



THE GILLOTTI COMPANIES

Serving Our Customers Since 1934

CON 12-15
Doc #15844

May 29, 1998

John Vedder
Department of Natural Resources
Wallace State Office Building
502 E. 9th Street
Des Moines, Iowa 50319-0034

Dear Sir,

Please find enclosed a limited, phase II environmental site assessment, prepared by Geotechnical Services, for a site located in Urbandale, Iowa, near 121st Street & Meredith Drive. To complete the sale of this parcel, it is my understanding that the Iowa Department of Natural Resources needs to examine the report and write a letter regarding its contents.

As usual, buyers and sellers are anxious to complete the transaction. If there is any more information, or anything I can help you with, please feel free to contact me at the office (225-6677), here in West Des Moines.

Sincerely,

J A Gillotti

JAG/jj

CONSTRUCTION SUPPORT GROUP, INC.

4000 Westown Parkway, Suite 100 • West Des Moines, Iowa 50266 • (515) 225-7379 • Fax (515) 225-6953

• COMMITTED TO TOTAL SERVICE •



LIMITED PHASE II
ENVIRONMENTAL SITE ASSESSMENT

CROSSROADS POINTE BUSINESS PARK
23 ACRE SITE AT THE NORTHEAST CORNER
MEREDITH DRIVE AT 121st STREET
URBANDALE, IOWA

GSI PROJECT NO. 26D057

MAY 8, 1998

GeoTec. Serv. 270-6542

INTRODUCTION

Geotechnical Services, Inc. (GSI) was retained by Mr. Jared Johnson to complete a Limited Phase II Environmental Site Assessment (ESA) at the 23 acre site for the proposed Crossroads Pointe Business Park located at northeast of the intersection of Meredith Drive and 121st Street in Urbandale, Iowa.

This report is not an audit for regulatory compliance or a detailed condition survey for the presence of asbestos, lead paint, PCB's, radon, and other naturally occurring materials.

BACKGROUND

GSI conducted a Phase I ESA (dated March 24, 1998, GSI No. 26D032) at the subject site and identified the following environmental concerns at the site:

- Petroleum hydrocarbon impact from storage and handling of gasoline.

SCOPE OF SERVICES

Based on the information obtained during the Phase I ESA, GSI's proposed scope of services for this Limited Phase II ESA, included:



- Drill and install three (3) soil borings/temporary monitoring wells in the vicinity of the former above ground storage tank (AST) on the site, and in the vicinity of the fuel storage area adjacent to the two hangar buildings on site.
- Collect soil samples from the test borings at the depth of the highest photoionization detector (PID) reading for laboratory chemical analysis for benzene, toluene, ethylbenzene, and xylenes (BTEX) by Iowa Methods OA-1.
- Collect ground water samples from the test borings for laboratory chemical analysis for benzene, toluene, ethylbenzene, and xylenes (BTEX) by Iowa Methods OA-1.
- Remove the temporary monitoring wells and abandon the soil borings in accordance with Iowa Department of Natural Resources (IDNR) requirements.
- Prepare a summary report.

SITE ACTIVITIES

On April 16, 1998, GSI drilled three (3) soil borings, B-1, B-2, and B-3 at the subject site using a truck mounted drilling rig. The location of the soil borings are shown on the Scaled Site Plan included in the appendix of this report. All drilling and sampling activities were conducted with 6-inch continuous flight augers. Upon completion of the drilling operations a temporary monitoring well consisting of a well end point, 10 feet of factory slotted PVC well screen and PVC flush joint pipe were installed in the test borings for the purpose of obtaining ground water samples. Boring logs with temporary well construction diagrams are included in the appendix to this report.

A total of four (4) soil samples were submitted for petroleum hydrocarbon analysis using Iowa Department of Natural Resources (IDNR) Methods OA-1. A total of three (3) ground water samples were collected and submitted for laboratory chemical analysis by IDNR Methods OA-1. Following ground water sampling, the temporary monitoring wells were removed from the borings, and the borings were backfilled and abandoned in accordance with IDNR regulations. The groundwater levels in the temporary monitoring wells were approximately 3 and 15 feet below existing grades (BEG) at the completion of drilling operations. It should be noted that groundwater observations during Limited Phase II Assessments are of short duration and do not necessarily reflect the groundwater table.

