moist, loose to medium dense. (Alluvium)	13		
15.5		END OF BORING.	8		
		Water not observed with 14 feet of hollow-stem auger in the ground. Water not observed to cave-in depth of 9 feet immediately after withdrawing the auger. Boring immediately backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-B LOCATION: See attached sketch.
--	---

DRILLER: J.C.	METHOD: 3 1/4" HSA Autohammer	DATE: 5/7/04	SCALE: 1" = 4'
---------------	-------------------------------	--------------	----------------

(See Descriptive Terminology sheet for explanation of abbreviations)

Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
0.7	FILL	FILL: 4 inches of Bituminous over 5 inches of Aggregate Base.			
	FILL	FILL: Silty Sand, fine-grained, with a trace of Gravel, black to dark brown, moist.			
			18		
			3		
8.0			7		
	SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, moist, loose. (Alluvium)			
10.0			11		
	SP	POORLY GRADED SAND, fine-grained, light brown, moist, medium dense to loose. (Alluvium)			
			15		
15.5			7		
		END OF BORING.			
		Water not observed with 14 feet of hollow-stem auger in the ground.			
		Water not observed to cave-in depth of 9 feet immediately after withdrawing the auger.			
		Boring immediately backfilled.			

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-C
	LOCATION: See attached sketch.

DRILLER: J.C.	METHOD: 3 1/4" HSA Autohammer	DATE: 5/7/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
2.0	FILL	FILL: Silty Sand, with Gravel, dark brown, moist.			
4.0	FILL	FILL: Poorly Graded Sand, fine-grained, with a Lean Clay seam, brown, moist.	16		
7.0	FILL	FILL: Clayey Sand, fine-grained, black, moist to wet.	12		
9.0	FILL	FILL: Silty Sand, fine-grained, dark brown, moist.	23		
15.5	SP	POORLY GRADED SAND, fine-grained, brown, moist, loose. (Alluvium)	5 5 8		
END OF BORING. Water not observed with 14 feet of hollow-stem auger in the ground. Water not observed to cave-in depth of 9 1/2 feet immediately after withdrawing the auger. Boring immediately backfilled.					

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota			BORING: ST-D LOCATION: See attached sketch.		
DRILLER: J.C.	METHOD: 3 1/4" HSA Autohammer	DATE: 5/7/04	SCALE: 1" = 4'		
Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
0.7	FILL	FILL: 4 inches of Bituminous over 5 inches of Aggregate Base.			
	FILL	FILL: Poorly Graded Sand and Silty Sand, with a trace of Gravel, brown, moist.			
		With a black Clayey Sand layer at approximately 7 1/2 feet.			
9.0	SP	Possible Fill fine-grained, light brown, moist, loose. (Alluvium)			
15.5		END OF BORING.			
		Water not observed with 14 feet of hollow-stem auger in the ground.			
		Water not observed to cave-in depth of 12 feet immediately after withdrawing the auger.			
		Boring immediately backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-E
	LOCATION: See attached sketch.

DRILLER: J.C.	METHOD: 3 1/4" HSA Autohammer	DATE: 5/7/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0	FILL	FILL: Silty Sand, fine-grained, with a trace of Gravel, brown, moist.			
2.0	FILL	FILL: Sandy Lean Clay, brown, moist.	12		
4.0	SM	SILTY SAND, fine-grained, dark brown to black, moist. (Buried Topsoil)	11		
6.0	SM	SILTY SAND, fine-grained, dark brown, moist, loose. (Alluvium)	4		
8.0			8		
12.0	SP	POORLY GRADED SAND, fine-grained, with a trace of Gravel, brown, moist, medium dense. (Alluvium)	21		
14.0	SP	POORLY GRADED SAND, fine-grained, light brown, wet, medium dense. (Alluvium)	19		
15.5		END OF BORING.			
		Water not observed with 14 feet of hollow-stem auger in the ground.			
		Water not observed to cave-in depth of 9 feet immediately after withdrawing the auger.			
		Boring immediately backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN_GDT 5/14/04 14:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-F
	LOCATION: See attached sketch.

