Appendix F: Site #12 – 2301 Forest

Christy

Fields of Opportunities

STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

MEMORANDUM

To: File

From: Elaine Douskey (DNR)

Date: November 17, 2004

Re: Tier 1 Evaluation – Former Gas Station Facility at 2301 Forest Avenue in Des Moines
Registration No. 7910518 LUST No. 9LTL42

The Department of Natural Resources completed a Tier 1 evaluation of the referenced site using data collected by Barker Lemar as part of the Des Moines UST Fields project. Three temporary wells/borings were installed at the site. Of the soil and groundwater samples collected, only one groundwater sample exceeded a standard (benzene concentration from B-1 was 20 ug/L). The standard for existing drinking water wells is 5 ug/L. Personnel from Barker Lemar provided documentation indicating no water wells are known to exist within 1,000 feet of the property. Additionally, the well permitting authorities (DNR's Water Supply Section and Polk County) were notified of the contamination.

Based on the aforementioned information, we have determined the pathways by which a chemical of concern may reach an actual or potential receptor are incomplete. Therefore, the department is assigning a **"No Action Required"** classification to the site and will update our records to show the change in status.

It is our understanding that the taxes on this property are delinquent and consequently, the property is up for tax sale. Our most recent attempts to contact the last owner, Mr. Michael Kelly, have been unsuccessful. Because we have been unable to contact an owner or responsible party, we have not issued a 'no further action' certificate. Should the property change ownership or should Mr. Kelly retain the property, the department will, upon request, issue a 'no further action' certificate. A legal description for the site would need to be submitted.

Cc: Field Office 5
GAB Robins
Christy Jaworski, Barker Lemar Engineering Consultants, 1801 Industrial Circle, West Des Moines, IA 50265
Jim Elza, Polk County Planning and Development, 5885 NE 14th Street, Des Moines, IA 50313
Elly Walkowiak, Economic Development, City of Des Moines, 400 E. 1st Street, Des Moines, IA 50309

BARKER LEMAR

ENGINEERING CONSULTANTS

Summary of Activities

Iowa USTfields Project
City of Des Moines
Property Owner – Michael J. Kelly
2301 Forest Avenue
Des Moines, IA
Project No. IADNR 001
April 6, 2004

1801 Industrial Circle, West Des Moines, Iowa 50265
(515) 256-8814 Fax (515) 256-0152

BARKER LEMAR
ENGINEERING CONSULTANTS

Summary of Activities
Iowa USTfields Project – City of Des Moines
Property Owner – Michael J. Kelly
2301 Forest Avenue
Des Moines, IA

1.0 INTRODUCTION

BARKER LEMAR ENGINEERING CONSULTANTS was contracted by the Iowa Department of Natural Resources in partnership with the City of Des Moines, the EPA, and the Iowa Underground Storage Tank Financial Responsibility Program to assess and clean up contaminated sites within the pilot project area with the ultimate goal of redevelopment The sites are located in the Drake Neighborhood area within the City of Des Moines.

Initial activities included identifying sites where potential petroleum contamination may be located which could hinder future development activities. The potential petroleum contaminated sites were identified by a search of Polk City Directories, Sanborn Maps, review of IDNR underground storage tank and leaking underground storage tank records, and review of the Fire Marshall's records.

The site at 2301 Forest Avenue is currently owned by the Richard Thomas Trust and is being bought on contract by Michael J Kelly. It was originally built in 1940 and operated and as a filling station until 1975.

2.0 RECORD REVIEW

Polk City Directories were reviewed at the Des Moines Library. The Directory was reviewed in approximately 5 year intervals Information in the Directory indicated the site was a Morris Whitman Filling Station, 1940 through 1946, Grant Wellborn Filling Station, 1946 through 1950, Richard Rodemeyer Filling Station, 1950 through 1955, Gordon Stephenson Gas Station, 1955 though 1960, and Steve's DX Station, 1960 through 1975. The 1956 Sanborn map showed a gas station located on the site and three tanks

were reportedly located on the east side of the property approximately 45 feet north of Forest Avenue and 10-15 feet west of 23rd Street.

According to Matt Porter with the Fire Department tanks were removed from this location in 1981. No information is available on type of tanks or if contamination was found during removal.

Site visual observations did not indicate any evidence of underground storage tanks.

3.0 SOIL AND GROUNDWATER RESULTS

BARKER LEMAR personnel were on site February 19, 2004. Three soil borings were installed with a Geoprobe and converted to temporary monitoring wells. Logs are included in Appendix A. Boring B-3 was placed in the area identified as the potential former tank location by the Sanborn information. The other borings were placed in order to triangulate the site and determine groundwater flow. Groundwater depths in the temporary wells indicated groundwater flows to the northwest at this site. Figure 1 is a site map showing the location of the former UST area based on the Sanborn information and the location of the borings/temporary monitoring wells.

Soil samples were screened approximately every two feet with a photoionization detector (PID). A soil sample was collected from each soil boring at the location of the highest PID, or if the PID did not detect any contaminant, at the assumed groundwater/soil interface. Samples were submitted to Keystone Laboratories in Newton, Iowa for BTEX/MTBE analysis by Iowa Method OA-1 by GC/MS and for total extractable hydrocarbon analysis by Iowa Method OA-2.

Temporary wells were installed at the boring locations. Wells were purged of three volumes or bailed dry and groundwater samples were collected for analysis. Samples were submitted to Keystone Laboratories in Newton, Iowa for BTEX/MTBE analysis by Iowa Method OA-1 by GC/MS and for total extractable hydrocarbon analysis by Iowa Method OA-2. Sample results are included in the following table. Soil results indicate

Boring B-1 had detectable concentrations of benzene, ethylbenzene, xylenes, and TEH as gasoline. Boring B-3 also had TEH as gasoline present. Concentrations are below IDNR action levels. Temporary monitoring well B-1 had detectable concentrations of BTEX compounds present. However, it is unlikely any actual drinking water wells are present in the area. Removal of this pathway raises the action level to 290 ppb benzene.

Table 1
Analytical Results
Soil Sampling

Analyte	Units	Action Level	B-1 5-7'	B-2 9-11'	B-3 6-8'
Methyl-tert-Butyl Ether (MTBE)	mg/kg	NE	<0.202	<0.010	<0.010
Benzene	mg/kg	0.54	0.142	<.005	<.005
Toluene	mg/kg	42	<0.101	<.005	<.005
Ethylbenzene	mg/kg	15	1.14	<.005	<.005
Xylenes, Total	mg/kg	NE	0.841	<.005	<.005
TEH, as #2 diesel fuel	mg/kg	3800	<5	<5	<5
TEH, as gasoline	mg/kg	NE	77	<5	274
TEH, as waste oil	mg/kg	NE	<5	<5	<5

Table 2
Analytical Results
Groundwater Sampling

Analyte	Units	Action Level	B-1	B-2	B-3
Methyl-tert-Butyl Ether (MTBE)	ug/L	NA	<1	<1	<2
Benzene	ug/L	5	20	<1	<2
Toluene	ug/L	1000	9	<1	<2
Ethylbenzene	ug/L	700	41	<1	<2
Xylenes, Total	ug/L	10,000	21	<2	<4
TEH, as #2 diesel fuel	ug/L	1200	<100	<200	<200
TEH, as waste oil	ug/L	400	<100	<200	<200

4.0 CONCLUSION

BARKER LEMAR conducted assessment activities to determine potential petroleum contamination for property owned by Michael Kelly at 2301 Forest Avenue in Des Moines, Iowa. Results of the activities did not locate any underground storage tanks. Benzene, ethyl benzene, xylenes and total extractable hydrocarbons as gasoline were present in two (B-1 and B-3) of the three soil samples. No concentrations present were over current IDNR regulatory levels Benzene, toluene, ethyl benzene and xylenes were present in one (B-1) of the three groundwater samples. The concentration of benzene is above the action level for the groundwater ingestion pathway of 5 ppb benzene, however it is unlikely any wells are present in the area. This may raise the action level to 290 ppb benzene. Contamination remaining in B-1 is probably due to placement of dispenser and lines.

BARKER LEMAR recommends a Tier 1 assessment be completed.

We have appreciated being of service to you on this project. If you have any questions concerning this submittal, please do not hesitate to contact our office.

Sincerely,

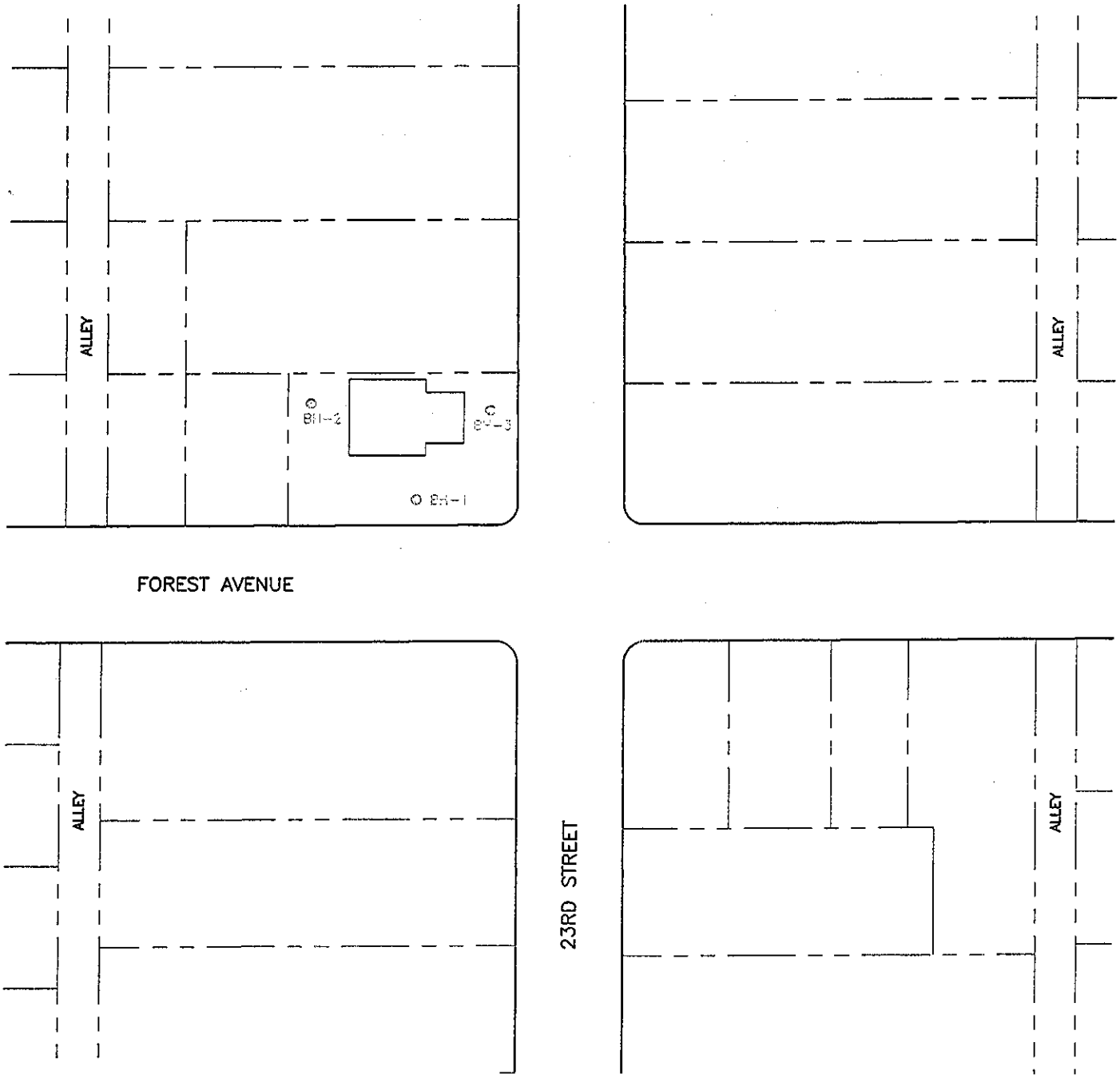
BARKER LEMAR ENGINEERING CONSULTANTS

Christy L. Jaworski
Senior Project Manager

Anita Maher-Lewis
Regional Manager

FIGURE 1

SITE PLAN MAP



LEGEND

BH-1 — APPROXIMATE LOCATION OF BOREHOLE

PROPERTY BOUNDARY

BUILDINGS

SCALE

0 60 FT.