FINDINGS

SITE GEOLOGY

The subsurface stratigraphy at the subject site generally consisted of approximately 1 to 1-½ feet of topsoil or fill, underlain by silty clay with interbedded layers of sand. A detailed description of the soils encountered during the drilling operations are described in the Boring Logs enclosed in the appendix of this report.

FIELD SCREENING DATA

The PID readings from the samples obtained during the drilling operations ranged from 0 part per million (ppm) in B-1 and B-2 to approximately 33 ppm in B-3. The depth of the soil samples obtained and the associated PID readings are shown on the boring logs included in the appendix of this report.



LABORATORY DATA

The results of the laboratory chemical analysis for the four (4) soil samples collected during this Limited Phase II ESA exhibited petroleum hydrocarbon concentrations less than current IDNR RBCA Tier 1 look-up table concentrations for all pathways. Laboratory chemical analysis of the sample collected from TB-3 exhibited concentrations of benzene and toluene above the current action levels. The results of the laboratory chemical analysis for the remaining two (2) ground water samples exhibited petroleum hydrocarbon concentrations less than current IDNR RBCA Tier 1 look-up table concentrations for all pathways. Results of the laboratory chemical analysis are summarized below. Laboratory data sheets and Chain of Custody forms are included in the appendix of this report.

Table 1. Soils (BTEX)

Compound	TB-1/5' ug/L	TB-2/5' ug/L	TB-3/6' ug/L	TB-3/ 14' ug/L	State RBCA Action Levels ug/L	Method
Benzene	<0.25	<0.25	<0.25	<0.25	0.54	OA-1
Toluene	<0.5	<0.5	<0.5	<0.5	42	OA-1
Ethylbenzene	<0.5	<0.5	<0.5	<0.5	15	OA-1
Xylenes	<0.5	<0.5	4.4	<0.5	N/A	OA-1

Table 1. Groundwater (BTEX)

Compound	TB-1 ug/L	TB-2 ug/L	TB-3 ug/L	State RBCA Action Levels ug/L	Method
Benzene	<2	<2	120	5	OA-1
Toluene	<2	<2	1,100	1,000	OA-1
Ethylbenzene	<2	<2	410	700	OA-1
Xylenes	<3	<3	2,200	10,000	OA-1

CONCLUSION

The results of the laboratory chemical analysis for the four (4) soil samples collected during this Limited Phase II ESA exhibited petroleum hydrocarbon concentrations less than current IDNR RBCA Tier 1 look-up table concentrations for all pathways. Laboratory chemical analysis of the ground water sample from TB-3 exhibited concentrations of benzene and toluene above the current action levels for the actual drinking water pathway. The results of the laboratory chemical analysis for the remaining two (2) ground water samples exhibited petroleum hydrocarbon concentrations less than current IDNR RBCA Tier 1 look-up table concentrations for all pathways. RBCA look-up table values do not currently apply to above ground storage tank sites, the IDNR establishes site specific clean-up levels for each site. Therefore, GSI recommends the owner/prospective owner submit the results to IDNR Uncontrolled Sites Section for their determination on corrective action requirements.



LIMITATIONS

This report is a professional opinion, based on the data collected during this assessment. The conclusions presented in this report are based on the observations of the existing site conditions, historical site use information, and the results of the limited subsurface exploration, sample screening, and chemical testing program. GSI has performed services in a manner consistent with the level of care and skill ordinarily exercised by members of the environmental assessment profession practicing contemporaneously under similar conditions in the area of the project.

Respectfully Submitted,
GEOTECHNICAL SERVICES, INC.

Stephen Megivern

Stephen J. Megivern, P.E.

Reviewed By:

Roland C. Newton

Roland C. Newton

Project Geologist

Iowa Certified Groundwater Professional No. 1481

#1

Tank overflowed

No guideline for above ground Storage -

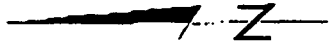
APPENDIX

SITE MAP

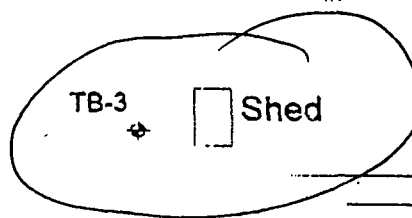
BORING LOGS

LABORATORY DATA SHEETS

CHAIN OF CUSTODY



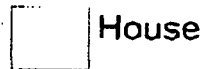
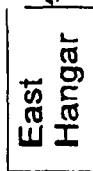
Old Well and Pit



Driveway

MEREDITH DRIVE

TB-2



TB-1



121st St.

