



February 12, 2009

Mr. David McGuffin, P.E.
City of Des Moines Engineering Department
City Hall
100 E. 1st Street
Des Moines, Iowa 50309

RE: **Limited Environmental Sampling Services
Guthrie Avenue Business Park
Ruan Property – 1700 DeWolf
Des Moines, Iowa
Project No: CTYDM 09001**

Dear Mr. McGuffin:

BARKER LEMAR ENGINEERING CONSULTANTS (BARKER LEMAR) has completed a Limited Environmental Site Assessment (ESA) for the above-referenced site. The objective of the services was to further investigate total extractable hydrocarbon concentrations in a soil stockpile identified during sampling activities in April 2005. The soil pile is located on property owned by the City of Des Moines and is on the parcel located at the northwest corner of DeWolf and Jefferson Streets. The site area is indicated on Figure 1.

1.0 FIELD ACTIVITIES

BARKER LEMAR personnel were on-site February 5, 2009, to collect soil samples from a soil stockpile located on the site. The pile was sampled by hand augering at two locations. The sample locations were located in the vicinity of the location of samples collected from the stockpile in April 2005, which are identified as SP1, SP2 and SP3 on Figure 2. The exact sampling locations were determined by the City of Des Moines. The samples collected during this activity were identified as SP4 and SP5, as shown on Figure 2. At each location, a sample was collected from a depth of 2 feet, 4 feet, and 6 feet and composited into one sample. Soil samples were transported on ice via overnight courier under chain-of-custody procedures to Keystone Laboratories in Newton, Iowa, for analysis. Samples were analyzed for petroleum compounds by Iowa Method OA-2.

2.0 ANALYTICAL RESULTS

2.1 SOIL SAMPLE RESULTS

Analytical laboratory results and chain-of-custody forms for soil samples are included in Attachment A, and sampling results are shown in Table 1. The results indicated detectable concentrations of total extractable hydrocarbon (TEH) as waste oil in each of the soil borings. There is not an established action level for waste oil in soil. Concentrations of TEH as waste oil were detected in the range from 6 mg/kg to 16 mg/kg in the samples.

3.0 SUMMARY

The results of the soil sampling indicate that TEH as waste oil is present above detectable levels in the soil pile based on the samples analyzed. There are no action levels for waste oil. If concentrations of TEH as waste oil are above 100 mg/kg, removed soil may require disposal as a special waste at a landfill or land farm. Landfills are required to treat petroleum contaminated soils (PCS) to levels below 100 mg/kg. Previous sampling activities had indicated TEH as waste oil above 100 mg/kg in one sample (SB3). However, analytical results from SP4 and SP5 were below 100 mg/kg.

4.0 GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon data obtained from the soil borings installed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations in chemical concentrations that may occur between sampling locations or across the site. Actual subsurface conditions may vary and may not become evident without further exploration.

BARKER LEMAR has prepared this report for the exclusive use of our client for the specific application to the project discussed, and the report has been prepared in accordance with generally-accepted environmental engineering practices. No warranties, either express or implied, are intended or made. In the event any changes in the nature or location of suspected sources of chemical impact or other subsurface conditions, as outlined in this report, are



observed, the conclusions contained herein cannot be considered valid unless changes are reviewed and the opinions of this report are modified or verified in writing by **BARKER LEMAR**.

We appreciate the opportunity to be of service to you on this project. If you have any questions regarding the information contained in this report, please contact us at (515) 256-8814.

Sincerely,
BARKER LEMAR ENGINEERING CONSULTANTS

Christy L. Jaworski

Christy L. Jaworski
Senior Project Manager
cjaworski@barkerlemar.com

Thomas E. Draur

Thomas E. Draur, P.E.
Principal Engineer
tdraur@barkerlemar.com

TABLE

TABLE 1
SUMMARY OF SOIL SAMPLING - SOIL PILE
EXTRACTABLE PETROLEUM HYDROCARBONS
CITY OF DES MOINES, 1700 DeWolf
DES MOINES, IOWA
BARKER LEMAR PROJECT NO. CTYDM 09001

Analyte	Units	Action Level	SP4	SP5
TEH as waste oil	mg/Kg	NE	16	6
Total Extractable Hydrocarbons	mg/Kg	NE	16	6