DRILLER: J.C.	METHOD: 3 1/4" HSA Autohammer	DATE: 5/7/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
0.7	FILL	FILL: 4 inches of Bituminous over 5 inches of Aggregate Base.			
2.0	FILL	FILL: Silty Sand, fine- to medium-grained, with a trace of Gravel, dark brown, moist.			
	FILL	FILL: Poorly Graded Sand, fine- to medium-grained, brown, moist.	7		
			6		
8.0			6		
	SP	POORLY GRADED SAND, fine- to medium-grained, with a trace of Gravel, brown, moist, medium dense. (Alluvium)			
10.0			11		
	SP	POORLY GRADED SAND, fine-grained, brown, moist, medium dense to loose. (Alluvium)			
			16		
15.5			9		
		END OF BORING.			
		Water not observed with 14 feet of hollow-stem auger in the ground.			
		Boring immediately backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-G
	LOCATION: See attached sketch.

DRILLER: J.C.	METHOD: 3 1/4" HSA Autohammer	DATE: 5/7/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
0.7	FILL	FILL: 4 inches of Bituminous over 5 inches of Aggregate Base.			
2.0	FILL	FILL: Silty Sand, fine- to coarse-grained, with a trace of Gravel, dark brown, moist.			
4.0	FILL	FILL: Poorly Graded Sand, fine-grained, with a trace of Gravel, brown, moist.	9		
	FILL	FILL: Silty Sand, fine-grained, with a trace of Gravel, dark brown, moist.	17		
			13		
			21		
11.0	SP	POORLY GRADED SAND, fine-grained, brown, moist, loose to medium dense. (Alluvium)	16		
15.5			8		
		END OF BORING. Water not observed with 14 feet of hollow-stem auger in the ground. Boring immediately backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-J LOCATION: See attached sketch.
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DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0	FILL	FILL: 2 inches of Bituminous.			
0.2	FILL	FILL: Silty Sand, fine- to medium-grained, brown, moist.			
2.0	SP-SM	POORLY GRADED SAND with SILT, fine- to medium-grained, brown, moist, loose to very loose. (Possible Fill)	10		
			6		
			2		
			3		
12.0	SP	POORLY GRADED SAND, fine-grained, brown, moist, loose to medium dense. (Alluvium)	7		
			13		
19.0	SM	SILTY SAND, fine- to medium-grained, with Gravel and cobbles, brown to reddish-brown, moist, very dense. (Glacial Till)	52		
25.5		END OF BORING.	100/3"		
		Water not observed with 25 feet of hollow-stem auger in the ground.			
		Water not observed to cave-in depth of 22 feet immediately after withdrawing the auger.			
		Boring immediately backfilled.			

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-P LOCATION: See attached sketch.
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DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0	FILL	FILL: Silty Sand, fine- to medium-grained, with a trace of Gravel, black, moist.			
4.0	SP-SM	POORLY GRADED SAND with SILT, fine- to medium-grained, with a trace of Gravel, brown, moist. (Possible Fill)	4		
7.0	SP	POORLY GRADED SAND, fine-grained, brown, moist, loose to medium dense. (Alluvium)	6		
12.0			7		
19.0	SM	SILTY SAND, fine- to medium-grained, with Gravel, reddish-brown, moist, very dense. (Glacial Till)	12		
20.0			11		
21.0			6		
22.0			79	▽	
23.0			100/5"		
24.0			58		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

INTERTEC

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-P (cont.) LOCATION: See attached sketch.
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DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
32.0					
34.0		SILTY SAND, fine- to medium-grained, with Gravel, reddish-brown, moist, very dense. (Glacial Till) <i>(continued)</i>			
39.0	CL	SANDY LEAN CLAY, wet, gray, hard. (Glacial Till)	36		
39.0	SP	POORLY GRADED SAND, fine- to coarse-grained, with Gravel, grayish-brown, waterbearing, very dense. (Glacial Outwash)	58		
44.0	CL	SANDY LEAN CLAY, with a trace of Gravel, gray, moist to wet, very stiff. (Glacial Till)	26		
50.5		END OF BORING.	30		
Water observed at 23 feet with 50 feet of hollow-stem auger in the ground. Boring immediately backfilled with bentonite grout.					

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-H
	LOCATION: See attached sketch.

DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0	FILL	FILL: 4 inches of Bituminous over 7 inches of Aggregate Base.			
1.0	FILL	FILL: Lean Clay with Sand, dark brown, moist.			
2.0	FILL	FILL: Silty Sand, with pieces of brick and concrete, reddish-brown, moist.	26		
7.0	FILL	FILL: Poorly Graded Sand, fine-grained, with pieces of concrete, grayish-brown, moist.	15		
12.0	SP	POORLY GRADED SAND, fine-grained, brown, moist, loose. (Alluvium)	12		
15.5		END OF BORING.	7		
		Water not observed with 14 feet of hollow-stem auger in the ground.	6		
		Water not observed to cave-in depth of 13 feet immediately after withdrawing the auger.			
		Boring immediately backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 15:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-I
	LOCATION: See attached sketch.

DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
0.8	FILL	FILL: 4 inches of Bituminous over 5 inches of Aggregate Base.			
2.0	FILL	FILL: Silty Sand, fine-grained, black, moist. (Topsoil)			
	SM	SILTY SAND, fine-grained, brown, moist. (Possible Fill)	6		
			11		
7.0	SP	POORLY GRADED SAND, fine-grained, with a trace of Gravel, brown, moist, loose to medium dense. (Alluvium)	11		
			12		
			9		
			8		
19.0	SP	POORLY GRADED SAND, fine- to medium-grained, with Gravel and cobbles, brown, moist, medium dense. (Alluvium)	11		
25.5		END OF BORING.	30		
		Water not observed with 25 feet of hollow-stem auger in the ground.			
		Water not observed to cave-in depth of 19 1/2 feet immediately after withdrawing the auger.			
		Boring immediately backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 15:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota			BORING: ST-K	
			LOCATION: See attached sketch.	
DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'	

(See Descriptive Terminology sheet for explanation of abbreviations)

Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
1.0	FILL	FILL: 4 inches of Bituminous over 7 inches of Aggregate Base.			
6.0	FILL	FILL: Silty Sand, fine- to medium-grained, with a layer of Clayey Sand, dark brown, moist.	7		
6.0	SP	POORLY GRADED SAND, fine-grained, brown, moist, loose to medium dense. (Alluvium)	8		
			7		
			6		
			10		
			9		
24.0	SP	POORLY GRADED SAND, fine- to medium-grained, with a trace of Gravel, brown, moist, medium dense. (Alluvium)	14		
29.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, reddish-brown, waterbearing, medium dense. (Alluvium)	29	▽	

BRAUN BASIC LOG 0403622.GPJ BRAUN_GDT 5/14/04 15:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota			BORING: ST-K (cont.) LOCATION: See attached sketch.		
DRILLER: Scott McLean		METHOD: 3 1/4" HSA Autohammer		DATE: 5/12/04	SCALE: 1" = 4'
Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
32.0					
34.0		POORLY GRADED SAND with SILT, fine-grained, reddish-brown, waterbearing, medium dense. (Alluvium) (continued)			
	SP-SM	POORLY GRADED SAND with SILT, fine- to coarse-grained, with Gravel and cobbles, brown, wet, very dense. (Glacial Outwash)	51		
			64		
44.0	CL	SANDY LEAN CLAY, with a trace of Gravel, dark gray, moist, very stiff. (Glacial Till)	29		
49.0	SHALE	WEATHERED SHALE, gray, moist, hard.	59		
54.1		END OF BORING. Spoon refusal on bedrock at 54.1 feet. Water observed at 29 feet with 30 feet of hollow-stem auger in the ground. Boring immediately backfilled with bentonite grout.	100-1/2"		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 15:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota		BORING: ST-L LOCATION: See attached sketch.			
DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'		
Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0	FILL	FILL: 4 inches of Bituminous over 6 1/2 inches of Aggregate Base.			
0.9	FILL	FILL: Silty Sand, fine-grained, with pieces of brick, dark brown to black, moist.			
7.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, moist, loose. (Alluvium)	12 8 7 8 6 6		
15.5		END OF BORING. Water not observed with 14 feet of hollow-stem auger in the ground. Water not observed to cave-in depth of 13 feet immediately after withdrawing the auger. Boring immediately backfilled.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 15:34

INTERTEC

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-M LOCATION: See attached sketch.
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DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0	FILL	FILL: 4 inches of Bituminous over 7 inches of Aggregate Base.			
1.0	FILL	FILL: Silty Sand, fine- to medium-grained, dark brown to black, moist.	7		
4.0	SP	POORLY GRADED SAND, fine-grained, light brown, moist, loose. (Alluvium)	7		
15.5		END OF BORING. Water not observed with 14 feet of hollow-stem auger in the ground. Water not observed to cave-in depth of 12 1/2 feet immediately after withdrawing the auger. Boring immediately backfilled.	7		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 15:34

INTERTEC

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-N
	LOCATION: See attached sketch.

DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 15:34

Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
0.7	FILL	FILL: 4 inches of Bituminous over 4 inches of Aggregate Base.			
1.0	FILL	FILL: Silty Sand, fine- to medium-grained, with Gravel, with a layer of Clayey Sand, black, moist.			
	FILL	FILL: Silty Sand, fine-grained, dark brown, moist.	4		
			7		
			7		
9.0	SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist, medium dense. (Alluvium)	10		
			18		
			9		
19.0	SP	POORLY GRADED SAND, fine- to coarse-grained, with a trace of Gravel, brown, moist, medium dense. (Alluvium)	24		
24.0	SM	SILTY SAND, fine-grained, brown, moist, medium dense. (Alluvium)	19		
29.0	SP	POORLY GRADED SAND, fine-grained, reddish-brown, waterbearing, medium dense. (Alluvium)	16	▽	

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-N (cont.)
	LOCATION: See attached sketch.

DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
32.0		POORLY GRADED SAND, fine-grained, reddish-brown, waterbearing, medium dense. (Alluvium) <i>(continued)</i>			
34.0	SM	SILTY SAND, with Gravel and cobbles, reddish-brown, moist, dense. (Glacial Till)	34		
39.0	CL	SANDY LEAN CLAY, with a trace of Gravel, olive, wet, hard. (Glacial Till)	100/8"		
40.0	SP	POORLY GRADED SAND, fine- to coarse-grained, with Gravel and cobbles, grayish-brown, waterbearing, very dense. (Glacial Outwash)	100/7"		
49.0	CL	SANDY LEAN CLAY, with a trace of Gravel, dark gray, wet, hard. (Glacial Till)	68		
50.5		END OF BORING. Water observed at 29 feet with 50 feet of hollow-stem auger in the ground. Boring immediately backfilled with bentonite grout.			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 15:34

INTERTEC

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-O
	LOCATION: See attached sketch.

DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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(See Descriptive Terminology sheet for explanation of abbreviations)

Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0					
0.2	FILL	FILL: 2 inches of Bituminous.			
	FILL	FILL: Silty Sand, with a trace of Gravel pieces and glass, dark brown, moist.			
2.0					
	SP-SM	POORLY GRADED SAND with SILT, fine- to medium-grained, brown, moist. (Possible Fill)	6		
			11		
6.0					
	SP	POORLY GRADED SAND, fine-grained, light brown, moist, medium dense. (Alluvium)	12		
			10		
10.5					
		END OF BORING. Water not observed with 10 feet of hollow-stem auger in the ground. Water not observed to cave-in depth of 8 feet immediately after withdrawing the auger. Boring immediately backfilled.			

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 15:34

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-P
	LOCATION: See attached sketch.

DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
0.0	FILL	FILL: Silty Sand, fine- to medium-grained, with a trace of Gravel, black, moist.			
4.0	SP-SM	POORLY GRADED SAND with SILT, fine- to medium-grained, with a trace of Gravel, brown, moist. (Possible Fill)	4		
7.0	SP	POORLY GRADED SAND, fine-grained, brown, moist, loose to medium dense. (Alluvium)	6		
			7		
			12		
			11		
			6		
19.0	SM	SILTY SAND, fine- to medium-grained, with Gravel, reddish-brown, moist, very dense. (Glacial Till)	79		
				▽	
			100/5"		
			58		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34

INTERTEC

Braun Project BL-04-03622 GEOTECHNICAL EVALUATION Hi-Lake Shopping Center Redevelopment Hiawatha and Lake Street Minneapolis, Minnesota	BORING: ST-P (cont.)
	LOCATION: See attached sketch.

DRILLER: Scott McLean	METHOD: 3 1/4" HSA Autohammer	DATE: 5/12/04	SCALE: 1" = 4'
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Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes
32.0					
34.0		SILTY SAND, fine- to medium-grained, with Gravel, reddish-brown, moist, very dense. (Glacial Till) <i>(continued)</i>			
39.0	CL	SANDY LEAN CLAY, wet, gray, hard. (Glacial Till)	36		
39.0	SP	POORLY GRADED SAND, fine- to coarse-grained, with Gravel, grayish-brown, waterbearing, very dense. (Glacial Outwash)	58		
44.0	CL	SANDY LEAN CLAY, with a trace of Gravel, gray, moist to wet, very stiff. (Glacial Till)	26		
50.5		END OF BORING.	30		
Water observed at 23 feet with 50 feet of hollow-stem auger in the ground. Boring immediately backfilled with bentonite grout.					

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN BASIC LOG 0403622.GPJ BRAUN.GDT 5/14/04 14:34