0 100

APPROXIMATE SCALE IN FEET



Boring Location



**Geotechnical
Services Inc.**

PROJECT

Crossroads Pointe Limited Phase II
Urbandale, Iowa

JOB NO. 26D057

DWG. NO.

DATE April 1998

DRAWN SJM

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: TB-1	Facility Crossroads Pointe Name:	Facility Street Address: Urbandale, IA
Boring Depth (ft) X Diameter (in): 15' x 6"	Drilling Method: 6" CFA	
Well Contractor Name: DAH	Logged by: MTL	
Registration Number: 40298		

Ground Surface Elevation (Relative): 105.15	Top of Casing Elevation (Relative):
--	--

Date: 4/16/98	Date: 4/16/98	UST Number: N/A	LUST Number: N/A
Start Time: 12:10pm	End Time: 12:30pm		

Depth (feet)	Well Construction Details	Blow Count if applicable	Sample No. Type*	PID / FID Reading	Rock Formations, Soil Color and Classifications, Observations (moisture, odor, etc.) First column for USCS
-----------------	---------------------------	-----------------------------	---------------------	----------------------	--

0					
1				0.2	Dark brn and brn mixed SILTY CLAY, trace crushed rock (FILL)
2					
3					
4					
5			1-1 soil	0.3	CL Dark brn SILTY SANDY CLAY trace pebbles, moist to very moist, gray @ 4'
6				0.1	
7					
8					
9					
10				0.0	CL Yellow brn SILTY SANDY CLAY trace pebbles, moist to very moist.
11					
12					
13					
14				0.6	
15				0.1	Gray below 13.5'
					Bottom of Boring @ 15'

16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

* SS (split spoon) HS (hollow stem auger)

Observations	Date:	4/16/98	4/16/98	4/16/98		
Water Levels (ASL)	Level:	4.0'	4.5'	2.9'		
Static Water Level Symbol v	Time:	12:15pm	12:30pm	3:00pm		

DNR FORM 542-1392

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: TB-2			Facility Crossroads Pointe Name:		Facility Street Address: Urbandale, IA	
Boring Depth (ft) X Diameter (in): 15' x 6"					Drilling Method: 6" CFA	
Well Contractor Name: DAH					Logged by: MTL	
Registration Number: 40298						
Ground Surface Elevation (Relative): 107.28			Top of Casing Elevation (Relative):			
Date: 4/16/98		Date: 4/16/98		UST Number: N/A		LUST Number: N/A
Start Time: 12:40pm		End Time: 1:00pm				
Depth (feet)	Well Construction Details		Blow Count if applicable	Sample No. Type*	PID / FID Reading	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS
0						
1					0.1	Dk brn VERY SILTY CLAY, tr sand, damp to moist, tr organics
2						CL Yellow brn SANDY SILTY CLAY tr gravel damp to moist
3						SC moist to very moist sandy zone between 2.5'-3'
4					0.2	
5				2-1 soil	0.0	CL
6					0.1	
7						
8						
9						
10					0.2	SM Interbedded SILTY MEDIUM TO COARSE SAND
11						SM Gray brn SILTY FINE TO MEDIUM SAND, tr pebbles, wet
12						CL Gray, brn mottled SANDY SILTY CLAY tr pebbles, moist to very moist
13					0.1	
14						
15						Bottom of boring @ 15'

* SS (split spoon) HS (hollow stem auger)

Observations	Date:	4/16/98	4/16/98	4/16/98		
Water Levels (ASL)	Level:	5.0'	4.0'	3.7'		
Static Water Level Symbol v	Time:	12:45pm	1:00pm	3:10pm		