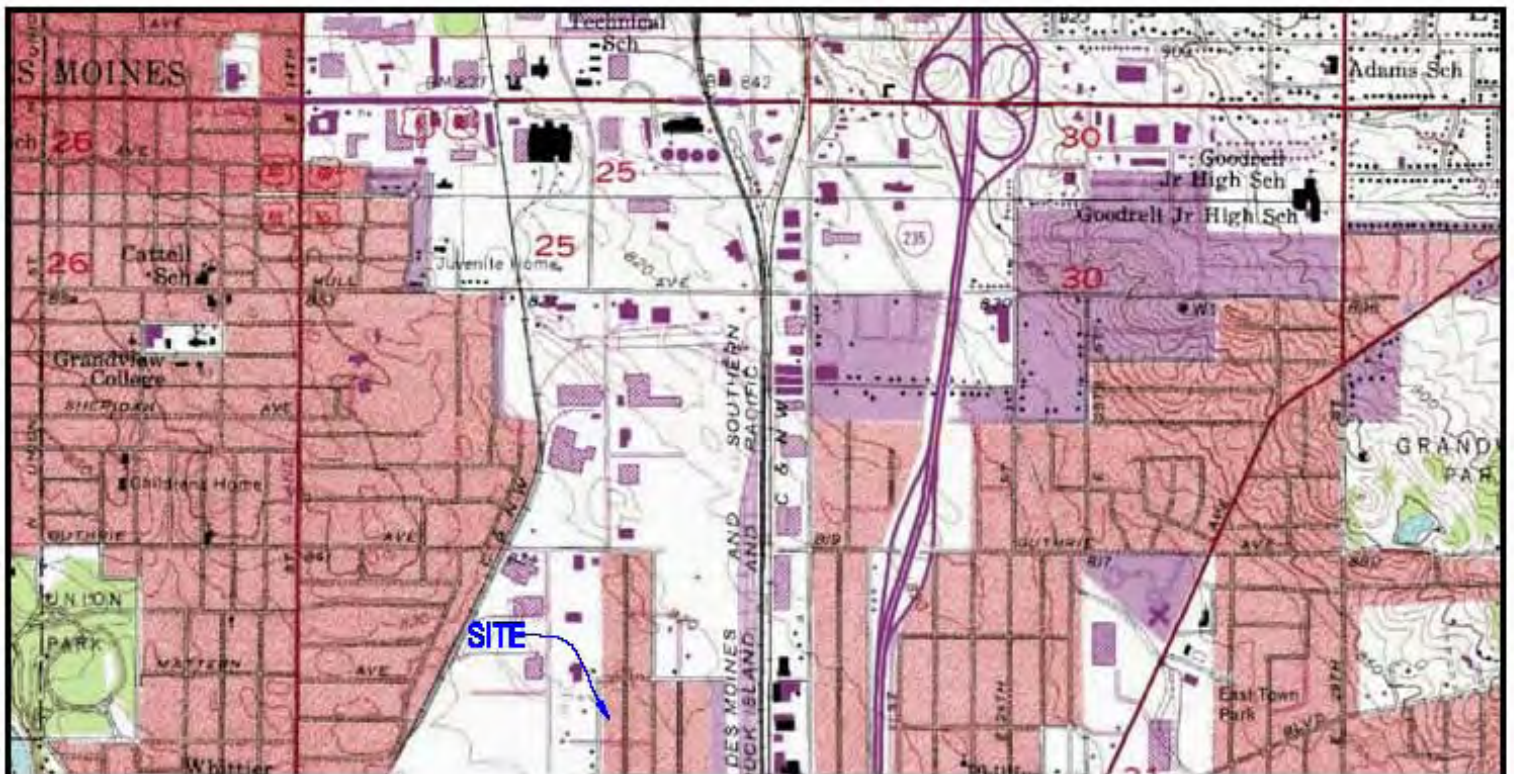
Notes:

Samples collected on February 5, 2009
 <- Indicates less than laboratory reporting limit
 mg/Kg - Indicates milligram per kilogram
 Action Level - Iowa Department of Natural Resources
 RBCA Tier 1 Look-Up Table
 NE- Indicates Not Established

Reference:

Iowa RBCA Tier 1 Look-Up Table

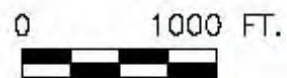
FIGURES



REFERENCE: GISU, ISU GIS FACILITY
 QUADRANGLE: DES MOINES NE., IA



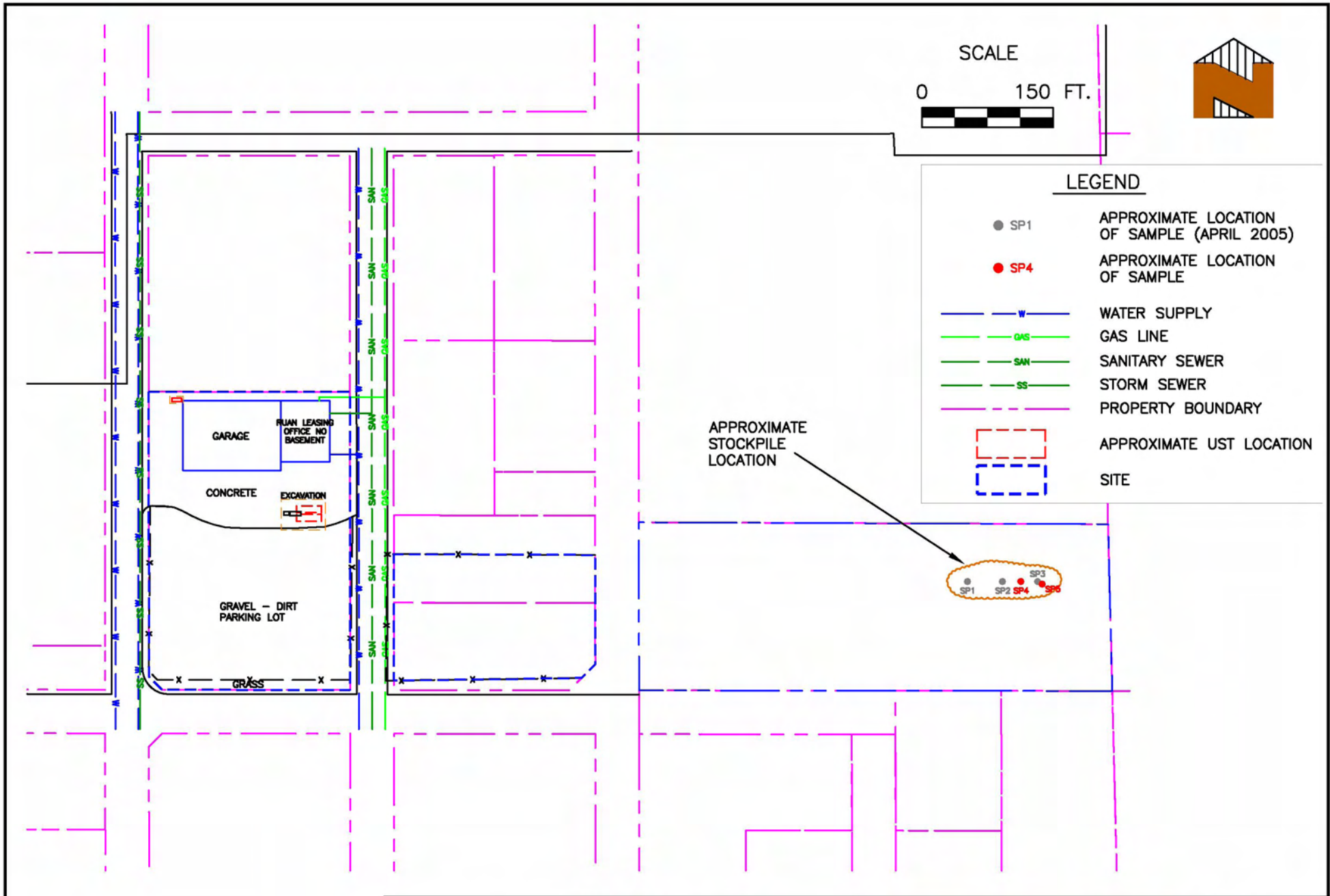
SCALE



TOPOGRAPHIC SITE MAP
 GUTHRIE AVENUE BUSINESS LIMITED ENVIRONMENTAL SAMPLING
 RUAN PROPERTIES, DES MOINES, IA
 PROJECT NO. CTYDM 09001
 DRAWING DATE: FEBRUARY 2009

BARKER LEMAR
 ENGINEERING CONSULTANTS
 1801 Industrial Circle - West Des Moines, Iowa - 50265
 Phone: 515.258.8814 - Fax: 515.258.0152 - www.barkerlemar.com

FIGURE
 1



SITE MAP
 GUTHRIE AVENUE BUSINESS PARK PHASE II
 RUAN PROPERTIES, DES MOINES, IA
 PROJECT NO. CTYDM 09001
 DRAWING DATE: FEBRUARY 2009

BARKER LEMAR
 ENGINEERING CONSULTANTS
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FIGURE
2

ATTACHMENT A

11 February 2009

Christy Jaworski
Barker-Lemar Associates
1801 Industrial Circle
West Des Moines, IA 50265

RE: CJ Project

Guthrie Ave. Business Park

Enclosed are the results of analyses for samples received by the laboratory on 02/06/09 11:30. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-4	19B0323-01	Soil	02/05/09 15:00	02/06/09 11:30
SP-5	19B0323-02	Soil	02/05/09 16:00	02/06/09 11:30

Sincerely,

Keystone Laboratories, Inc.