SITE MAP
BOREHOLE LOCATIONS
2301 FOREST AVE
PROJECT NO. IADNR 001
DRAWING DATE: MARCH, 2004

BARKER LEMAR
ENGINEERING CONSULTANTS
1300 Cummins Road, Suite 201 - Des Moines, Iowa - 50315
Phone: 515.256.8814 - Fax: 515.256.0152 - www.barkerlemar.com

FIGURE
1

APPENDIX A

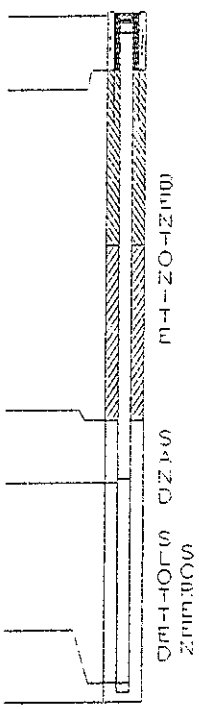
Boring/Monitoring Well Logs

MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: B-1	Facility Name: Polk County Property	Facility Street Address: 2301 Forest Avenue, Des Moines, IA
Boring Depth (ft) X Diameter (in): 13.0' X 2"		Drilling Method: Direct Push
Certified Well Contractor Name: Kevin Sperfslage Certification Number: 40530		Logged by: John Wyciskalla

Ground Surface Elevation (ASL): 100.2	Top of Casing Elevation (ASL): NA

Date: 2/19/2004 Start Time:	Date: 2/19/2004 End Time:	UST Number: NA	LUST Number: NA

Depth (feet)	Well Construction Details (Temporary Monitoring Well)	Sample Depth (feet)	Sample No	Sample Type*	Field Screening Results (PID / FID)	Rock Formations, Soil Color and Classifications, Observations (moisture, odor, etc.) First column for USCS	
		1-3'	1	SS	NR	CL	0.0–0.4 – Concrete
0.0		3-5'	2	SS	0	CL	0.4-3.0 – Rubble (no recovery)
1.0		5-7'	3	SS	0		
		*7-9'	4	SS	592	CL	3.0-7.0 – Brown/gray mottled sandy lean clay
		9-11'	5	SS	40		
		11-13'	6	SS	21	CL	7.0-9.0 – Gray/green sandy lean clay
2.0						CL	9.0-13.0 – Gray sandy lean clay
3.0							
13.0							13.0 End of Boring
13.0							

* Sample collected for laboratory analysis SS – Spilt Spoon NR – No Recovery

Observations	Date:	2/19/04				
Water Levels (ASL)	Level:	0.5				
Static Water Level Symbol (v)	Time:					

MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: B-2	Facility Name: Polk County Property	Facility Street Address: 2301 Forest Avenue, Des Moines, IA
Boring Depth (ft) X Diameter (in): 15 0' X 2"		Drilling Method: Direct Push
Certified Well Contractor Name: Kevin Sperfslage Certification Number: 40530		Logged by: John Wyciskalla

Ground Surface Elevation (ASL): 99.9		Top of Casing Elevation (ASL): NA	
Date: 2/19/2004 Start Time:	Date: 2/19/2004 End Time:	UST Number: NA	LUST Number: NA

Depth (feet)	Well Construction Details (Temporary Monitoring Well)	Sample Depth (feet)	Sample No.	Type*	Field Screening Results (PID / FID)	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor etc) First column for USCS	
		1-3'	1	SS	0	CL	0.0–1.0 – Brown lean clay with sand
0.0		3-5'	2	SS	0		
1.0		5-7'	3	SS	0	CL	1.0-7.0 – Rubble (brick, concrete, gravel)
		7-9'	4	SS	0		
		9-11'	5	SS	0	CL	7.0-15.0 – Brown/gray lean clay with gravel and sand
		11-13'	6	SS	0		
		13-15'	7	SS	0		
8.0							
9.5							
							15.0 End of Boring
14.5							
14.95							

* Sample collected for laboratory analysis SS – Spilt Spoon

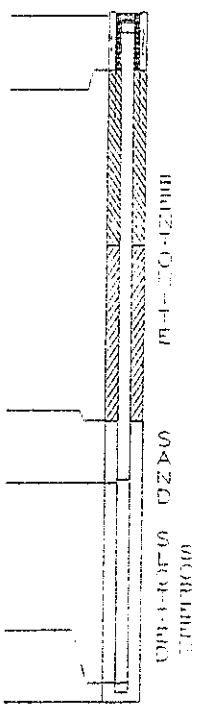
Observations	Date:	2/19/04				
Water Levels (ASL)	Level:	10.25				
Static Water Level Symbol (v)	Time:					

MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number: B-3	Facility Name: Polk County Property	Facility Street Address: 2301 Forest Avenue, Des Moines, IA
Boring Depth (ft) X Diameter (in): 12.0' X 2"		Drilling Method: Hand Auger
Certified Well Contractor Name: Kevin Sperfslage Certification Number: 40530		Logged by: John Wyciskalla

Ground Surface Elevation (ASL): 100.8	Top of Casing Elevation (ASL): NA

Date: 2/19/2004 Start Time:	Date: 2/19/2004 End Time:	UST Number: NA	LUST Number: NA

Depth (feet)	Well Construction Details (Temporary Monitoring Well)	Sample Depth (feet)	Sample No	Sample Type*	Field Screening Results (PID / FID)	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS	
		0-2'	1	SS	0	CL	0.0–7.0 – Brown sand
0.0		2-4'	2	SS	0	CL	7.0-10.0 – Brown/gray lean clay
1.0		4-6'	3	SS	0		
		*6-8'	4	SS	12		
		8-10'	5	SS	1		
4.0							
5.0							
10.0							13.0 End of Boring
10.0							

* Sample collected for laboratory analysis SS – Spilt Spoon NR – No Recovery

Observations	Date:	2/19/04				
Water Levels (ASL)	Level:	4.5				
Static Water Level Symbol (v)	Time:					

APPENDIX B

Laboratory Analytical Results

Keystone LABORATORIES, INC

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

March 08, 2004

Work Order: 14B0843

Report To

Christy Jaworski
Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

Work Order Information

Date Received: 02/23/2004 12:50PM
Collector: Wyciskalla, J.
Phone: 515-256-8814
PO Number:

Project : UST-Iowa
Project Number: IADNR

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
14B0843-01 B-2				Matrix:Water		Collected: 02/20/04 15:30	
Determination of Volatile Petroleum Hydrocarbons							
Benzene	<1 ug/l	1	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
Toluene	<1 ug/l	1	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
Ethylbenzene	<1 ug/l	1	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
Xylenes, total	<2 ug/l	2	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
Methyl-t-butyl Ether (MTBE)	<1 ug/l	1	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
Ethyl-tert-Butyl Ether (ETBE)	<2 ug/l	2	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
Di-iso-Propyl Ether (DIPE)	<2 ug/l	2	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
tert-Amyl Methyl Ether (TAME)	<2 ug/l	2	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
tert-Butyl Alcohol (TBA)	<50 ug/l	50	1B42616	OA-1 (GC/MS)	JRF	02/25/04 17:15	
Surrogate 4-Bromofluorobenzene	*103 %*			*81-124*	JRF	02/25/04 17:15	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as gasoline	<0 2 mg/l	0 2	1B42710	Iowa OA-2	SMG	03/05/04 21:31	
TEH, as #2 diesel fuel	<0 2 mg/l	0 2	1B42710	Iowa OA-2	SMG	03/05/04 21:31	
TEH, as waste oil	<0 2 mg/l	0 2	1B42710	Iowa OA-2	SMG	03/05/04 21:31	
Total Extractable Hydrocarbons	<0 2 mg/l	0 2	1B42710	Iowa OA-2	SMG	03/05/04 21:31	
Surrogate Pentacosane	*81 2 %*			*70-130*	SMG	03/05/04 21:31	
14B0843-02 B-3				Matrix:Water		Collected: 02/20/04 17:30	
Determination of Volatile Petroleum Hydrocarbons							
Benzene	<2 ug/l	2	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
Toluene	<2 ug/l	2	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
Ethylbenzene	<2 ug/l	2	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
Xylenes, total	<4 ug/l	4	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
Methyl-t-butyl Ether (MTBE)	<2 ug/l	2	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
Ethyl-tert-Butyl Ether (ETBE)	<4 ug/l	4	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
Di-iso-Propyl Ether (DIPE)	<4 ug/l	4	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
tert-Amyl Methyl Ether (TAME)	<4 ug/l	4	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
tert-Butyl Alcohol (TBA)	<100 ug/l	100	1B42616	OA-1 (GC/MS)	JRF	02/25/04 16:36	R-06
Surrogate 4-Bromofluorobenzene	*99 0 %*			*81-124*	JRF	02/25/04 16:36	R-06
Determination of Extractable Petroleum Hydrocarbons							
TEH, as gasoline	<0 2 mg/l	0 2	1B42710	Iowa OA-2	SMG	03/05/04 22:20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL = Method Reporting Limit

Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0843

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
14B0843-02 B-3				Matrix:Water		Collected: 02/20/04 17:30	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as #2 diesel fuel	<0 2 mg/l	0.2	1B42710	Iowa OA-2	SMG	03/05/04 22:20	
TEH, as waste oil	<0.2 mg/l	0 2	1B42710	Iowa OA-2	SMG	03/05/04 22:20	
Total Extractable Hydrocarbons	<0 2 mg/l	0.2	1B42710	Iowa OA-2	SMG	03/05/04 22:20	
Surrogate Pentacosane	*95 0 %*			*70-130*	SMG	03/05/04 22:20	
14B0843-03 B-2 9-11'				Matrix:Soil		Collected: 02/20/04 00:00	
Determination of Volatile Petroleum Hydrocarbons							
Benzene	<0 005 mg/kg	0 005	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
Toluene	<0.005 mg/kg	0.005	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
Ethylbenzene	<0 005 mg/kg	0 005	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
Xylenes, total	<0.010 mg/kg	0 010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
Methyl-t-butyl Ether (MTBE)	<0 010 mg/kg	0 010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
Di-iso-Propyl Ether (DIPE)	<0.010 mg/kg	0.010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
Ethyl-tert-Butyl Ether (ETBE)	<0 010 mg/kg	0 010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
tert-Amyl Methyl Ether (TAME)	<0 010 mg/kg	0 010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
tert-Butyl Alcohol (TBA)	<0 250 mg/kg	0 250	1B42707	OA-1 (GC/MS)	TVK	02/27/04 0:24	
Surrogate 4-Bromofluorobenzene	*104 %*			*81-127*	TVK	02/27/04 0:24	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as gasoline	<5 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 18:50	
TEH, as #2 diesel fuel	<5 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 18:50	
TEH, as waste oil	<5 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 18:50	
Total Extractable Hydrocarbons	<5 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 18:50	
Surrogate Pentacosane	*96 7 %*			*60-140*	SMG	03/07/04 18:50	
14B0843-04 B-3 6-8'				Matrix:Soil		Collected: 02/20/04 00:00	
Determination of Volatile Petroleum Hydrocarbons							
Benzene	<0 005 mg/kg	0.005	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
Toluene	<0 005 mg/kg	0 005	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
Ethylbenzene	<0 005 mg/kg	0 005	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
Xylenes, total	<0.010 mg/kg	0 010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
Methyl-t-butyl Ether (MTBE)	<0 010 mg/kg	0.010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
Di-iso-Propyl Ether (DIPE)	<0 010 mg/kg	0.010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
Ethyl-tert-Butyl Ether (ETBE)	<0 010 mg/kg	0 010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
tert-Amyl Methyl Ether (TAME)	<0 010 mg/kg	0.010	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
tert-Butyl Alcohol (TBA)	<0 250 mg/kg	0.250	1B42707	OA-1 (GC/MS)	TVK	02/27/04 1:04	
Surrogate 4-Bromofluorobenzene	*140 %*			*81-127*	TVK	02/27/04 1:04	S-02
Determination of Extractable Petroleum Hydrocarbons							
TEH, as gasoline	274 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 19:39	
TEH, as #2 diesel fuel	<5 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 19:39	
TEH, as waste oil	<5 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 19:39	

The results in this report apply to the samples analyzed in accordance with the chain of custody document This analytical report must be reproduced in its entirety Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted MRL= Method Reporting Limit

Keystone LABORATORIES, INC

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0843

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
14B0843-04 B-3 6-8'				Matrix:Soil		Collected: 02/20/04 00:00	
Determination of Extractable Petroleum Hydrocarbons							
Total Extractable Hydrocarbons	**274 mg/kg**	**5**	1C40517	Iowa OA-2	SMG	03/07/04 19:39	
Surrogate Pentacosane	*95.5 %*			*60-140*	SMG	03/07/04 19:39	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit

Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0843

Determination of Volatile Petroleum Hydrocarbons - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B42616 - EPA 5030B										
Blank (1B42616-BLK1)				Prepared & Analyzed: 02/25/04						
Benzene	ND	1	ug/l							
Toluene	ND	1	"							
Ethylbenzene	ND	1	"							
Xylenes, total	ND	2	"							
Methyl-t-butyl Ether (MTBE)	ND	1	"							
Ethyl-tert-Butyl Ether (ETBE)	ND	2	"							
Di-iso-Propyl Ether (DIPE)	ND	2	"							
tert-Amyl Methyl Ether (TAME)	ND	2	"							
tert-Butyl Alcohol (TBA)	ND	50	"							
Surrogate: 4-Bromofluorobenzene	*51.1*		"	*50.0*		*102*	*81-124*			
LCS (1B42616-BS1)				Prepared: 02/25/04 Analyzed: 02/26/04						
Benzene	47.8	1	ug/l	58.5		81.7	79-135			
Toluene	68.7	1	"	62.5		110	68-141			
Ethylbenzene	58.8	1	"	59.0		99.7	84-135			
Xylenes, total	124.3	2	"	117.5		106	85-132			
Methyl-t-butyl Ether (MTBE)	138.8	1	"	159.0		87.3	65-135			
Surrogate: 4-Bromofluorobenzene	*49.8*		"	*50.0*		*99.6*	*81-124*			
Calibration Check (1B42616-CCV1)				Prepared & Analyzed: 02/25/04						
Benzene	68.1	1	ug/l	81.0		84.1	70-130			
Toluene	71.4	1	"	66.5		107	70-130			
Ethylbenzene	69.1	1	"	69.5		99.4	70-130			
Xylenes, total	157.9	2	"	154.5		102	70-130			
Methyl-t-butyl Ether (MTBE)	62.6	1	"	68.5		91.4	70-130			
Ethyl-tert-Butyl Ether (ETBE)	62.2	2	"	67.0		92.8	70-130			
Di-iso-Propyl Ether (DIPE)	57.5	2	"	63.0		91.3	70-130			
tert-Amyl Methyl Ether (TAME)	45.2	2	"	58.5		77.3	70-130			
tert-Butyl Alcohol (TBA)	926.2	50	"	995.0		93.1	70-130			
Surrogate: 4-Bromofluorobenzene	*51.7*		"	*50.0*		*103*	*81-124*			

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Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0843

Determination of Volatile Petroleum Hydrocarbons - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B42616 - EPA 5030B										
Matrix Spike (1B42616-MS1)		Source: 14B0863-06RE1		Prepared: 02/25/04		Analyzed: 02/26/04				
Benzene	4897	100	ug/l	5850	ND	83 7	63-138			
Toluene	6098	100	"	6250	ND	97 6	72-128			
Ethylbenzene	6114	100	"	5900	186	100	69-139			
Xylenes, total	12570	200	"	11750	215	105	71-136			
Methyl-t-butyl Ether (MTBE)	13440	100	"	15900	ND	84 5	65-127			
Surrogate 4-Bromofluorobenzene	*50 6*		*"*	*50 0*		*101*	*81-124*			
Matrix Spike Dup (1B42616-MSD1)		Source: 14B0863-06RE1		Prepared: 02/25/04		Analyzed: 02/26/04				
Benzene	4738	100	ug/l	5850	ND	81 0	63-138	3 30	12	
Toluene	6022	100	"	6250	ND	96 4	72-128	1 25	21	
Ethylbenzene	6131	100	"	5900	186	101	69-139	0 278	12	
Xylenes, total	12580	200	"	11750	215	105	71-136	0 0795	10	
Methyl-t-butyl Ether (MTBE)	13640	100	"	15900	ND	85 8	65-127	1 48	18	
Surrogate 4-Bromofluorobenzene	*51 0*		*"*	*50 0*		*102*	*81-124*			
Batch 1B42707 - EPA 5030B										
Blank (1B42707-BLK1)				Prepared & Analyzed: 02/26/04						
Benzene	ND	0 005	mg/kg							
Toluene	ND	0 005	"							
Ethylbenzene	ND	0 005	"							
Xylenes, total	ND	0 010	"							
Methyl-t-butyl Ether (MTBE)	ND	0 010	"							
Di-iso-Propyl Ether (DIPE)	ND	0 010	"							
Ethyl-tert-Butyl Ether (ETBE)	ND	0.010	"							
tert-Amyl Methyl Ether (TAME)	ND	0 010	"							
tert-Butyl Alcohol (TBA)	ND	0 250	"							
Surrogate 4-Bromofluorobenzene	*51 07*		*"*	*50 00*		*102*	*81-127*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document This analytical report must be reproduced in its entirety Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted MRL = Method Reporting Limit

Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0843

Determination of Volatile Petroleum Hydrocarbons - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B42707 - EPA 5030B										
LCS (1B42707-BS1)				Prepared: 02/26/04 Analyzed: 02/27/04						
Benzene	0.2660	0.005	mg/kg	0.2925		90.9	67-139			
Toluene	0.2914	0.005	"	0.3125		93.2	63-139			
Ethylbenzene	0.2529	0.005	"	0.2950		85.7	70-136			
Xylenes, total	0.4718	0.010	"	0.5875		80.3	67-140			
Methyl-t-butyl Ether (MTBE)	0.8170	0.010	"	0.7950		103	65-131			
Surrogate: 4-Bromofluorobenzene	*51.01*		"	*50.00*		*102*	*81-127*			
Calibration Check (1B42707-CCV1)				Prepared & Analyzed: 02/26/04						
Benzene	0.4220	0.005	mg/kg	0.4050		104	70-130			
Toluene	0.3916	0.005	"	0.3325		118	70-130			
Ethylbenzene	0.3844	0.005	"	0.3475		111	70-130			
Xylenes, total	0.8080	0.010	"	0.7725		105	70-130			
Methyl-t-butyl Ether (MTBE)	0.3772	0.010	"	0.3425		110	70-130			
Di-iso-Propyl Ether (DIPE)	0.3370	0.010	"	0.3150		107	70-130			
Ethyl-tert-Butyl Ether (ETBE)	0.3637	0.010	"	0.3350		109	70-130			
tert-Amyl Methyl Ether (TAME)	0.3713	0.010	"	0.2925		127	70-130			
tert-Butyl Alcohol (TBA)	5.771	0.250	"	4.975		116	70-130			
Surrogate: 4-Bromofluorobenzene	*52.34*		"	*50.00*		*105*	*81-127*			
Matrix Spike (1B42707-MS1)		Source: 14B0994-01		Prepared: 02/26/04 Analyzed: 02/27/04						
Benzene	0.2705	0.005	mg/kg	0.2812	ND	96.2	66-140			
Toluene	0.3041	0.005	"	0.3005	ND	101	66-132			
Ethylbenzene	0.2758	0.005	"	0.2837	ND	97.2	60-140			
Xylenes, total	0.5142	0.010	"	0.5649	ND	91.0	71-128			
Methyl-t-butyl Ether (MTBE)	0.7845	0.010	"	0.7644	ND	103	64-120			
Surrogate: 4-Bromofluorobenzene	*50.74*		"	*50.00*		*101*	*81-127*			
Matrix Spike Dup (1B42707-MSD1)		Source: 14B0994-01		Prepared: 02/26/04 Analyzed: 02/27/04						
Benzene	0.2808	0.005	mg/kg	0.2925	ND	96.0	66-140	3.74	27	
Toluene	0.3034	0.005	"	0.3125	ND	97.1	66-132	0.230	25	
Ethylbenzene	0.2636	0.005	"	0.2950	ND	89.4	60-140	4.52	27	
Xylenes, total	0.4937	0.010	"	0.5875	ND	84.0	71-128	4.07	25	
Methyl-t-butyl Ether (MTBE)	0.8525	0.010	"	0.7950	ND	107	64-120	8.31	26	
Surrogate: 4-Bromofluorobenzene	*50.31*		"	*50.00*		*101*	*81-127*			

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Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0843

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
Batch 1B42710 - 3510C OA-2 Sep Fnl										
Blank (1B42710-BLK1)				Prepared: 02/26/04 Analyzed: 03/05/04						
TEH, as gasoline	ND	0 1	mg/l							
TEH, as #2 diesel fuel	ND	0 1	"							
TEH as waste oil	ND	0 1	"							
Total Extractable Hydrocarbons	ND	0 1	"							
Surrogate Pentacosane	*0 0447*		"	*0 0498*		*89 8*	*70-130*			
LCS (1B42710-BS1)				Prepared: 02/26/04 Analyzed: 03/06/04						
TEH, as #2 diesel fuel	9 27	0 1	mg/l	10 00		92.7	65-110			
Surrogate: Pentacosane	*0 0497*		"	*0 0498*		*99 8*	*70-130*			
LCS Dup (1B42710-BSD1)				Prepared: 02/26/04 Analyzed: 03/06/04						
TEH, as #2 diesel fuel	9 18	0 1	mg/l	10 00		91 8	65-110	0 976	20	
Surrogate Pentacosane	*0 0501*		"	*0 0498*		*101*	*70-130*			
Calibration Check (1B42710-CCV1)				Prepared: 02/26/04 Analyzed: 03/05/04						
TEH, as gasoline	2246		mg/l	2050		110	85-115			
TEH as #2 diesel fuel	2218		"	2100		106	85-115			
TEH, as waste oil	2054			2030		101	85-115			
Surrogate Pentacosane	*45 22*		"	*49 80*		*90 8*	*70-130*			
Calibration Check (1B42710-CCV2)				Prepared: 02/26/04 Analyzed: 03/06/04						
TEH, as gasoline	2176		mg/l	2050		106	85-115			
TEH, as #2 diesel fuel	2199		"	2100		105	85-115			
TEH, as waste oil	1832		"	2030		90 2	85-115			
Surrogate Pentacosane	*45 64*		"	*49 80*		*91 6*	*70-130*			
Reference (1B42710-SRM1)				Prepared: 02/26/04 Analyzed: 03/06/04						
TEH, as #2 diesel fuel	5176	100	mg/l	4752		109	61-110			
Surrogate: Pentacosane	*50.12*		"	*49 80*		*101*	*70-130*			

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Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0843

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
Batch 1C40517 - 3550B OA-2 Sonic										
Blank (1C40517-BLK1)				Prepared: 03/05/04 Analyzed: 03/07/04						
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 53*		*"*	*2 49*		*102*	*60-140*			
LCS (1C40517-BS1)				Prepared: 03/05/04 Analyzed: 03/08/04						
TEH, as #2 diesel fuel	474 7	5	mg/kg	500 4		94 9	61-110			
Surrogate Pentacosane	*2 49*		*"*	*2 49*		*100*	*60-140*			
Calibration Check (1C40517-CCV1)				Prepared: 03/05/04 Analyzed: 03/08/04						
TEH, as gasoline	2102		mg/kg	2050		103	85-115			
TEH, as #2 diesel fuel	2270			2100		108	85-115			
TEH, as waste oil	2066		"	2030		102	85-115			
Surrogate: Pentacosane	*47 7*		*"*	*49 8*		*95 8*	*60-140*			
Calibration Check (1C40517-CCV2)				Prepared: 03/05/04 Analyzed: 03/08/04						
TEH, as gasoline	2046		mg/kg	2050		99 8	85-115			
TEH, as #2 diesel fuel	2139		"	2100		102	85-115			
TEH, as waste oil	1785		"	2030		87.9	85-115			
Surrogate Pentacosane	*47.8*		*"*	*49 8*		*96 0*	*60-140*			
Matrix Spike (1C40517-MS1)		Source: 14B0864-11		Prepared: 03/05/04 Analyzed: 03/08/04						
TEH, as #2 diesel fuel	446 6	5	mg/kg	499 0	ND	89 5	51-110			
Surrogate Pentacosane	*2 38*		*"*	*2 48*		*96 0*	*60-140*			
Matrix Spike Dup (1C40517-MSD1)		Source: 14B0864-11		Prepared: 03/05/04 Analyzed: 03/08/04						
TEH, as #2 diesel fuel	445 7	5	mg/kg	499 5	ND	89 2	51-110	0 202	18	
Surrogate Pentacosane	*2 37*		*"*	*2 49*		*95 2*	*60-140*			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document This analytical report must be reproduced in its entirety Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted MRL= Method Reporting Limit

Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0843

Notes and Definitions

R-06	The Reporting Limits for this analysis are elevated due to excessive sediment in the sample container
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract

End of Report

Jeffrey King

Keystone Laboratories, Inc
Jeffrey King, Ph D
Laboratory Director

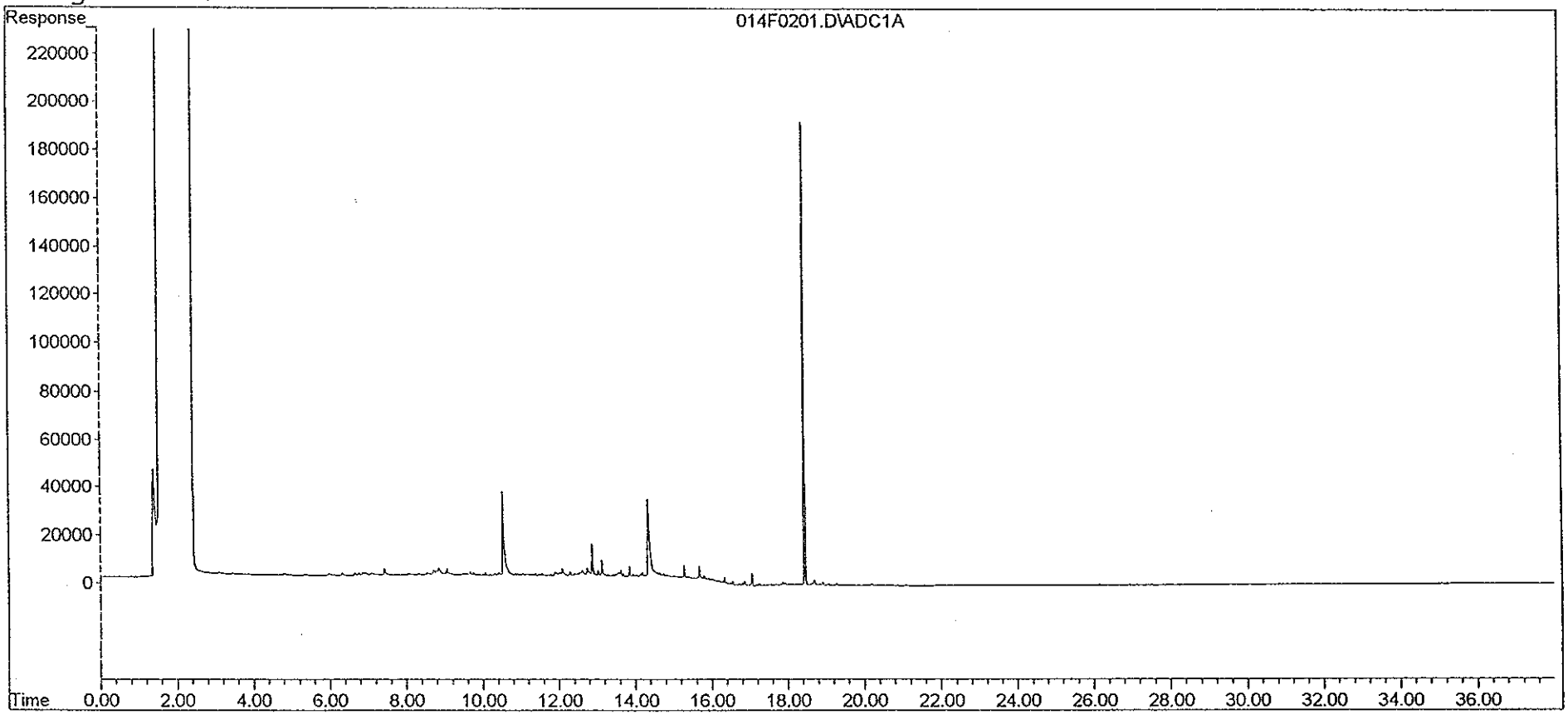
The results in this report apply to the samples analyzed in accordance with the chain of custody document This analytical report must be reproduced in its entirety Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted MRL= Method Reporting Limit

Data File : G:\HPCHEM\2\DATA\030504A2\014F0201.D Vial: 14
Acq On : 05 Mar 2004 09:31 PM Operator: SMG
Sample : 14B0843-01 Inst : GC #2
Misc : Multiplr: 1.00
IntFile : HYDRO.E
Quant Time: Mar 6 11:36 19104 Quant Results File: F022304.RES

Quant Method : G:\HPCHEM\2\METHODS\F022304.M (Chemstation Integrator)
Title : 8015-500/OA-2 Method
Last Update : Tue Feb 24 08:57:51 2004
Response via : Multiple Level Calibration
DataAcq Meth : DIESEL.MTH

Volume Inj :
Signal Phase :
Signal Info :

600 East
Newton, IA 50208



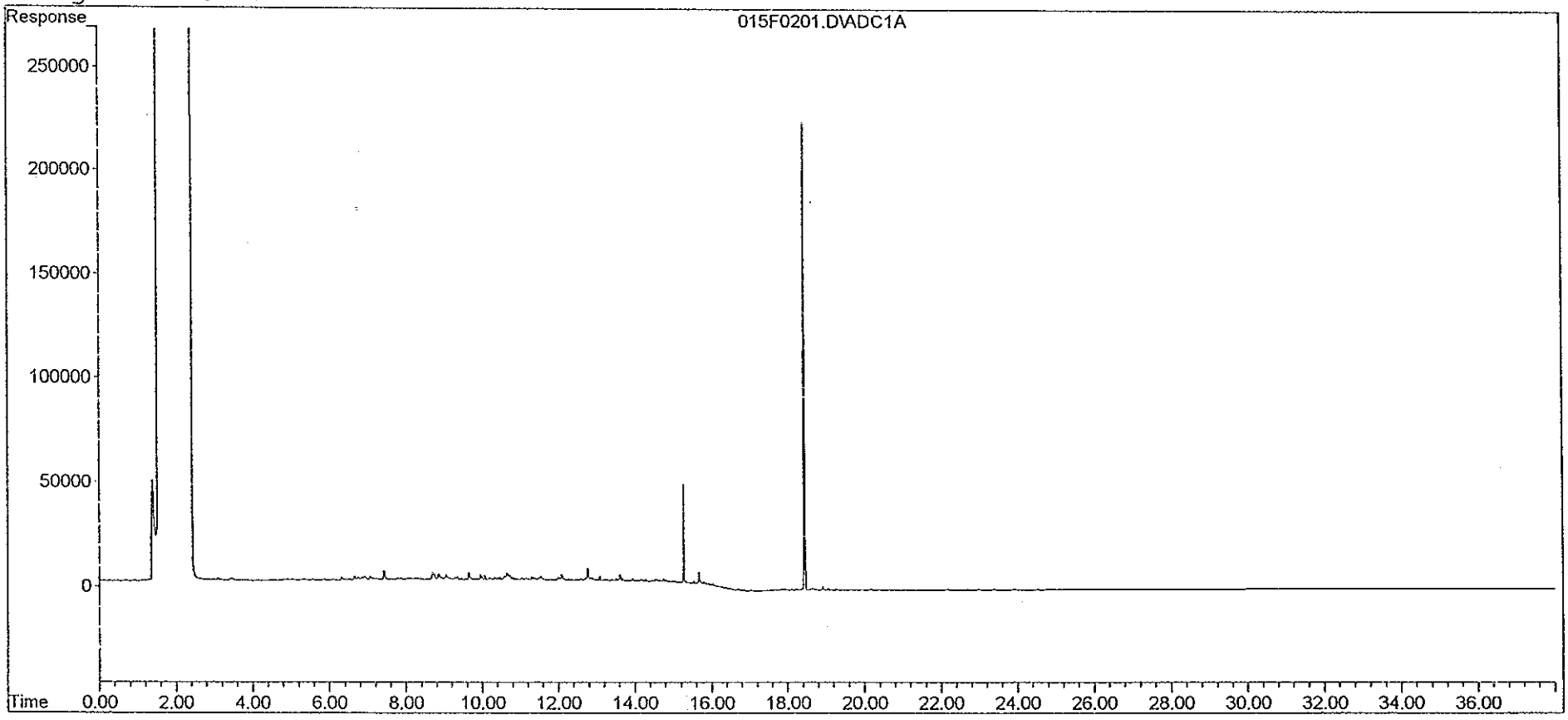
Data File : G:\HPCHEM\2\DATA\030504A2\015F0201.D
Acq On : 05 Mar 2004 10:20 PM
Sample : 14B0843-02
Misc :
IntFile : HYDRO.E
Quant Time: Mar 6 11:36 19104 Quant Results File: F022304.RES

Vial: 15
Operator: SMG
Inst : GC #2
Multiplr: 1.00

Quant Method : G:\HPCHEM\2\METHODS\F022304.M (Chemstation Integrator)
Title : 8015-500/OA-2 Method
Last Update : Tue Feb 24 08:57:51 2004
Response via : Multiple Level Calibration
DataAcq Meth : DIESEL.MTH

Volume Inj :
Signal Phase :
Signal Info :

Keystone Laboratories, Inc.
600 East 17th St. South
Newton, IA 50208



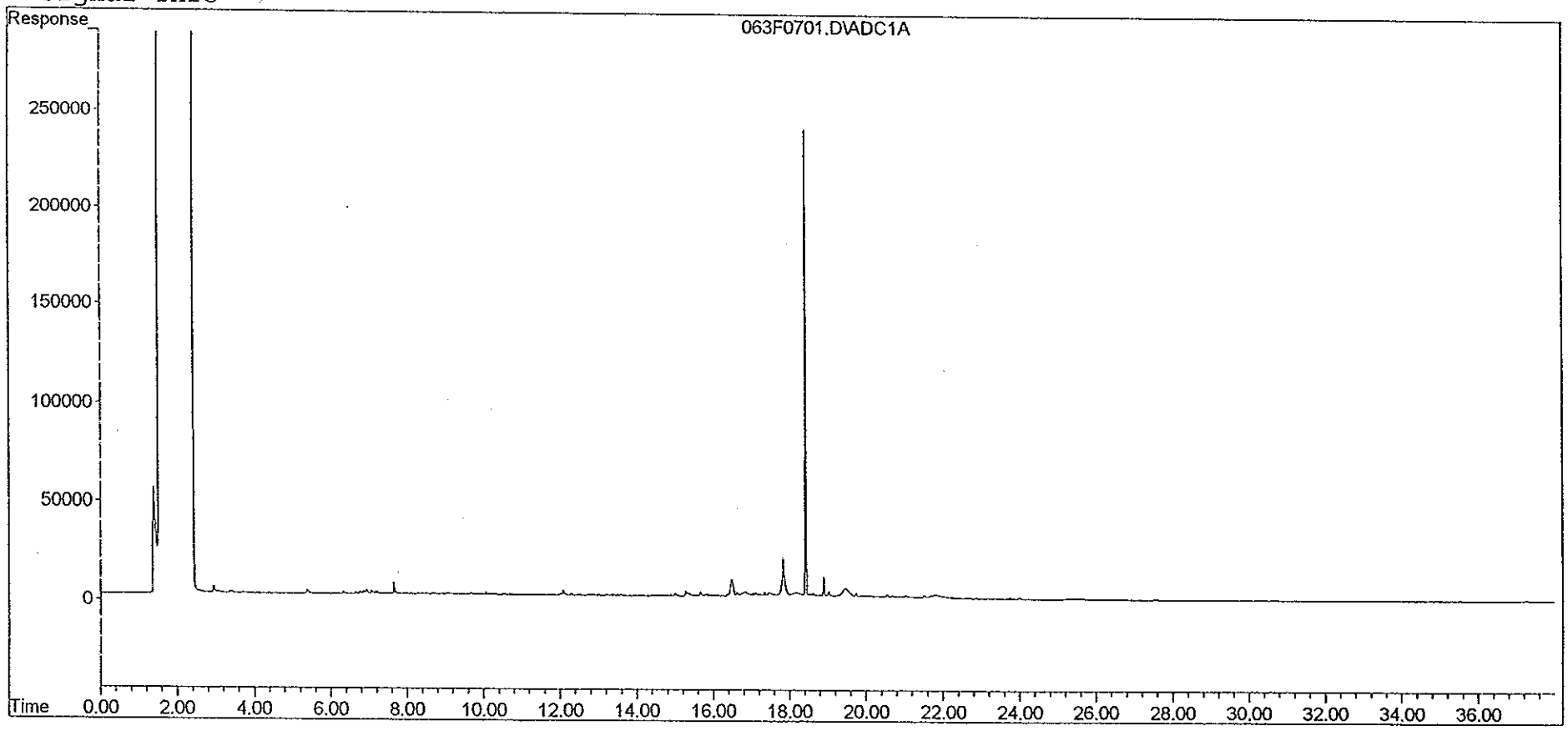
Data File : G:\HPCHEM\2\DATA\030504A2\063F0701.D
Acq On : 07 Mar 2004 06:50 PM
Sample : 14B0843-03
Misc :
IntFile : HYDRO.E
Quant Time: Mar 8 9:32 19104 Quant Results File: F022304.RES

Vial: 63
Operator: SMG
Inst : GC #2
Multiplr: 1.00

Quant Method : G:\HPCHEM\2\METHODS\F022304.M (Chemstation Integrator)
Title : 8015-500/OA-2 Method
Last Update : Tue Feb 24 08:57:51 2004
Response via : Multiple Level Calibration
DataAcq Meth : DIESEL.MTH

Volume Inj. :
Signal Phase :
Signal Info :

Keystone Laboratories, Inc.
600 East 17th St. South
Newton, IA 50208

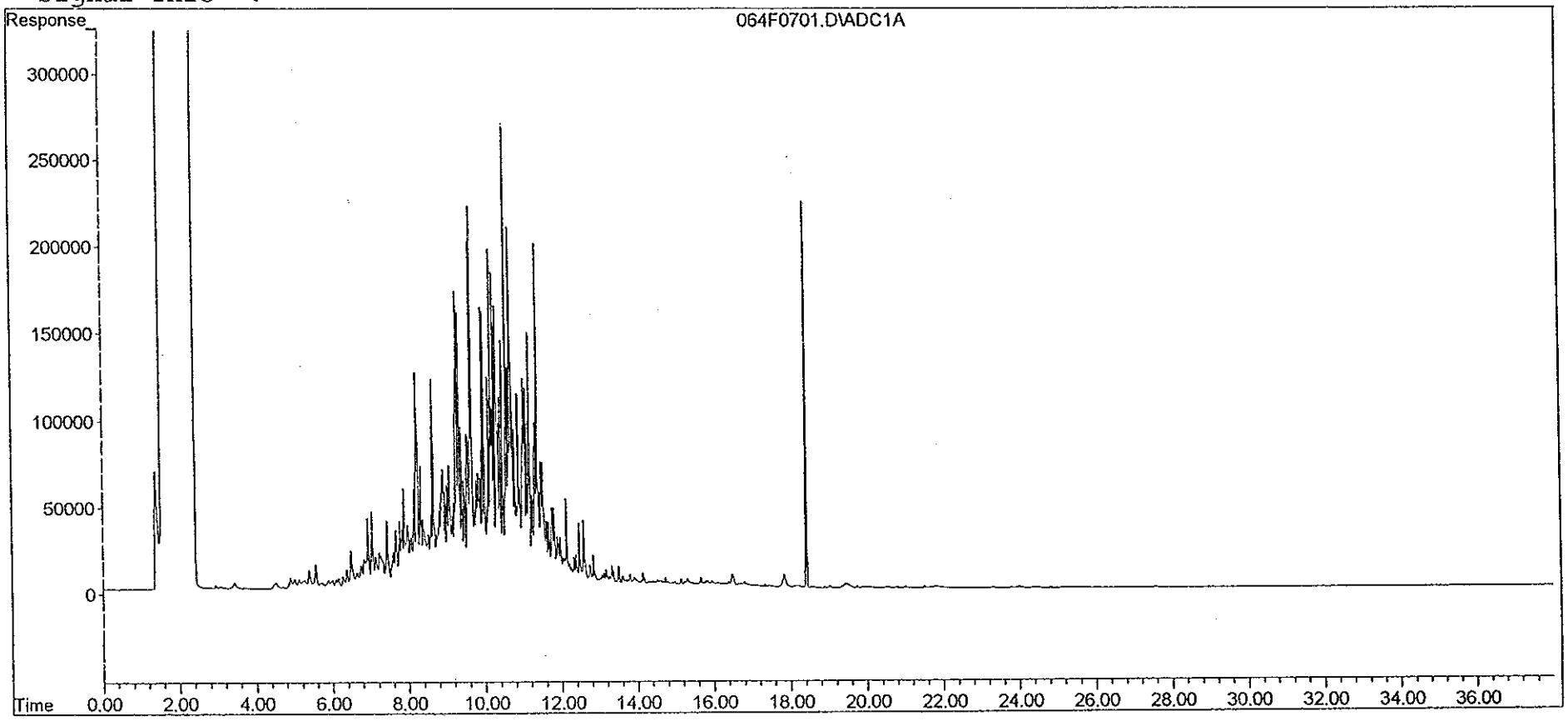


Data File : G:\HPCHEM\2\DATA\030504A2\064F0701.D Vial: 64
Acq On : 07 Mar 2004 07:39 PM Operator: SMG
Sample : 14B0843-04 Inst : GC #2
Misc : Multiplr: 1.00
IntFile : HYDRO.E
Quant Time: Mar 8 9:33 19104 Quant Results File: F022304.RES

Quant Method : G:\HPCHEM\2\METHODS\F022304.M (Chemstation Integrator)
Title : 8015-500/OA-2 Method
Last Update : Tue Feb 24 08:57:51 2004
Response via : Multiple Level Calibration
DataAcq Meth : DIESEL.MTH

Keystone Laboratories, Inc.
600 East 17th St. South
Newton, IA 50208

Volume Inj :
Signal Phase :
Signal Info :



Quantitation Report

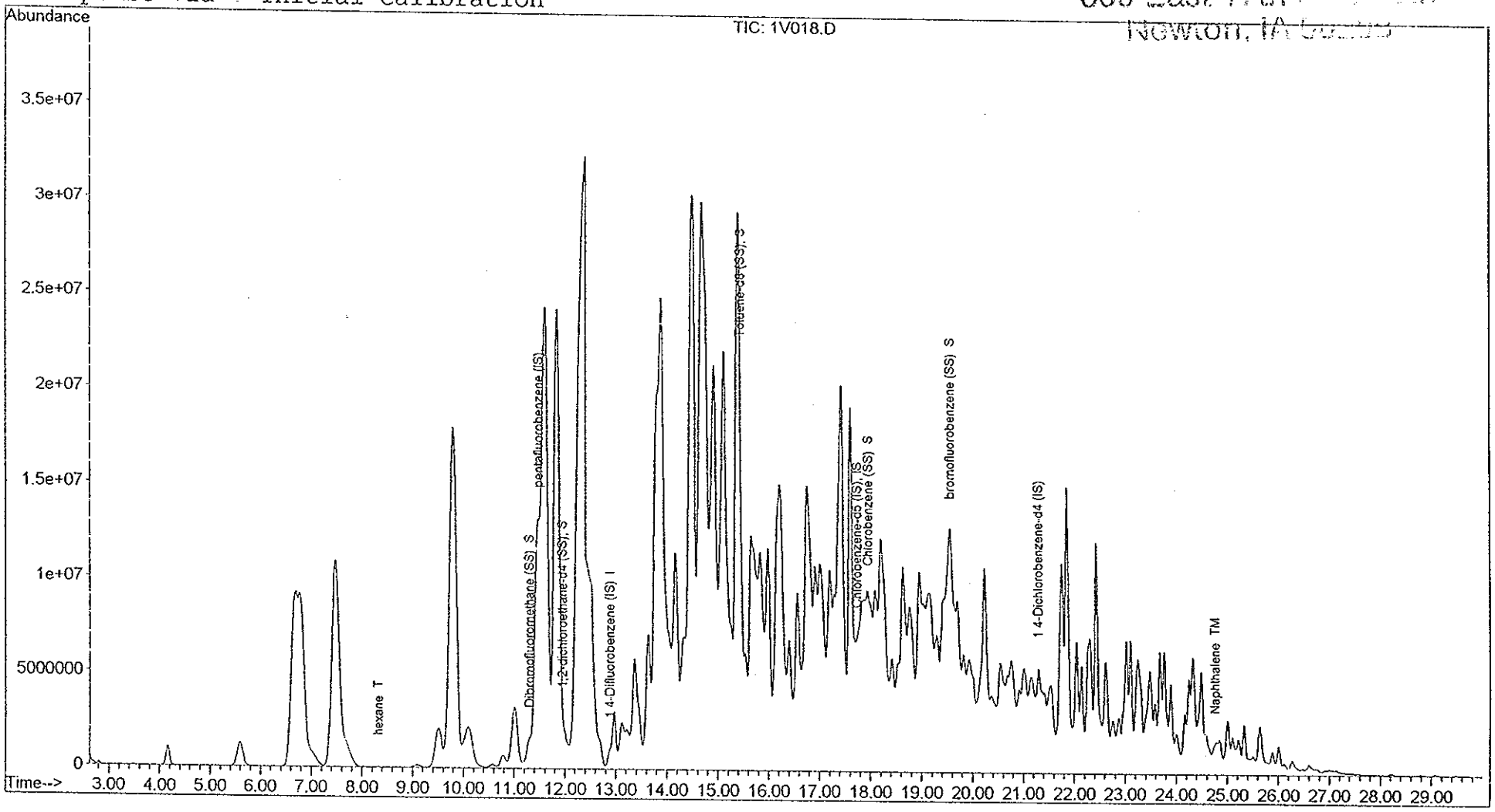
Data File : G:\MSCHEM\1\DATA\022604A1\1V018.D
Acq On : 27 Feb 2004 1:04 am
Sample : 14B0843-04
Misc : *1.01 g
MS Integration Params: rteint.p
Quant Time: Feb 27 8:16 2004

Vial: 18
Operator: TVK
Inst : MS #1
Multiplr: 1.00

Quant Results File: BS022604.RES

Method : G:\MSCHEM\1\METHODS\BS022604.M (RTE Integrator)
Title : OA-1 SOIL
Last Update : Tue Jan 13 08:10:34 2004
Response via : Initial Calibration

Keystone Laboratories
600 East 17th St
Newton, IA



Quantitation Report

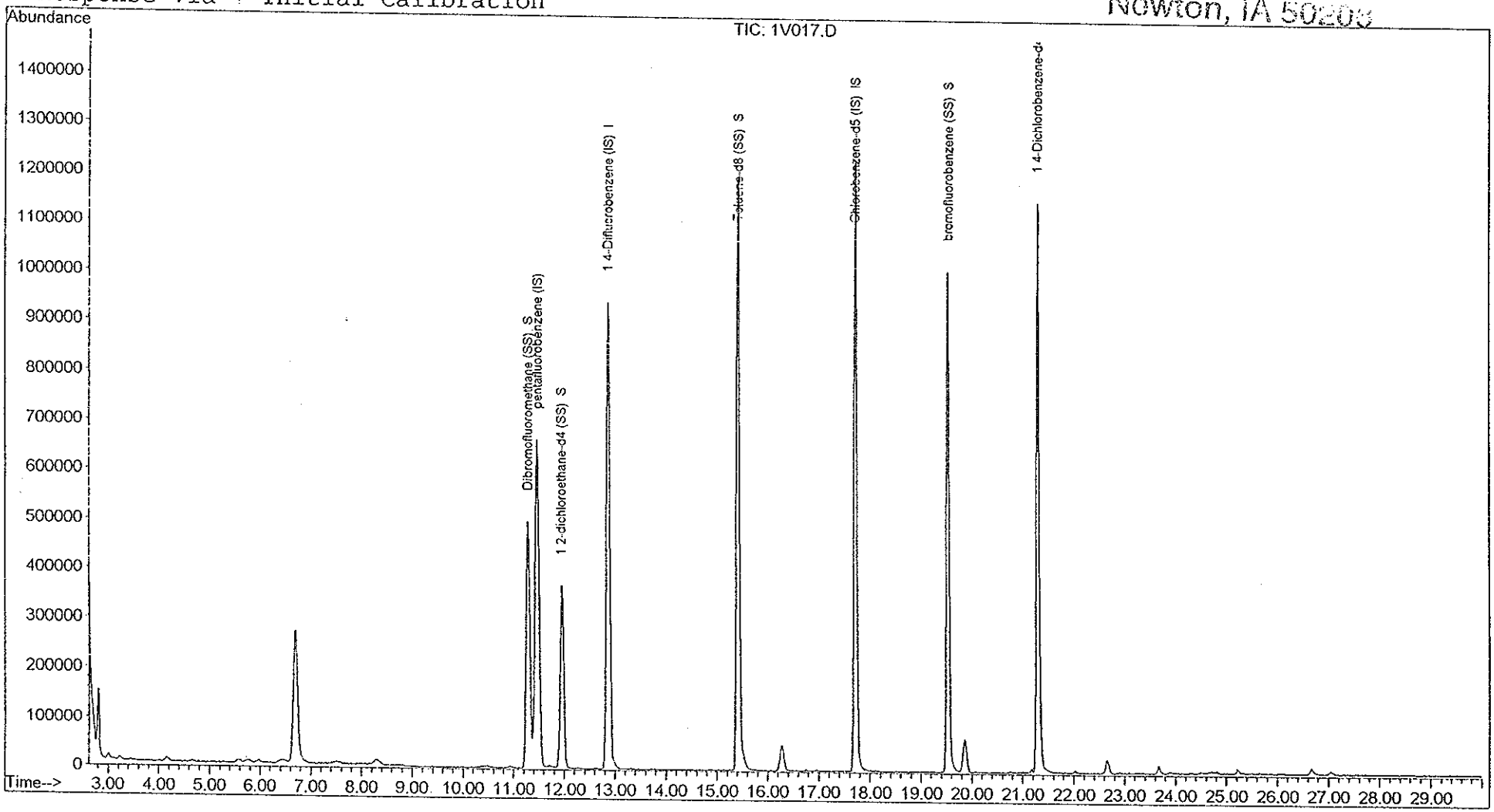
Data File : G:\MSCHEM\1\DATA\022604A1\1V017.D
Acq On : 27 Feb 2004 12:24 am
Sample : 14B0843-03
Misc : *.95 g
MS Integration Params: rteint.p
Quant Time: Feb 27 13:47 2004

Vial: 17
Operator: TVK
Inst : MS #1
Multiplr: 1.00

Quant Results File: BS022604.RES

Method : G:\MSCHEM\1\METHODS\BS022604.M (RTE Integrator)
Title : OA-1 SOIL
Last Update : Tue Jan 13 08:10:34 2004
Response via : Initial Calibration

Keystone Laboratories
600 East 17th St. Suite
Newton, IA 50208



Quantitation Report

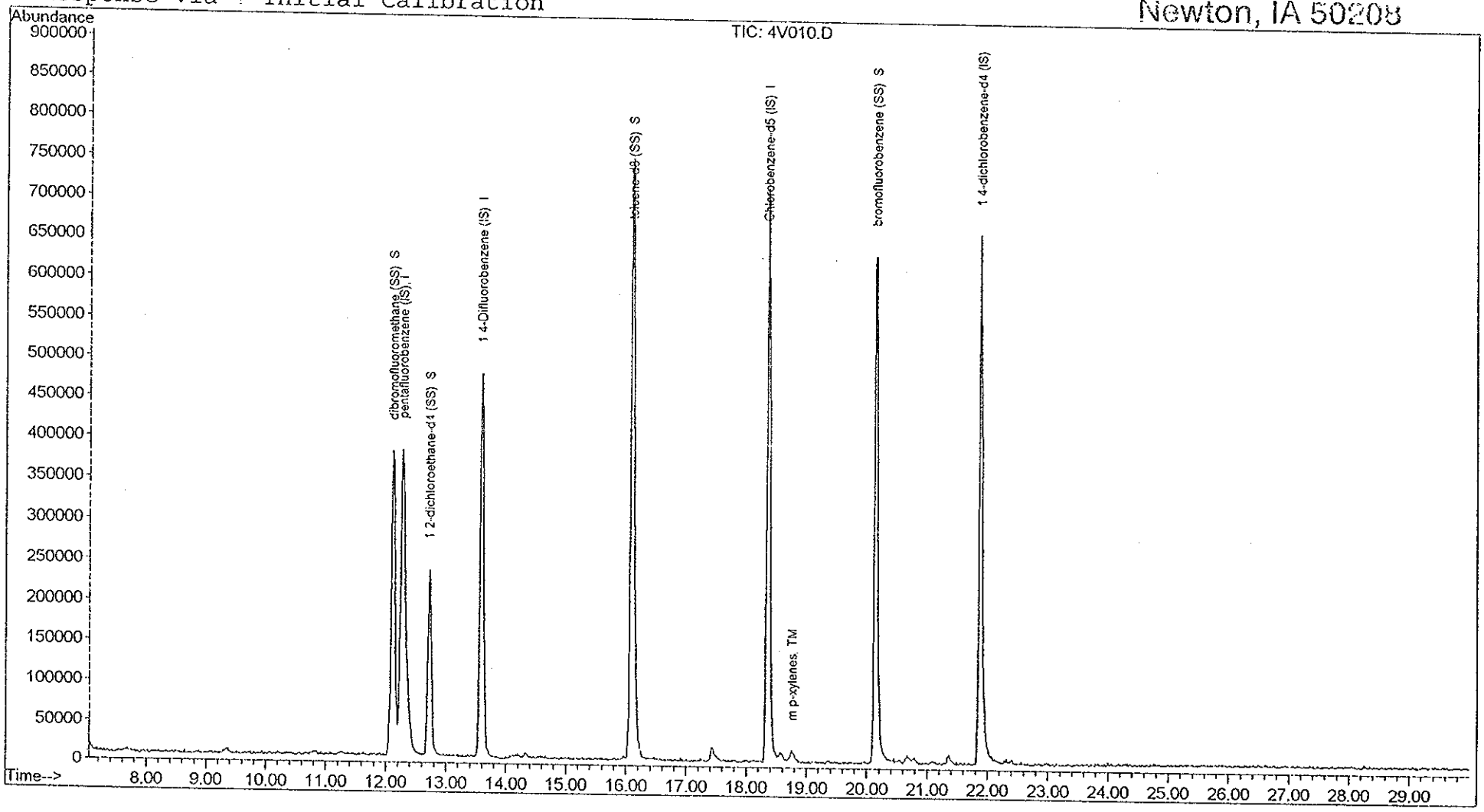
Data File : G:\MSCHEM\4\DATA\022504A4\4V010.D
Acq On : 25 Feb 2004 5:15 pm
Sample : 14B0843-01
Misc :
MS Integration Params: rteint.p
Quant Time: Feb 26 7:33 2004

Vial: 10
Operator: JRF
Inst : MS #4
Multiplr: 1.00

Quant Results File: BW020504.RES

Method : G:\MSCHEM\4\METHODS\BW020504.M (RTE Integrator)
Title : BTEX Water
Last Update : Thu Feb 05 14:28:54 2004
Response via : Initial Calibration

600 East 17th St. South
Newton, IA 50208



Quantitation Report

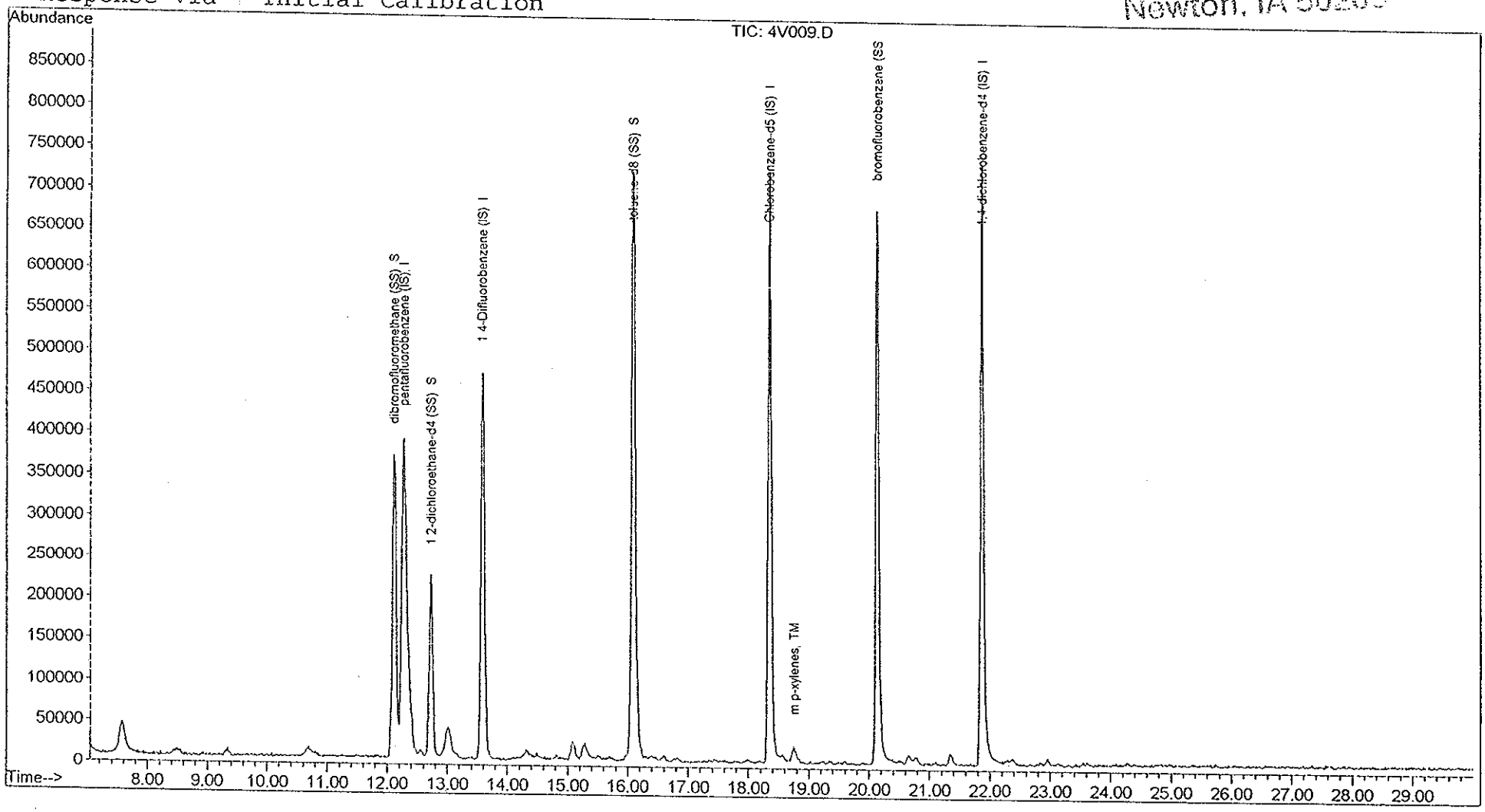
Data File : G:\MSCHEM\4\DATA\022504A4\4V009.D
Acq On : 25 Feb 2004 4:36 pm
Sample : 14B0843-02
Misc : 2X SED
MS Integration Params: rteint.p
Quant Time: Feb 26 7:33 2004

Vial: 9
Operator: JRF
Inst : MS #4
Multiplr: 1.00

Quant Results File: BW020504.RES

Method : G:\MSCHEM\4\METHODS\BW020504.M (RTE Integrator)
Title : BTEX Water
Last Update : Thu Feb 05 14:28:54 2004
Response via : Initial Calibration

Keystone Laboratories, Inc.
600 East 17th St. South
Newton, IA 50208



CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☒ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
Waterloo, IA 50701
Phone: 319-235-4440
Fax: 319-235-2480

☐ 1304 Adams
Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW
SAMPLER: J Wyciskalla
SITE NAME: IADNR
ADDRESS: 2301 Forest
CITY/ST/ZIP: Des Moines, IA
PHONE:

REPORT TO:
NAME: Christy Jaworsky
COMPANY NAME: Barker Lemar
ADDRESS:
CITY/ST/ZIP:
PHONE:
FAX:

BILL TO:
NAME:
COMPANY NAME:
ADDRESS:
CITY/ST/ZIP:
PHONE:
Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: BTEX/MTBE 6C/MS	TEH by OA-2							LAB USE ONLY: LABORATORY WORK ORDER NO. 14B0843; SAMPLE TEMPERATURE UPON RECEIPT: °C; SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
B-2	2/20	1530		4	GW	G	X	X								01
B-3	2/20	1730		4	GW	G	X	X								02
B-2	2/20		9-11'	1	SOIL	G	X	X								03
B-3	2/20		6-8'	1	SOIL	G	X	X								04

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around:
[signature]	Date 2/22/04 Time 1600		Date Time	☒ Standard ☐ Rush Contact Lab Prior to Submission
Relinquished by: (Signature)	Date Time	Received for Lab by: (Signature) [signature]	Date 2/23/04 Time 1150 Pink	Remarks:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

FORM: CCR 7-97

Keystone LABORATORIES, INC

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

March 08, 2004

Work Order: 14B0825

Report To

Christy Jaworski
Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

Work Order Information

Date Received: 02/20/2004 11:18AM
Collector: Wycisalla, J.
Phone: 515-256-8814
PO Number:

Project : UST-Iowa
Project Number: IA DNR

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
14B0825-01 B-1				Matrix:Water		Collected: 02/19/04 16:00	
Determination of Volatile Petroleum Hydrocarbons							
Benzene	**20 ug/l**	1	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
Toluene	**9 ug/l**	1	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
Ethylbenzene	**41 ug/l**	1	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
Xylenes, total	**21 ug/l**	2	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
Methyl-t-butyl Ether (MTBE)	<1 ug/l	1	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
Ethyl-tert-Butyl Ether (ETBE)	<2 ug/l	2	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
Di-iso-Propyl Ether (DIPE)	<2 ug/l	2	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
tert-Amyl Methyl Ether (TAME)	<2 ug/l	2	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
tert-Butyl Alcohol (TBA)	<50 ug/l	50	1B42408	OA-1 (GC/MS)	JRF	02/23/04 20:46	
Surrogate 4-Bromofluorobenzene	*104 %*			*81-124*	JRF	02/23/04 20:46	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as gasoline	**1.0 mg/l**	0.1	1B42407	Iowa OA-2	SMG	03/03/04 2:58	
TEH, as #2 diesel fuel	<0.1 mg/l	0.1	1B42407	Iowa OA-2	SMG	03/03/04 2:58	
TEH, as waste oil	<0.1 mg/l	0.1	1B42407	Iowa OA-2	SMG	03/03/04 2:58	
Total Extractable Hydrocarbons	**1.0 mg/l**	0.1	1B42407	Iowa OA-2	SMG	03/03/04 2:58	
Surrogate Pentacosane	*101 %*			*70-130*	SMG	03/03/04 2:58	
14B0825-02 B-1 5-7'				Matrix:Soil		Collected: 02/19/04 00:00	
Determination of Volatile Petroleum Hydrocarbons							
Benzene	**0.142 mg/kg**	0.101	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
Toluene	<0.101 mg/kg	0.101	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
Ethylbenzene	**1.14 mg/kg**	0.101	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
Xylenes, total	**0.841 mg/kg**	0.202	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
Methyl-t-butyl Ether (MTBE)	<0.202 mg/kg	0.202	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
Di-iso-Propyl Ether (DIPE)	<0.202 mg/kg	0.202	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
Ethyl-tert-Butyl Ether (ETBE)	<0.202 mg/kg	0.202	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
tert-Amyl Methyl Ether (TAME)	<0.202 mg/kg	0.202	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
tert-Butyl Alcohol (TBA)	<5.06 mg/kg	5.06	1C40216	OA-1 (GC/MS)	JRF	03/01/04 17:03	
Surrogate 4-Bromofluorobenzene	*105 %*			*81-127*	JRF	03/01/04 17:03	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as gasoline	**77 mg/kg**	5	1C40318	Iowa OA-2	SMG	03/04/04 18:33	
TEH, as #2 diesel fuel	<5 mg/kg	5	1C40318	Iowa OA-2	SMG	03/04/04 18:33	

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Keystone LABORATORIES, INC

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MEMBER ACIL

Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0825

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
14B0825-02 B-1 5-7'				Matrix:Soil		Collected: 02/19/04 00:00	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as waste oil	<5 mg/kg	5	1C40318	Iowa OA-2	SMG	03/04/04 18:33	
Total Extractable Hydrocarbons	**77 mg/kg**	**5**	1C40318	Iowa OA-2	SMG	03/04/04 18:33	
Surrogate Pentacosane	*92.4 %*			*60-140*	SMG	03/04/04 18:33	
14B0825-02RE1B-1 5-7'				Matrix:Soil		Collected: 02/19/04 00:00	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as gasoline	**152 mg/kg**	**5**	1C40517	Iowa OA-2	SMG	03/07/04 18:00	O-08
TEH, as #2 diesel fuel	<5 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 18:00	O-08
TEH, as waste oil	<5 mg/kg	5	1C40517	Iowa OA-2	SMG	03/07/04 18:00	O-08
Total Extractable Hydrocarbons	**152 mg/kg**	**5**	1C40517	Iowa OA-2	SMG	03/07/04 18:00	O-08
Surrogate Pentacosane	*95.2 %*			*60-140*	SMG	03/07/04 18:00	O-08

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March 08, 2004

Work Order: 14B0825

Determination of Volatile Petroleum Hydrocarbons - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B42408 - EPA 5030B										
Blank (1B42408-BLK1)				Prepared & Analyzed: 02/23/04						
Benzene	ND	1	ug/l							
Toluene	ND	1	"							
Ethylbenzene	ND	1	"							
Xylenes, total	ND	2	"							
Methyl-t-butyl Ether (MTBE)	ND	1	"							
Ethyl-tert-Butyl Ether (ETBE)	ND	2	"							
Di-iso-Propyl Ether (DIPE)	ND	2	"							
tert-Amyl Methyl Ether (TAME)	ND	2	"							
tert-Butyl Alcohol (TBA)	ND	50	"							
Surrogate 4-Bromofluorobenzene	*52 1*		"	*50 0*		*104*	*81-124*			
LCS (1B42408-BS1)				Prepared: 02/23/04 Analyzed: 02/24/04						
Benzene	56 9	1	ug/l	58 5		97 3	79-135			
Toluene	70 6	1	"	62 5		113	68-141			
Ethylbenzene	63 0	1	"	59 0		107	84-135			
Xylenes, total	130 7	2	"	117 5		111	85-132			
Methyl-t-butyl Ether (MTBE)	146 1	1	"	159 0		91 9	65-135			
Surrogate 4-Bromofluorobenzene	*49 6*		"	*50 0*		*99 2*	*81-124*			
Calibration Check (1B42408-CCV1)				Prepared: 02/23/04 Analyzed: 02/24/04						
Benzene	83 2	1	ug/l	81 0		103	70-130			
Toluene	77 2	1	"	66 5		116	70-130			
Ethylbenzene	71 3	1	"	69 5		103	70-130			
Xylenes, total	159 2	2	"	154 5		103	70-130			
Methyl-t-butyl Ether (MTBE)	65 3	1	"	68 5		95 3	70-130			
Ethyl-tert-Butyl Ether (ETBE)	64 7	2	"	67 0		96 6	70-130			
Di-iso-Propyl Ether (DIPE)	59 3	2	"	63 0		94 1	70-130			
tert-Amyl Methyl Ether (TAME)	62 7	2	"	58 5		107	70-130			
tert-Butyl Alcohol (TBA)	962 6	50	"	995 0		96 7	70-130			
Surrogate 4-Bromofluorobenzene	*50 4*		"	*50 0*		*101*	*81-124*			

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Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0825

Determination of Volatile Petroleum Hydrocarbons - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B42408 - EPA 5030B										
Matrix Spike (1B42408-MS1)		Source: 14B0701-09		Prepared: 02/23/04		Analyzed: 02/24/04				
Benzene	2066	10	ug/l	585 0	1370	119	63-138			
Toluene	664 9	10	"	625 0	14	104	72-128			
Ethylbenzene	987 8	10	"	590 0	309	115	69-139			
Xylenes, total	1318	20	"	1175	42	109	71-136			
Methyl-t-butyl Ether (MTBE)	1383	10	"	1590	ND	87 0	65-127			
Surrogate 4-Bromofluorobenzene	*49 9*		"	*50 0*		*99 8*	*81-124*			
Matrix Spike Dup (1B42408-MSD1)		Source: 14B0701-09		Prepared: 02/23/04		Analyzed: 02/24/04				
Benzene	2110	10	ug/l	585 0	1370	126	63-138	2 11	12	
Toluene	722 8	10		625 0	14	113	72-128	8 34	21	
Ethylbenzene	1038	10	"	590 0	309	124	69-139	4 96	12	
Xylenes, total	1419	20	"	1175	42	117	71-136	7 38	10	
Methyl-t-butyl Ether (MTBE)	1508	10	"	1590	ND	94 8	65-127	8 65	18	
Surrogate 4-Bromofluorobenzene	*50 0*		"	*50 0*		*100*	*81-124*			
Batch 1C40216 - EPA 5030B										
Blank (1C40216-BLK1)				Prepared & Analyzed: 03/01/04						
Benzene	ND	0 500	mg/kg							
Toluene	ND	0 500	"							
Ethylbenzene	ND	0 500	"							
Xylenes, total	ND	1 00	"							
Methyl-t-butyl Ether (MTBE)	ND	1 00								
Di-iso-Propyl Ether (DIPE)	ND	1 00	"							
Ethyl-tert-Butyl Ether (ETBE)	ND	1 00	"							
tert-Amyl Methyl Ether (TAME)	ND	1 00	"							
tert-Butyl Alcohol (TBA)	ND	25 0	"							
Surrogate 4-Bromofluorobenzene	*0 2438*		"	*0 2500*		*97.5*	*81-127*			

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March 08, 2004

Work Order: 14B0825

Determination of Volatile Petroleum Hydrocarbons - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1C40216 - EPA 5030B										
LCS (1C40216-BS1)				Prepared & Analyzed: 03/01/04						
Benzene	5.014	0.100	mg/kg	5.850		85.7	67-139			
Toluene	7.898	0.100	"	6.250		126	63-139			
Ethylbenzene	6.616	0.100	"	5.900		112	70-136			
Xylenes, total	13.89	0.200	"	11.75		118	67-140			
Methyl-t-butyl Ether (MTBE)	14.94	0.200	"	15.90		94.0	65-131			
Surrogate: 4-Bromofluorobenzene	*0.0483*		"	*0.0500*		*96.6*	*81-127*			
Calibration Check (1C40216-CCV1)				Prepared & Analyzed: 03/01/04						
Benzene	0.3552	0.005	mg/kg	0.4050		87.7	70-130			
Toluene	0.3484	0.005	"	0.3325		105	70-130			
Ethylbenzene	0.3402	0.005	"	0.3475		97.9	70-130			
Xylenes total	0.7695	0.010	"	0.7725		99.6	70-130			
Methyl-t-butyl Ether (MTBE)	0.3311	0.010		0.3425		96.7	70-130			
Di-iso-Propyl Ether (DIPE)	0.2914	0.010	"	0.3150		92.5	70-130			
Ethyl-tert-Butyl Ether (ETBE)	0.3236	0.010	"	0.3350		96.6	70-130			
tert-Amyl Methyl Ether (TAME)	0.2500	0.010	"	0.2925		85.5	70-130			
tert-Butyl Alcohol (TBA)	4.813	0.250	"	4.975		96.7	70-130			
Surrogate 4-Bromofluorobenzene	*0.2514*		"	*0.2500*		*101*	*81-127*			
Matrix Spike (1C40216-MS1)				Source: 14B0881-04RE1 Prepared & Analyzed: 03/01/04						
Benzene	5.082	0.100	mg/kg	5.850	ND	86.9	66-140			
Toluene	6.458	0.100	"	6.250	ND	103	66-132			
Ethylbenzene	6.200	0.100	"	5.900	ND	105	60-140			
Xylenes, total	13.12	0.200	"	11.75	ND	112	71-128			
Methyl-t-butyl Ether (MTBE)	14.24	0.200	"	15.90	ND	89.6	64-120			
Surrogate 4-Bromofluorobenzene	*0.0499*		"	*0.0500*		*99.8*	*81-127*			
Matrix Spike Dup (1C40216-MSD1)				Source: 14B0881-04RE1 Prepared & Analyzed: 03/01/04						
Benzene	5.097	0.100	mg/kg	5.850	ND	87.1	66-140	0.295	27	
Toluene	6.161	0.100	"	6.250	ND	98.6	66-132	4.71	25	
Ethylbenzene	6.085	0.100	"	5.900	ND	103	60-140	1.87	27	
Xylenes, total	12.68	0.200	"	11.75	ND	108	71-128	3.41	25	
Methyl-t-butyl Ether (MTBE)	14.06	0.200	"	15.90	ND	88.4	64-120	1.27	26	
Surrogate 4-Bromofluorobenzene	*0.0500*		"	*0.0500*		*100*	*81-127*			

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1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0825

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
Batch 1B42407 - 3510C OA-2 Sep Fnl										
Blank (1B42407-BLK1)				Prepared: 02/24/04 Analyzed: 02/26/04						
TEH, as gasoline	ND	0.1	mg/l							
TEH, as #2 diesel fuel	ND	0.1	"							
TEH, as waste oil	ND	0.1	"							
Total Extractable Hydrocarbons	ND	0.1	"							
Surrogate: Pentacosane	*0.0426*		"	*0.0498*		*85.5*	*70-130*			
LCS (1B42407-BS1)				Prepared: 02/24/04 Analyzed: 02/26/04						
TEH, as #2 diesel fuel	7.86	0.1	mg/l	10.00		78.6	65-110			
Surrogate: Pentacosane	*0.0528*		"	*0.0498*		*106*	*70-130*			
LCS Dup (1B42407-BSD1)				Prepared: 02/24/04 Analyzed: 02/26/04						
TEH, as #2 diesel fuel	7.61	0.1	mg/l	10.00		76.1	65-110	3.23	20	
Surrogate: Pentacosane	*0.0502*		"	*0.0498*		*101*	*70-130*			
Calibration Check (1B42407-CCV1)				Prepared: 02/24/04 Analyzed: 02/26/04						
TEH, as gasoline	2201		mg/l	2050		107	85-115			
TEH, as #2 diesel fuel	2221		"	2100		106	85-115			
TEH, as waste oil	1923		"	2030		94.7	85-115			
Surrogate: Pentacosane	*49.45*		"	*49.80*		*99.3*	*70-130*			
Calibration Check (1B42407-CCV2)				Prepared: 02/24/04 Analyzed: 02/27/04						
TEH, as gasoline	2149		mg/l	2050		105	85-115			
TEH, as #2 diesel fuel	2196		"	2100		105	85-115			
TEH, as waste oil	1870		"	2030		92.1	85-115			
Surrogate: Pentacosane	*48.07*		"	*49.80*		*96.5*	*70-130*			
Calibration Check (1B42407-CCV3)				Prepared: 02/24/04 Analyzed: 03/02/04						
TEH, as gasoline	2162		mg/l	2050		105	85-115			
TEH, as #2 diesel fuel	2215		"	2100		105	85-115			
TEH, as waste oil	1997		"	2030		98.4	85-115			
Surrogate: Pentacosane	*49.57*		"	*49.80*		*99.5*	*70-130*			

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Barker-Lemar Associates
1801 Industrial Circle
Des Moines, IA 50315

March 08, 2004

Work Order: 14B0825

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
Batch 1B42407 - 3510C OA-2 Sep Fnl										
Calibration Check (1B42407-CCV4)				Prepared: 02/24/04 Analyzed: 03/03/04						
TEH, as gasoline	2202		mg/l	2050		107	85-115			
TEH, as #2 diesel fuel	2182		"	2100		104	85-115			
TEH, as waste oil	1895		"	2030		93 3	85-115			
Surrogate: Pentacosane	*48.97*		"	*49 80*		*98.3*	*70-130*			
Reference (1B42407-SRM1)				Prepared: 02/24/04 Analyzed: 03/03/04						
TEH, as #2 diesel fuel	5137	100	mg/l	4752		108	61-110			
Surrogate: Pentacosane	*53 75*		"	*49 80*		*108*	*70-130*			
Batch 1C40318 - 3545 OA-2 PFE										
Blank (1C40318-BLK1)				Prepared: 03/03/04 Analyzed: 03/04/04						
TEH, as gasoline	32 8	5	mg/kg							QB-04
TEH, as #2 diesel fuel	ND	5	"							
TEH, as waste oil	ND	5	"							
Total Extractable Hydrocarbons	32 8	5	"							QB-04
Surrogate: Pentacosane	*2 65*		"	*2 49*		*106*	*60-140*			
LCS (1C40318-BS1)				Prepared: 03/03/04 Analyzed: 03/05/04						
TEH, as #2 diesel fuel	495 7	5	mg/kg	500 4		99 1	61-110			
Surrogate: Pentacosane	*2 60*		"	*2 49*		*104*	*60-140*			
Calibration Check (1C40318-CCV1)				Prepared: 03/03/04 Analyzed: 03/04/04						
TEH, as gasoline	2211		mg/kg	2050		108	85-115			
TEH, as #2 diesel fuel	2264		"	2100		108	85-115			
TEH, as waste oil	1934		"	2030		95 3	85-115			
Surrogate: Pentacosane	*50 4*		"	*49 8*		*101*	*60-140*			

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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
Batch 1C40318 - 3545 OA-2 PFE										
Calibration Check (1C40318-CCV2)				Prepared: 03/03/04		Analyzed: 03/05/04				
TEH, as gasoline	2246		mg/kg	2050		110	85-115			
TEH, as #2 diesel fuel	2218		"	2100		106	85-115			
TEH, as waste oil	2054		"	2030		101	85-115			
Surrogate: Pentacosane	*45.2*		"	*49.8*		*90.8*	*60-140*			
Reference (1C40318-SRM1)				Prepared: 03/03/04		Analyzed: 03/05/04				
TEH, as #2 diesel fuel	4907	100	mg/kg	4754		103	70-130			
Surrogate: Pentacosane	*49.0*		"	*49.8*		*98.4*	*60-140*			
Batch 1C40517 - 3550B OA-2 Sonic										
Blank (1C40517-BLK1)				Prepared: 03/05/04		Analyzed: 03/07/04				
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	*2.53*		"	*2.49*		*102*	*60-140*			
LCS (1C40517-BS1)				Prepared: 03/05/04		Analyzed: 03/08/04				
TEH, as #2 diesel fuel	474.7	5	mg/kg	500.4		94.9	61-110			
Surrogate: Pentacosane	*2.49*		"	*2.49*		*100*	*60-140*			
Calibration Check (1C40517-CCV1)				Prepared: 03/05/04		Analyzed: 03/08/04				
TEH, as gasoline	2102		mg/kg	2050		103	85-115			
TEH, as #2 diesel fuel	2270		"	2100		108	85-115			
TEH, as waste oil	2066			2030		102	85-115			
Surrogate: Pentacosane	*47.7*		"	*49.8*		*95.8*	*60-140*			

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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
Batch 1C40517 - 3550B OA-2 Sonic										
Calibration Check (1C40517-CCV2)				Prepared: 03/05/04		Analyzed: 03/08/04				
TEH, as gasoline	2046		mg/kg	2050		99 8	85-115			
TEH, as #2 diesel fuel	2139		"	2100		102	85-115			
TEH, as waste oil	1785		"	2030		87 9	85-115			
Surrogate Pentacosane	*47 8*		"	*49 8*		*96 0*	*60-140*			
Matrix Spike (1C40517-MS1)		Source: 14B0864-11		Prepared: 03/05/04		Analyzed: 03/08/04				
TEH, as #2 diesel fuel	446 6	5	mg/kg	499 0	ND	89 5	51-110			
Surrogate Pentacosane	*2 38*		"	*2 48*		*96 0*	*60-140*			
Matrix Spike Dup (1C40517-MSD1)		Source: 14B0864-11		Prepared: 03/05/04		Analyzed: 03/08/04				
TEH, as #2 diesel fuel	445 7	5	mg/kg	499 5	ND	89 2	51-110	0.202	18	
Surrogate Pentacosane	*2 37*		"	*2 49*		*95 2*	*60-140*			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Notes and Definitions

O-08 The original extraction of this sample yielded QC recoveries outside acceptance criteria It was re-extracted after the recommended maximum hold time.

QB-04 The method blank contains analyte at a concentration above the MRL.

End of Report

Jeffrey King

Keystone Laboratories, Inc.
Jeffrey King, Ph D
Laboratory Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit

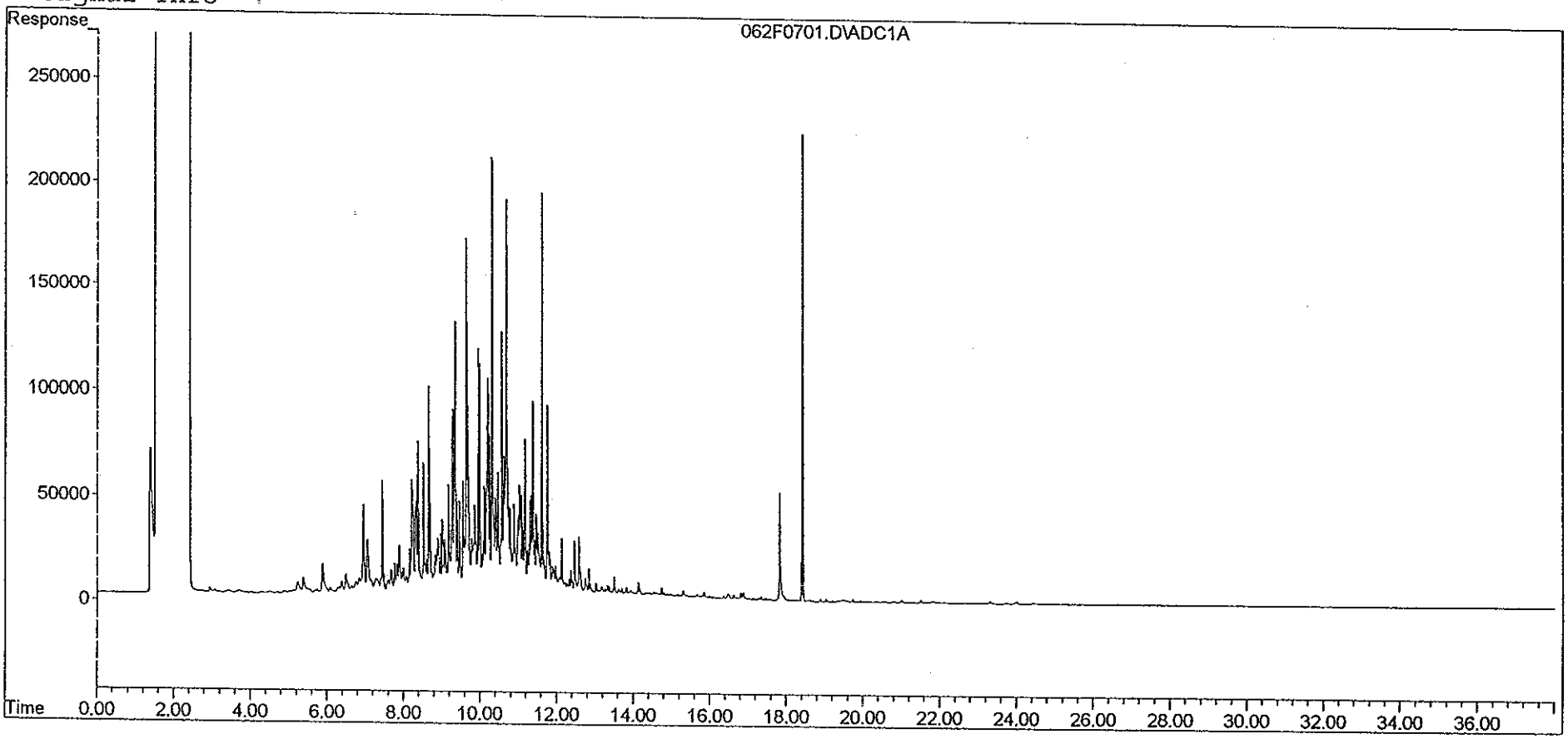
Data File : G:\HPCHEM\2\DATA\030504A2\062F0701.D
Acq On : 07 Mar 2004 06:00 PM
Sample : 14B0825-02RE1
Misc :
IntFile : HYDRO.E
Quant Time: Mar 8 9:31 19104 Quant Results File: F022304.RES

Vial: 62
Operator: SMG
Inst : GC #2
Multiplr: 1.00

Quant Method : G:\HPCHEM\2\METHODS\F022304.M (Chemstation Integrator)
Title : 8015-500/OA-2 Method
Last Update : Tue Feb 24 08:57:51 2004
Response via : Multiple Level Calibration
DataAcq Meth : DIESEL.MTH

Volume Inj :
Signal Phase :
Signal Info :

Keystone Laboratories,
600 East 17th Street
Newton, IA 50208

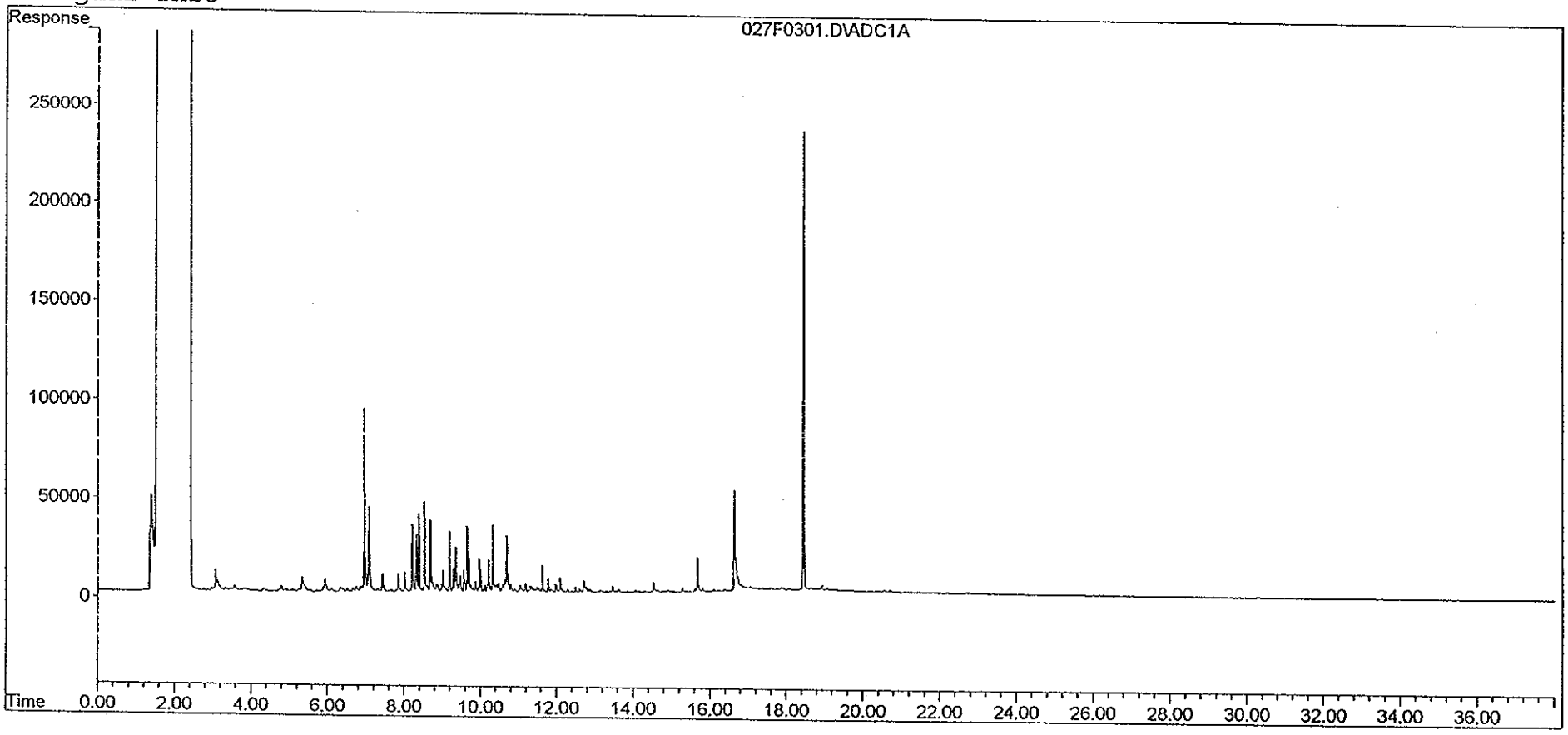


Data File : G:\HPCHEM\2\DATA\030204A2\027F0301.D
Acq On : 03 Mar 2004 02:58 AM
Sample : 14B0825-01
Misc :
IntFile : HYDRO.E
Quant Time: Mar 3 9:40 19104 Quant Results File: F022304.RES

Vial: 27
Operator: SMG
Inst : GC #2
Multiplr: 1.00

Quant Method : G:\HPCHEM\2\METHODS\F022304.M (Chemstation Integrator)
Title : 8015-500/OA-2 Method
Last Update : Tue Feb 24 08:57:51 2004
Response via : Multiple Level Calibration
DataAcq Meth : DIESEL.MTH

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report

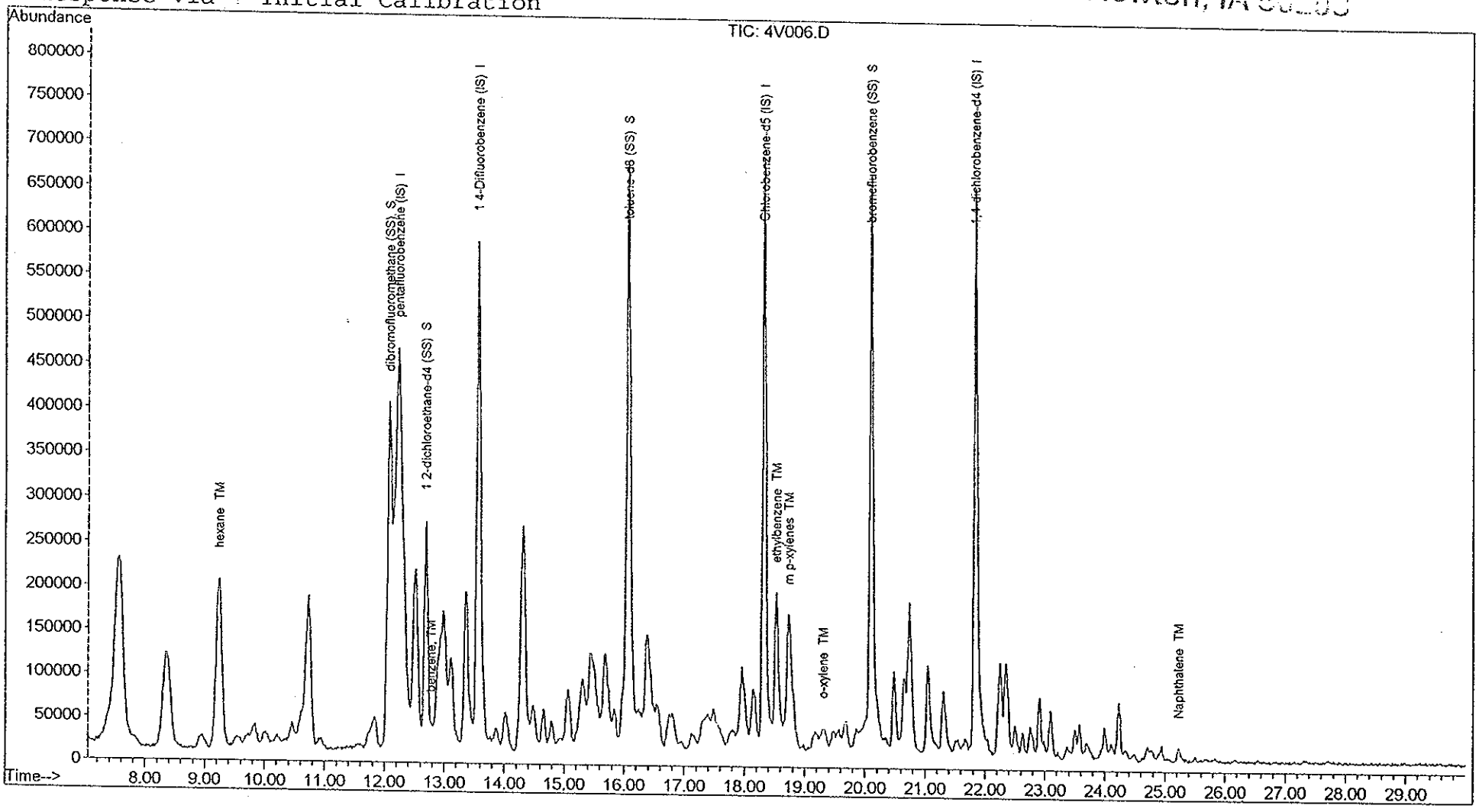
Data File : G:\MSCHEM\4\DATA\030104B4\4V006.D
Acq On : 1 Mar 2004 5:03 pm
Sample : 14B0825-02
Misc : 100X
MS Integration Params: rteint.p
Quant Time: Mar 2 7:52 2004

Vial: 6
Operator: JRF
Inst : MS #4
Multiplr: 1.00

Quant Results File: BW020504.RES

Method : G:\MSCHEM\4\METHODS\BW020504.M (RTE Integrator)
Title : BTEX Water
Last Update : Thu Feb 05 14:27:51 2004
Response via : Initial Calibration

Keystone Laboratories
600 East [illegible]
Newton, IA [illegible]



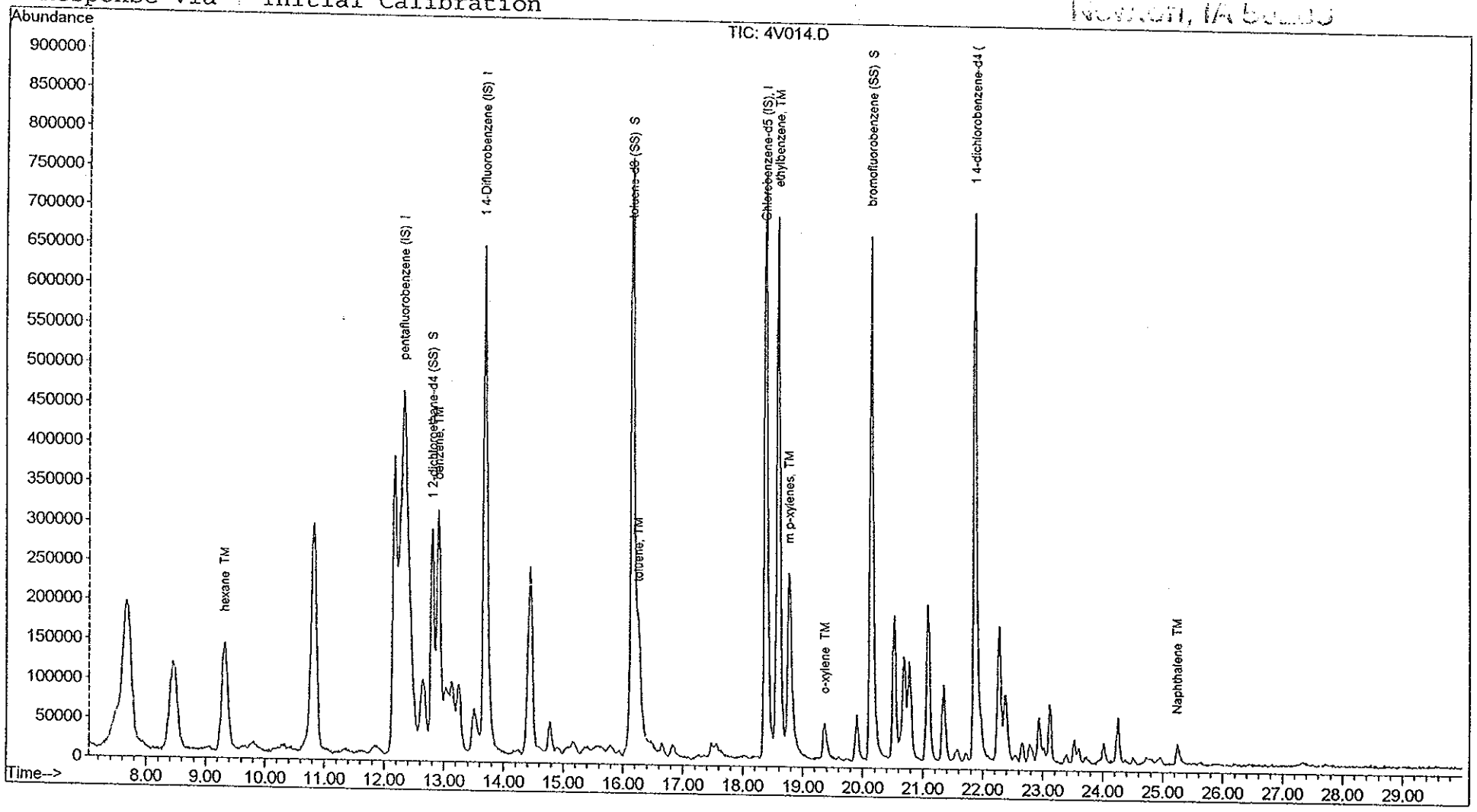
Quantitation Report

Data File : G:\MSCHEM\4\DATA\022304A4\4V014.D
Acq On : 23 Feb 2004 8:46 pm
Sample : 14B0825-01
Misc :
MS Integration Params: rteint.p
Quant Time: Feb 24 7:36 2004

Vial: 14
Operator: JRF
Inst : MS #4
Multiplr: 1.00

Quant Results File: BW020504.RES

Method : G:\MSCHEM\4\METHODS\BW020504.M (RTE Integrator)
Title : BTEX Water
Last Update : Thu Feb 05 14:28:54 2004
Response via : Initial Calibration



CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☒ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
Waterloo, IA 50701
Phone: 319-235-4440
Fax: 319-235-2480

☐ 1304 Adams
Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW
SAMPLER: J. Wyciskalla
SITE NAME: IADNR
ADDRESS: 2301 Forest
CITY/ST/ZIP: Des Moines, IA
PHONE:

REPORT TO:
NAME: Chrissy Janecky
COMPANY NAME: Barker Lemar
ADDRESS:
CITY/ST/ZIP:
PHONE:
FAX:

BILL TO:
NAME:
COMPANY NAME:
ADDRESS:
CITY/ST/ZIP:
PHONE:
Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	BTEX/MTBE 6L/MS	TEH & OA-2							LAB USE ONLY: LABORATORY WORK ORDER NO. 14B0825 / SAMPLE TEMPERATURE UPON RECEIPT: °C / SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
2301	2/19	1600	B-1 ~~5-7~~	4	GW	G	X	X								01
2301	2/19		B-1 5-7'	1	SOIL	G	X	X								02

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around: ☒ Standard ☐ Rush Contact Lab Prior to Submission
[signature]				
Relinquished by: (Signature)	Date / Time	Received for Lab by: (Signature) [signature]	Date 2/20/04 Time 11:18 AM	Remarks:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

FORM: CCR 7-97

Appendix G: Site #23 – 3116 Forest Avenue

Christy
File Copy

Fields of Opportunities

STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

RECEIVED
AUG 26 2004

August 20, 2004

Mr. Dan Garringer
Drake University Real Estate Department
2600 University Avenue
Des Moines, IA 50311

SUBJECT: Non-regulated Underground Storage Tanks –
Former McDonalds property at 3116 Forest Avenue in Des Moines, Iowa
(also listed as 1335 32nd Street)

Dear Mr. Garringer:

As you are aware, our department (DNR) is overseeing a project called USTFields funded through an EPA grant to identify and investigate potential petroleum releases along Forest Avenue. The property referenced above was initially identified as a location of a former gas station, and was targeted for assessment under USTFields. Your office, however, provided the DNR copies of Phase I and Phase II reports completed for the site in 2002. Additionally, we have a closure report on record for five non-regulated tanks that were removed in June 2001. These assessments are essentially similar to activities that would have been completed under USTFields.

Soil and groundwater sampling results presented in these reports indicate that contaminant concentrations do not exceed the action limits established by this department (see 567—135.14(455B) Iowa Administrative Code). Therefore, no further action will be required at this time. We will update our records to indicate a petroleum release was not identified.

File information concerning this site (including the Phase I and II, and UST Closure Report) is available for public viewing at the DNR Records Center, Wallace State Office Building, 502 East Ninth Street, Des Moines, Iowa. You are welcome to review these files during regular business hours (8 a.m. - 4:30 p.m. Monday through Friday), or to request copies of the material at a fee of $0.40 per page.

Please contact me at 515/281-8011, if you have additional questions or we may be of further assistance.

Sincerely,

Elaine R. Douskey

ELAINE R. DOUSKEY
ENVIRONMENTAL SPECIALIST
UNDERGROUND STORAGE TANK SECTION

c: Field Office 5
Christy Jaworski, 1801 Industrial Circle West Des Moines, IA 50265
Ellen Walkowiak, Economic Development, City of Des Moines, 400 E. 1st Street, Des Moines, IA 50309

USTFphaseIIrv_3116Forest.doc