DNR FORM 542-1392

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: TB-3				Facility Crossroads Pointe Name:		Facility Street Address: Urbandale, IA			
Boring Depth (ft) X Diameter (in): 20' x 6'						Drilling Method: 6" CFA			
Well Contractor Name: DAH						Logged by: MTL			
Registration Number: 40298									
Ground Surface Elevation (Relative): 102.73					Top of Casing Elevation (Relative):				
Date: 4/16/98		Date: 4/16/98			UST Number: N/A			LUST Number: N/A	
Start Time: 1:10pm		End Time: 1:45pm							
Depth (feet)	Well Construction Details			Blow Count if applicable	Sample No. Type*		PID / FID Reading	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS	
0									
-							0.6		Dk brn mixed SANDY SILTY CLAY tr rubble and rock (FILL)
-							0.8	CL	Dk brn-gray brn SILTY CLAY tr sand, moist to very moist
-							1.4		
5									
-					3-1	soil	32.5		
-							8.4	CL	Yellow brn SILTY SANDY CLAY tr pebbles, moist to very moist sweet petroleum odor in soil @ 6' Moisture seepage @ 10'
10									
-									
-									
-									
-									
-					3-2	Soil	12.1	CL	Blue-green SANDY SILTY CLAY trace pebbles, petroleum odor
15 V									
-							1.2		
-								CL-CH	Dark gray SILTY SANDY CLAY tr gravel D-M
-									
20									Bottom of boring @ 20'
-									
-									
-									
-									
-									
-									
25									

DNR FORM 542-1392



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

ANALYTICAL REPORT

Roland Wheeler
GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
515-270-6542

04/22/1998

NET Job Number: 98.04296

NET Sample Number: 446640

Collected by: Michael Lustig

Collectors Phone No.: 515-270-6542

Job Description: PROJECT #26D057

Date Taken: 04/16/1998

Date Received: 04/18/1998

Sample ID: 1-1 Crossroads Point

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Flag</u>	<u>Analyst</u>	<u>Date Analyzed</u>	<u>Method</u>	<u>Reporting Limit</u>	<u>Matrix</u>
VOLATILES - BTEX (NONAQUEOUS)								
Benzene	<1.25	ug/g		sjg	04/21/1998	IA-OA1	0.25 ug/g	SOIL
Toluene	<1.5	ug/g		sjg	04/21/1998	IA-OA1	0.5 ug/g	SOIL
Ethylbenzene	<1.5	ug/g		sjg	04/21/1998	IA-OA1	0.5 ug/g	SOIL
Xylenes, Total	<1.5	ug/g		sjg	04/21/1998	IA-OA1	0.5 ug/g	SOIL

All results are calculated on a wet weight basis.

R. L. Bindert
Operations Manager
IA UST LAB CERTIFICATION NO. 0007



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

ANALYTICAL REPORT

Roland Wheeler
GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
515-270-6542

04/22/1998

NET Job Number: 98.04296

NET Sample Number: 446641

Collected by: Michael Lustig

Collectors Phone No.: 515-270-6542

Job Description: PROJECT #16D057

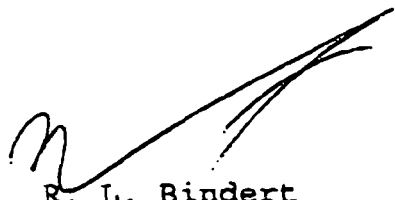
Date Taken: 04/16/1998

Date Received: 04/18/1998

Sample ID: 2-1 Crossroads Point:

<u>Analyte</u>	<u>Result</u>	<u>Unit</u>	<u>Result</u>		<u>Analyst</u>	<u>Date Analyzed</u>	<u>Method</u>	<u>Reporting</u>		
			<u>Flag</u>					<u>Limit</u>	<u>Matrix</u>	
VOLATILES - BTEX (NONAQUEOUS)										
Benzene	<0.25	ug/g			sjg	04/21/1998	IA-OAL	0.25 ug/g	SOIL	
Toluene	<1.5	ug/g			sjg	04/21/1998	IA-OAL	0.5 ug/g	SOIL	
Ethylbenzene	<1.5	ug/g			sjg	04/21/1998	IA-OAL	0.5 ug/g	SOIL	
Xylenes, Total	<1.5	ug/g			sjg	04/21/1998	IA-OAL	0.5 ug/g	SOIL	

All results are calculated on a wet weight basis.


R. L. Bindert
Operations Manager
IA UST LAB CERTIFICATION NO. 0007



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

ANALYTICAL REPORT

Roland Wheeler
GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
515-270-6542

04/22/1998

NET Job Number: 98.04296

NET Sample Number: 446642

Collected by: Michael Lustig

Collectors Phone No.: 515-270-6542

Job Description: PROJECT #26D057

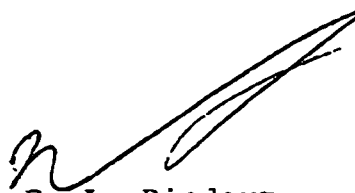
Date Taken: 04/16/1998

Sample ID: 3-1 Crossroads Pointe

Date Received: 04/18/1998

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Result</u>		<u>Analyst</u>	<u>Date Analyzed</u>	<u>Method</u>	<u>Reporting</u>	
			<u>Flag</u>	<u>Flag</u>				<u>Limit</u>	<u>Matrix</u>
VOLATILES - BTEX (NONAQUEOUS)									
Benzene	<0.25	ug/g			sjg	04/21/1998	IA-OAL	0.25 ug/g	SOIL
Toluene	<0.5	ug/g			sjg	04/21/1998	IA-OAL	0.5 ug/g	SOIL
Ethylbenzene	<0.5	ug/g			sjg	04/21/1998	IA-OAL	0.5 ug/g	SOIL
Xylenes, Total	4.4	ug/g			sjg	04/21/1998	IA-OAL	0.5 ug/g	SOIL

All results are calculated on a wet weight basis.


R. L. Bindert
Operations Manager
IA UST LAB CERTIFICATION NO. 0007



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

ANALYTICAL REPORT

Roland Wheeler
GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
515-270-6542

04/22/1998

NET Job Number: 98.04296

NET Sample Number: 446643

Collected by: Michael Lustig

Collectors Phone No.: 515-270-6542

Job Description: PROJECT #26D057

Date Taken: 04/16/1998

Date Received: 04/18/1998

Sample ID: 3-2 Crossroads Point:

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Result</u>		<u>Analyst</u>	<u>Date Analyzed</u>	<u>Method</u>	<u>Reporting</u>		<u>Matrix</u>
			<u>Flag</u>					<u>Limit</u>		
VOLATILES - BTEX (NONAQUEOUS)										
Benzene	<0.25	ug/g			sjg	04/21/1998	IA-OA1	0.25 ug/g		SOIL
Toluene	<0.5	ug/g			sjg	04/21/1998	IA-OA1	0.5 ug/g		SOIL
Ethylbenzene	<0.5	ug/g			sjg	04/21/1998	IA-OA1	0.5 ug/g		SOIL
Xylenes, Total	<0.5	ug/g			sjg	04/21/1998	IA-OA1	0.5 ug/g		SOIL

All results are calculated on a wet weight basis.


R. L. Bindert
Operations Manager
IA UST LAB CERTIFICATION NO. 0007



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

ANALYTICAL REPORT

Roland Wheeler
GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
515-270-6542

04/22/1998

NET Job Number: 98.04296

NET Sample Number: 446644

Collected by: Michael Lustig

Collectors Phone No.: 515-270-6542

Job Description: PROJECT #26D057

Date Taken: 04/16/1998

Date Received: 04/18/1998

Sample ID: 1-W Crossroads Pointe

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Flag</u>	<u>Analyst</u>	<u>Date Analyzed</u>	<u>Method</u>	<u>Reporting Limit</u>	<u>Matrix</u>
VOLATILES - BTEX (WATER)								
Benzene	<1.0	ug/L		sjg	04/20/1998	IA-OAL	2.0 ug/L	Water
Toluene	<1.0	ug/L		sjg	04/20/1998	IA-OAL	2.0 ug/L	Water
Ethylbenzene	<1.0	ug/L		sjg	04/20/1998	IA-OAL	2.0 ug/L	Water
Xylenes, Total	<1.0	ug/L		sjg	04/20/1998	IA-OAL	3.0 ug/L	Water

All results are calculated on a wet weight basis.

R. L. Bindert
Operations Manager
IA UST LAB CERTIFICATION NO. 0007



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

ANALYTICAL REPORT

Roland Wheeler
GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
515-270-6542

04/22/1998

NET Job Number: 98.04296

NET Sample Number: 446645

Collected by: Michael Luscig

Collectors Phone No.: 515-270-6542

Job Description: PROJECT #26D057

Date Taken: 04/16/1998

Date Received: 04/18/1998

Sample ID: 2-W Crossroads Pointe

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Result</u>		<u>Analyst</u>	<u>Date Analyzed</u>	<u>Method</u>	<u>Reporting</u>		<u>Matrix</u>
			<u>Flag</u>	<u>Flag</u>				<u>Limit</u>	<u>Limit</u>	
VOLATILES - BTEX (WATER)										
Benzene	<1.0	ug/L			sjg	04/20/1998	IA-OA1	2.0	ug/L	Water
Toluene	<1.0	ug/L			sjg	04/20/1998	IA-OA1	2.0	ug/L	Water
Ethylbenzene	<1.0	ug/L			sjg	04/20/1998	IA-OA1	2.0	ug/L	Water
Xylenes, Total	<1.0	ug/L			sjg	04/20/1998	IA-OA1	1.0	ug/L	Water

All results are calculated on a wet weight basis.

R. L. Bindert
Operations Manager
IA UST LAB CERTIFICATION NO. 3007



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

ANALYTICAL REPORT

Roland Wheeler
GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
515-270-6542

04/22/1998

NET Job Number: 98.04296

NET Sample Number: 446646

Collected by: Michael Lustig

Collectors Phone No.: 515-270-6542

Job Description: PROJECT #26D057

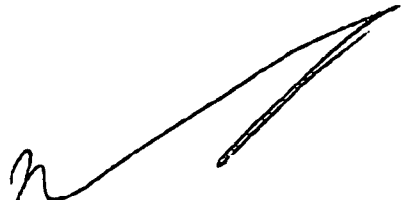
Date Taken: 04/16/1998

Date Received: 04/18/1998

Sample ID: J-W Crossroads Pointe

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Flag</u>	<u>Analyst</u>	<u>Date Analyzed</u>	<u>Method</u>	<u>Reporting Limit</u>	<u>Matrix</u>
VOLATILES - BTEX (WATER)								
Benzene	120	ug/L		sjg	04/20/1998	IA-OA1	2.0 ug/L	Water
Toluene	1,100	ug/L		sjg	04/20/1998	IA-OA1	2.0 ug/L	Water
Ethylbenzene	410	ug/L		sjg	04/20/1998	IA-OA1	2.0 ug/L	Water
Xylenes, Total	1,200	ug/L		sjg	04/20/1998	IA-OA1	3.0 ug/L	Water

All results are calculated on a wet weight basis.


R. L. Bindert
Operations Manager
IA OST LAB CERTIFICATION NO. 0007



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

QUALITY CONTROL REPORT

GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
Roland Wheeler

04/22/1998

NET Job Number: 98.04296

Enclosed is the Quality Control data for the following samples submitted to NET Midwest, Inc. - Cedar Falls for analysis:

Sample Number		Sample Description	Date Taken	Date Received
446640	1-1	Crossroads Pointe	04/16/1998	04/18/1998
446641	2-1	Crossroads Pointe	04/16/1998	04/18/1998
446642	3-1	Crossroads Pointe	04/16/1998	04/18/1998
446643	3-2	Crossroads Pointe	04/16/1998	04/18/1998
446644	1-W	Crossroads Pointe	04/16/1998	04/18/1998
446645	2-W	Crossroads Pointe	04/16/1998	04/18/1998
446646	3-W	Crossroads Pointe	04/16/1998	04/18/1998

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Iowa Laboratory Certification number - 7



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

QUALITY CONTROL REPORT

GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
Roland Wheeler

04/22/1998

NET Job Number: 98.04296

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Reporting Limit
446640 1-1 Crossroads Pointe			04/16/1998				
VOLATILES - BTEX (NONAQUEOUS)							
Benzene	<0.25	ug/g	04/21/1998		3256	IA-OA1	0.25
Toluene	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
Ethylbenzene	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
Xylenes, Total	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
4-Bromofluorobenzene (surr.)	88	%	04/21/1998		3256	IA-OA1	
446641 2-1 Crossroads Pointe			04/16/1998				
VOLATILES - BTEX (NONAQUEOUS)							
Benzene	<0.25	ug/g	04/21/1998		3256	IA-OA1	0.25
Toluene	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
Ethylbenzene	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
Xylenes, Total	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
4-Bromofluorobenzene (surr.)	85	%	04/21/1998		3256	IA-OA1	
446642 3-1 Crossroads Pointe			04/16/1998				
VOLATILES - BTEX (NONAQUEOUS)							
Benzene	<0.25	ug/g	04/21/1998		3256	IA-OA1	0.25
Toluene	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
Ethylbenzene	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
Xylenes, Total	4.4	ug/g	04/21/1998		3256	IA-OA1	0.5
4-Bromofluorobenzene (surr.)	93	%	04/21/1998		3256	IA-OA1	
446643 1-2 Crossroads Pointe			04/16/1998				
VOLATILES - BTEX (NONAQUEOUS)							
Benzene	<0.25	ug/g	04/21/1998		3256	IA-OA1	0.25
Toluene	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

QUALITY CONTROL REPORT

GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
Roland Wheeler

04/22/1998

NET Job Number: 98.04296

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Analysis Method	Reporting Limit
446643 3-2 Crossroads Pointe			04/16/1998				
Ethylbenzene	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
Xylenes, Total	<0.5	ug/g	04/21/1998		3256	IA-OA1	0.5
4-Bromofluorobenzene (surr.)	74	g	04/21/1998		3256	IA-OA1	
446644 1-W Crossroads Pointe			04/16/1998				
VOLATILES - BTEX (WATER)							
Benzene	<2.0	ug/L	04/20/1998		4910	IA-OA1	2.0
Toluene	<2.0	ug/L	04/20/1998		4910	IA-OA1	2.0
Ethylbenzene	<2.0	ug/L	04/20/1998		4910	IA-OA1	2.0
Xylenes, Total	<3.0	ug/L	04/20/1998		4910	IA-OA1	3.0
4-Bromofluorobenzene (surr.)	74	g	04/20/1998		4910	IA-OA1	
446645 2-W Crossroads Pointe			04/16/1998				
VOLATILES - BTEX (WATER)							
Benzene	<2.0	ug/L	04/20/1998		4910	IA-OA1	2.0
Toluene	<2.0	ug/L	04/20/1998		4910	IA-OA1	2.0
Ethylbenzene	<2.0	ug/L	04/20/1998		4910	IA-OA1	2.0
Xylenes, Total	<3.0	ug/L	04/20/1998		4910	IA-OA1	3.0
4-Bromofluorobenzene (surr.)	77	g	04/20/1998		4910	IA-OA1	
446646 3-W Crossroads Pointe			04/16/1998				
VOLATILES - BTEX (WATER)							
Benzene	120	ug/L	04/20/1998		4910	IA-OA1	2.0
Toluene	1,103	ug/L	04/20/1998		4910	IA-OA1	2.0
Ethylbenzene	410	ug/L	04/20/1998		4910	IA-OA1	2.0
Xylenes, Total	2,203	ug/L	04/20/1998		4910	IA-OA1	3.0
4-Bromofluorobenzene (surr.)	77	g	04/20/1998		4910	IA-OA1	



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
Roland Wheeler

04/22/1998

NET Job Number: 98.04296

Analyte	Prep Batch Number	Run Batch Number	CCV True Concentration	Concentration Found	Percent Recovery
VOLATILES - BTEX (WATER)					
Benzene		4910	100.	100.	100.0
Toluene		4910	100.	101.	101.0
Ethylbenzene		4910	100.	102.	102.0
Xylenes, Total		4910	200.	199.	99.5
4-Bromofluorobenzene (surr.)		4910	100.0	89.5	89.5
VOLATILES - BTEX (NONAQUEOUS)					
Benzene		3256	100.	101.	101.0
Toluene		3256	100.	103.	103.0
Ethylbenzene		3256	100.	104.	104.0
Xylenes, Total		3256	200.	205.	102.5
4-Bromofluorobenzene (surr.)		3256	100.	88.3	88.3

CCV - Continuing Calibration Verification



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

QUALITY CONTROL REPORT BLANKS

GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
Roland Wheeler

04/22/1998

NET Job Number: 98.04296

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Units
VOLATILES - BTEX (WATER)				
Benzene		4910	<2.0	ug/L
Toluene		4910	<2.0	ug/L
Ethylbenzene		4910	<2.0	ug/L
Xylenes, Total		4910	<3.0	ug/L
4-Bromofluorobenzene (surr.)		4910	92.7	t
VOLATILES - BTEX (NONAQUEOUS)				
Benzene		3256	<0.25	ug/g
Toluene		3256	<0.5	ug/g
Ethylbenzene		3256	<0.5	ug/g
Xylenes, Total		3256	<0.5	ug/g
4-Bromofluorobenzene (surr.)		3256	80.6	t

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventional/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3876
Roland Wheeler

04/22/1998

NET Job Number: 98.04296

Analyte	Prep	Run	Matrix	Sample	Spike	Units	Percent	MSD	MSD		Percent	MS/MSD
	Batch	Batch	Spike						Spike	Amount		
	Number	Number	Result	Result	Amount		Recovery	Result	Amount	Units	Recovery	RPD
VOLATILES - BTEX (WATER)												
Benzene		4910	92.0	<2.0	100.	ug/L	92.0	99.6	100.	ug/L	99.6	7.9
Toluene		4910	92.3	<2.0	100.	ug/L	92.3	100.	100.	ug/L	100.0	7.9
Ethylbenzene		4910	94.2	<2.0	100.	ug/L	94.2	102.	100.	ug/L	102.0	7.9
Xylenes, Total		4910	182.	<3.0	200.	ug/L	91.0	197.	200.	ug/L	98.5	7.9
VOLATILES - BTEX (NONAQUEOUS)												
Benzene		3256	9.80	<0.25	11.5	ug/g	85.2	10.4	12.4	ug/g	83.9	1.5
Toluene		3256	10.2	<0.5	11.5	ug/g	88.7	10.0	12.4	ug/g	87.1	1.8
Ethylbenzene		3256	10.3	<0.5	11.5	ug/g	89.6	10.8	12.4	ug/g	87.1	2.8
Xylenes, Total		3256	20.3	<0.5	23.9	ug/g	84.9	21.4	24.7	ug/g	86.6	2.0

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs
Inorganic Parameters and GC Volatiles

The spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

RPD = Relative Percent Difference



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

GEOTECHNICAL SERVICES, INC
10052 Justin Drive
Suite L
Des Moines, IA 50322-3376
Roland Wheeler

04/22/1998

NET Job Number: 98.04296

Analyte	Prep Batch Number	Run Batch Number	LCS True Concentration	LCS % Recovery
VOLATILES - BTEX (WATER)				
Benzene		4910	100.	98.1
Toluene		4910	100.	98.3
Ethylbenzene		4910	100.	100.0
Xylenes, Total		4910	200.	97.0
4-Bromofluorobenzene (surr.)		4910	100.0	82.0
VOLATILES - BTEX (NONAQUEOUS)				
Benzene		3256	11.8	100.8
Toluene		3256	11.8	105.1
Ethylbenzene		3256	11.8	104.2
Xylenes, Total		3256	23.5	103.8
4-Bromofluorobenzene (surr.)		3256	100.	84.2

LCS - Laboratory Control Standard

Advisory Control Limits - Inorganics - LCS recovery should be 80 - 120%.



**National
Environmental
Testing, Inc.**

NET, Inc. - Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA

Phone: 319 - 277 - 2401 or 1 - 800 - 750 - 2401
Fax: 319 - 277 - 2425

Company: Geotechnical Services, Inc.

Your PO #: 0602696

Send Report To: Roland C. Newton

Invoice To: Roland C. Newton

Address: 10052 Justin Drive, Suite L

NET Quote #:

City/State/Zip Code: Des Moines, Iowa 50322

Project Name: Crossroads Pointe

Telephone Number: (515) 270-6542

Fax: (515) 270-1911

Sampled By: (Print Name) Michael E. Lustig

Project Number: 26D057

(Signature)

Project Manager: Roland C. Newton

[illegible]

NOTE: All turn around times are calculated from the time of receipt at NET.

NOTICE: Pre-Arrangements must be made AT LEAST 48 Hours in ADVANCE to receive results with these turn around time commitments; Additional Charges may be assessed.

NOTE: There may be a charge assessed for NET disposing of sample remainders.

NOTES:

* * THERE IS A \$4.00 CHARGE FOR EACH CHROMATOGRAM

Relinquished by:	Date	Time	Received by:	Date	Time	Relinquished by:	Date	Time
<i>[Signature]</i>			<i>[Signature]</i>	4/17/98	3:15			
Received for NET by:	Date	Time	COC Seals Present and Intact? Yes No		Shipped Via:			
<i>[Signature]</i>	4/18/98	8:10	Temperature Upon Receipt					

N

COOLER TEMPERATURES

CLIENT: GSI

CITY: Old Maine PROJECT: 262057

DATE TAKEN: 4-18-98 TAKEN BY: HH

Cooler #1: 3.8 °C / ON ICE Cooler #3: _____ °C / ON ICE

Cooler #2: _____ °C / ON ICE Cooler #4: _____ °C / ON ICE

Increased emphasis has been put on sample preservation by the various regulators. Any sample being sent to NET must be properly preserved, this includes sending samples in a properly cooled shipping container. The majority of tests performed for regulatory compliance must be preserved at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ during storage and shipment as directed by 40 CFR Part 136. Results from samples which are not properly preserved at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ may be rejected by regulators. Rejection or acceptance is solely at the discretion of the regulators.