Sue Thompson

Project Manager I

Barker-Lemar Associates
1801 Industrial Circle
West Des Moines IA, 50265

Project: CJ Project
Project Number: Guthrie Ave. Business Park
Project Manager: Christy Jaworski

Reported
02/11/09 17:11

SP-4

19B0323-01 (Soil)

Date Sampled: 2/5/2009 3:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Extractable Petroleum Hydrocarbons

TEH, as waste oil	16	5	mg/kg	1	1B91016	02/10/09	02/11/09	Iowa OA-2	
Total Extractable Hydrocarbons	16	5	"	"	"	"	"	"	
<i>Surrogate: Pentacosane</i>		98.9 %	50-143		"	"	"	"	

Barker-Lemar Associates
1801 Industrial Circle
West Des Moines IA, 50265

Project: CJ Project
Project Number: Guthrie Ave. Business Park
Project Manager: Christy Jaworski

Reported
02/11/09 17:11

SP-5

19B0323-02 (Soil)

Date Sampled: 2/5/2009 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Extractable Petroleum Hydrocarbons

TEH, as waste oil	6	5	mg/kg	1	1B91016	02/10/09	02/11/09	Iowa OA-2	
Total Extractable Hydrocarbons	6	5	"	"	"	"	"	"	
<i>Surrogate: Pentacosane</i>		92.8 %	50-143		"	"	"	"	

Barker-Lemar Associates 1801 Industrial Circle West Des Moines IA, 50265	Project: CJ Project Project Number: Guthrie Ave. Business Park Project Manager: Christy Jaworski	Reported 02/11/09 17:11
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Determination of Extractable Petroleum Hydrocarbons - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 19B1107 - 1B91016

Calibration Check (19B1107-CCV1)

Prepared & Analyzed: 02/10/09

TEH, as gasoline	2098		mg/kg	2002.40		105	85-115			
TEH, as #2 diesel fuel	2107		"	2003.20		105	85-115			
TEH, as waste oil	1915		"	2028.80		94.4	85-115			
Surrogate: Pentacosane	53.7		"	53.3200		101	85-115			

Batch 1B91016 - 3545 OA-2 PFE

Blank (1B91016-BLK1)

Prepared: 02/10/09 Analyzed: 02/11/09

TEH, as gasoline	ND	5	mg/kg							
TEH, as #2 diesel fuel	ND	5	"							
TEH, as waste oil	ND	5	"							
Total Extractable Hydrocarbons	ND	5	"							
Surrogate: Pentacosane	2.43		"	2.65400		91.5	50-143			

LCS (1B91016-BS1)

Prepared: 02/10/09 Analyzed: 02/11/09

TEH, as #2 diesel fuel	448.3	5	mg/kg	505.150		88.7	51-115			
Surrogate: Pentacosane	3.29		"	2.65400		124	50-143			

Matrix Spike (1B91016-MS1)

Source: 19B0323-02

Prepared: 02/10/09 Analyzed: 02/11/09

TEH, as #2 diesel fuel	376.4	5	mg/kg	505.150	ND	74.5	50-110			
Surrogate: Pentacosane	3.95		"	2.65400		149	50-143			S-07

Matrix Spike Dup (1B91016-MSD1)

Source: 19B0323-02

Prepared: 02/10/09 Analyzed: 02/11/09

TEH, as #2 diesel fuel	342.9	5	mg/kg	505.150	ND	67.9	50-110	9.31	30	
Surrogate: Pentacosane	2.75		"	2.65400		104	50-143			

Reference (1B91016-SRM1)

Prepared: 02/10/09 Analyzed: 02/11/09

TEH, as #2 diesel fuel	473.3	5	mg/kg	505.150		93.7	70-130			
Surrogate: Pentacosane	2.93		"	2.65400		110	50-143			

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
Iowa OA-2 in Soil	Total Extractable Hydrocarbons	IA-NT

Barker-Lemar Associates 1801 Industrial Circle West Des Moines IA, 50265	Project: CJ Project Project Number: Guthrie Ave. Business Park Project Manager: Christy Jaworski	Reported 02/11/09 17:11
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Code	Certifying Authority	Certificate Number	Expires
IA-NT	Iowa Department of Natural Resources	095	02/01/2010

Barker-Lemar Associates
1801 Industrial Circle
West Des Moines IA, 50265

Project: CJ Project
Project Number: Guthrie Ave. Business Park
Project Manager: Christy Jaworski

Reported
02/11/09 17:11

Notes and Definitions

S-07 The surrogate recovery for this sample is outside of established control limits.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference