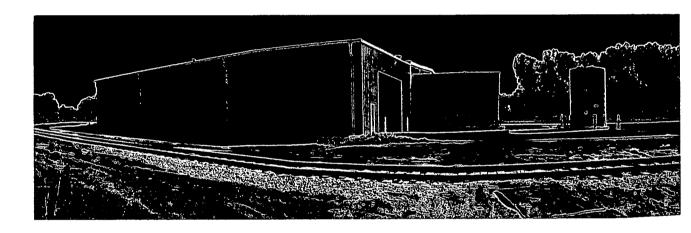
CON 12-15 Doc # 27818

2013 Monitoring

Keim Trucking Fort Dodge, Iowa



prepared by



Environmental Resource Services, Inc. Ames, Iowa



October 14, 2013

Ed Bean, General Manager Keim T.S., Inc. 1314 South 332nd Street Fort Dodge, IA 50501

Re:

2013 monitoring - Keim, Fort Dodge

ERS 22065

Dear Mr. Bean:

Attached are the results of the groundwater monitoring for 2013, as required by the IDNR, for the above-referenced site. Sampling locations, contaminant levels, and groundwater flow are shown on a 2011 aerial photograph of the area. Analytical results from Keystone Laboratories, Newton, Iowa, follow.

MW2 was the only well sampled indicating contaminant levels above a DNR action level. That well had 16 ppb benzene and 6,550,000 ppb TEH as waste oil. For the first time since sampling began at this site, there was no detection of TEH diesel fuel in MW3. That laboratory result was somewhat surprising, as there was diesel odor in the sample. The only other analyte shown in the 2013 samples was 16 ppb xylenes in MW3.

The 2013 water levels show significant drop in elevations. Following heavy rains in the spring, the region has experienced widespread drought conditions. These fluctuations may be affecting the contamination shown in the samples.

We have provided the IDNR copies of this report. IDNR will outline any additional activities if necessary.

Please contact me if there are any questions regarding the ongoing sampling at this site, or if there is any additional information I can provide to assist you in this matter.

Very truly yours,

Steven B. Hardy

attchs: sample locations TEH-Diesel levels groundwater flow analytical reports

cc: / Matt Culp, IDNR Contaminated Sites Cindy Garza, IDNR Field Office #2



TEH diesel was detected, above IDNR target levels, in only MW2. Levels in ug/l are shown at MW2 where diesel was detected. An approximate plume encompasses sites above IDNR target level.



TEH DIESEL CONTAMINATION - 2013

Keim, T.S. 1236 S. 32nd St., Fort Dodge



General direction of groundwater flow direction is shown based on water levels measured 9/26/13.

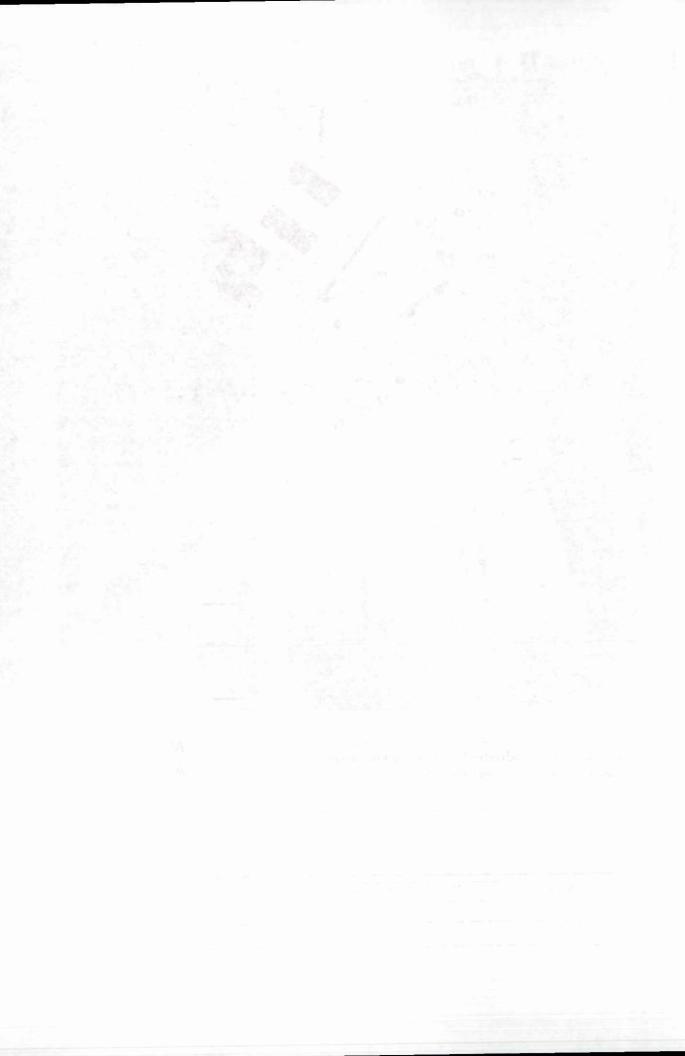


1 in ~ 120 ft

GROUNDWATER FLOW DIRECTION 09/26/12

Keim, T.S. 1236 S. 32nd St., Fort Dodge

ENVIRONMENTAL RESOURCE SERVICES – Ames, Iowa 515.231.2288 ersgeo@msn.com









ANALYTICAL REPORT

October 11, 2013

Work Order:

1131723

Page 1 of 8

Report To

Steve Hardy

Environmental Resource Services

519 Lynne Ave

Ames, IA 50014-7319

Project: UST

Project Number:

KEIM Trucking

Work Order Information

Date Received: 09/27/2013 9:55AM

Collector:

Phone: (515) 231-2288

PO Number: 22065

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifie
1 I31723-01 22065-2 (w)				Matrix:Water	Co	llected: 09/26/	13 15:30
Methyl-t-butyl Ether (MTBE)	8 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
Benzene	16 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
Toluene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
Ethylbenzene	4 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
Xylenes, total	83 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
Ethyl-tert-Butyl Ether (ETBE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
Di-iso-Propyl Ether (DIPE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
tert-Amyl Methyl Ether (TAME)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
tert-Butyl Alcohol (TBA)	<50 ug/L	50	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 9:19	
Surrogate: 4-Bromofluorobenzene	103 %			76-131	TKD	10/08/13 9:19	
TEH, as gasoline	<137 mg/L	137	1WJ0182	Iowa OA-2	CAK	10/10/13 10:52	
TEH, as #2 diesel fuel	6550 mg/L	137	1WJ0182	Iowa OA-2	CAK	10/10/13 10:52	
TEH, as waste oil	<137 mg/L	137	1WJ0182	Iowa OA-2	CAK	10/10/13 10:52	
Total Extractable Hydrocarbons	6550 mg/L	137	1WJ0182	Iowa OA-2	CAK	10/10/13 10:52	
Surrogate: Pentacosane	%			50-151	CAK	10/10/13 10:52	S-01
1131723-02 22065-3 (w)				Matrix:Water	Co	llected: 09/26/	13 15:40
Methyl-t-butyl Ether (MTBE)	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 8:41	
Benzene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 8:41	
Toluene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 8:41	
Ethylbenzene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 8:41	
Xylenes, total	16 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 8:41	
Ethyl-tert-Butyl Ether (ETBE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 8:41	
Di-iso-Propyl Ether (DIPE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 8:41	
	_			OA-1 (GC/MS)	TKD	10/08/13 8:41	
tert-Amyl Methyl Ether (TAME)	<2 ug/L	2	1WJ0252	ON-1 (GC/M3)	1100	10/00/13 0.41	
tert-Amyl Methyl Ether (TAME) tert-Butyl Alcohol (TBA)	<2 ug/L <50 ug/L	2 50	1WJ0252 1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 8:41	







Work Order: 1I31723

October 11, 2013 Page 2 of 8

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed Qualifi
1I31723-02 22065-3 (w)				Matrix:Water	Co	llected: 09/26/13 15:40
TEH, as gasoline	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 19:18
TEH, as #2 diesel fuel	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 19:18
TEH, as waste oil	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 19:18
Total Extractable Hydrocarbons	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 19:18
Surrogate: Pentacosane	89.7 %			50-151	CAK	10/07/13 19:18
1I31723-03 22065-4 (w)				Matrix:Water	Co	llected: 09/26/13 15:50
Methyl-t-butyl Ether (MTBE)	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
Benzene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
Toluene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
Ethylbenzene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
Xylenes, total	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
Ethyl-tert-Butyl Ether (ETBE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
Di-iso-Propyl Ether (DIPE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
tert-Amyl Methyl Ether (TAME)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
tert-Butyl Alcohol (TBA)	<50 ug/L	50	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 2:33
Surrogate: 4-Bromofluorobenzene	124 %			76-131	TKD	10/08/13 2:33
TEH, as gasoline	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 20:07
TEH, as #2 diesel fuel	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 20:07
TEH, as waste oil	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 20:07
Total Extractable Hydrocarbons	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 20:07
Surrogate: Pentacosane	92.0 %			50-151	CAK	10/07/13 20:07
1131723-04 22065-5 (w)				Matrix:Water	Co	ollected: 09/26/13 16:00
Methyl-t-butyl Ether (MTBE)	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
Benzene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
Toluene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
Ethylbenzene	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
Xylenes, total	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
Ethyl-tert-Butyl Ether (ETBE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
Di-iso-Propyl Ether (DIPE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
tert-Amyl Methyl Ether (TAME)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
tert-Butyl Alcohol (TBA)	<50 ug/L	50	1WJ0252	OA-1 (GC/MS)	TKD	10/08/13 3:10
Surrogate: 4-Bromofluorobenzene	124 %			76-131	TKD	10/08/13 3:10
TEH, as gasoline	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 20:56
TEH, as #2 diesel fuel	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 20:56
TEH, as waste oil	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 20:56
Total Extractable Hydrocarbons	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK	10/07/13 20:56
	-					







Work Order: 1I31723

October 11, 2013 Page 3 of 8

Analyte		Result	MRL	Batch	Method	Analyst Analyzed Qualifier
1131723-04	22065-5 (w)				Matrix:Water	Collected: 09/26/13 16:00
1I31723-05	22065-6 (w)				Matrix:Water	Collected: 09/26/13 16:10
Methyl-t-butyl Ethe	er (MTBE)	<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
Benzene		<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
Toluene		<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
Ethylbenzene		<1 ug/L	1	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
Xylenes, total		<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
Ethyl-tert-Butyl Eth	her (ETBE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
Di-iso-Propyl Ether	r (DIPE)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
tert-Amyl Methyl E	Ether (TAME)	<2 ug/L	2	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
tert-Butyl Alcohol	(TBA)	<50 ug/L	50	1WJ0252	OA-1 (GC/MS)	TKD 10/07/13 21:01
Surrogate: 4-Brome	ofluorobenzene	119 %			76-131	TKD 10/07/13 21:01
TEH, as gasoline		<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK 10/07/13 21:45
TEH, as #2 diesel f	fuel	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK 10/07/13 21:45
TEH, as waste oil		<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK 10/07/13 21:45
Total Extractable H	Iydrocarbons	<0.1 mg/L	0.1	1WJ0182	Iowa OA-2	CAK 10/07/13 21:45
Surrogate: Pentaco	osane	96.8 %			50-151	CAK 10/07/13 21:45







Work Order: 1I31723

October 11, 2013 Page 4 of 8

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 1WJ0252 - EPA 5030B		· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·				
Blank (1WJ0252-BLK1)				Prepared &	Analyzed:	10/07/13				
Surrogate: 4-Bromofluorobenzene	55,9		ug/L	50.0000		112	76-131			
Methyl-t-butyl Ether (MTBE)	ND	1	**							
Benzene	ND	1	**							
Toluene	ND	1	**							
Ethylbenzene	ND	1	u							
Kylenes, total	ND	2	**							
Ethyl-tert-Butyl Ether (ETBE)	ND	2	11							
Di-iso-Propyl Ether (DIPE)	ND	2	u							
ert-Amyl Methyl Ether (TAME)	ND	2								
ert-Butyl Alcohol (TBA)	ND	50	**							
LCS (1WJ0252-BS1)				Prepared &	Analyzed:					
Surrogate: 4-Bromofluorobenzene	52.9		ug/L	50.0000		106	76-131			
Methyl-t-butyl Ether (MTBE)	106.0	1	**	105.600		100	69-114			
Benzene	49.7	1	**	50.0000		99.3	82-126			
Toluene	51.9	1	11	50.0000		104	85-117			
Ethylbenzene	53.5	1	19	50.0000		107	83-125			
Kylenes, total	154.6	2	t7	150.000		103	83-119			
Ethyl-tert-Butyl Ether (ETBE)	106.7	2	*	103.200		103	81-116			
Di-iso-Propyl Ether (DIPE)	101.2	2	**	105.200		96.2	73-136			
ert-Amyl Methyl Ether (TAME)	98.7	2	u	107.600		91.7	75-123			
ert-Butyl Alcohol (TBA)	1665	50	*	2008.40		82.9	37-153			
Matrix Spike (1WJ0252-MS1)	So	ource: 1J30071-	-04	Prepared &	Analyzed:	10/07/13				
Surrogate: 4-Bromofluorobenzene	51.0	· · · · · · · · · · · · · · · · · · ·	ug/L	50.0000		102	76-131			
Methyl-t-butyl Ether (MTBE)	1033	10	*	1056.00	ND	97.8	69-126			
Benzene	525.4	10	**	500.000	3.7	104	82-126			
Toluene	524.5	10	"	500.000	3.4	104	86-122			
Ethylbenzene	529.8	10	"	500.000	11.6	104	84-135			
Xylenes, total	1551	20	•	1500.00	48.8	100	81-125			
Ethyl-tert-Butyl Ether (ETBE)	1084	20	*	1032.00	ND	105	79-118			
Di-iso-Propyl Ether (DIPE)	1066	20	"	1052.00	ND	101	77-133			
ert-Amyl Methyl Ether (TAME)	1091	20	•	1076.00	ND	101	82-129			
ert-Butyl Alcohol (TBA)	17870	500	**	20084.0	ND	89.0	27-165			







Work Order:

1131723

October 11, 2013 Page 5 of 8

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

	Reporting			Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1WJ0252 - EPA 5030B										
Matrix Spike Dup (1WJ0252-MSD1)	So	urce: 1J30071-()4	Prepared &	Analyzed:	10/07/13				
Surrogate: 4-Bromofluorobenzene	51.7		ug/L	50.0000		103	76-131			
Methyl-t-butyl Ether (MTBE)	1009	10	**	1056.00	ND	95.5	69-126	2.34	11	
Benzene	529.0	10	**	500.000	3.7	105	82-126	0.683	10	
Toluene	536.6	10	**	500.000	3.4	107	86-122	2.28	10	
Ethylbenzene	549.8	10	**	500.000	11.6	108	84-135	3.71	10	
Xylenes, total	1580	20	**	1500.00	48.8	102	81-125	1.81	10	
Ethyl-tert-Butyl Ether (ETBE)	1066	20	**	1032.00	ND	103	79-118	1.66	10	
Di-iso-Propyl Ether (DIPE)	1052	20	19	1052.00	ND	100	77-133	1.27	10	
tert-Amyl Methyl Ether (TAME)	1093	20	19	1076.00	ND	102	82-129	0.156	10	
tert-Butyl Alcohol (TBA)	17260	500	Ħ	20084.0	ND	86.0	27-165	3.43	25	





%REC



Environmental Resource Services 519 Lynne Ave Ames, IA 50014-7319

Work Order:

1I31723

October 11, 2013 Page 6 of 8

RPD

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

Spike

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes		
Batch 1WJ0182 - 3510C OA-2 Sep Ful									-			
Blank (1WJ0182-BLK1)				Prepared: 10	0/03/13 A	nalyzed: 10	/04/13		·			
Surrogate: Pentacosane	0.0484		mg/L	0.0496000		97.5	50-151					
TEH, as gasoline	ND	0.1	**									
TEH, as #2 diesel fuel	ND	0.1	· ·									
TEH, as waste oil	ND	0.1	11									
Total Extractable Hydrocarbons	ND	0.1	**									
LCS (1WJ0182-BS1)				Prepared: 10/03/13 Analyzed: 10/04/13								
Surrogate: Pentacosane	0.0530		mg/L	0.0496000		107	50-151					
TEH, as #2 diesel fuel	5.64	0.1	11	7.53500		74.9	57-111					
LCS Dup (1WJ0182-BSD1)				Prepared: 10	0/03/13 A	nalyzed: 10	/04/13					
Surrogate: Pentacosane	0.0544		mg/L	0.0496000		110	50-151					
TEH, as #2 diesel fuel	6.58	0.1	"	7.53500		87.3	57-111	15.3	30			
Reference (1WJ0182-SRM1)				Prepared: 1	0/03/13 A	nalyzed: 10	0/04/13					
Surrogate: Pentacosane	0.0520		mg/L	0.0496000		105	50-151					
TEH, as #2 diesel fuel	6.84	0.1	17	7.53500		90.7	70-130					

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

Certified Analyses included in this Report

Method/Matrix	Analyte	Certifications	
Iowa OA-2 in Water			
	Total Extractable Hydrocarbons	SIA1X	
OA-1 (GC/MS) in Water			
	Methyl-t-butyl Ether (MTBE)	SIA1X	
	Benzene	SIA1X	
	Toluene	SIA1X	
	Ethylbenzene	SIA1X	
	Xylenes, total	SIA1X	







Work Order: 1I31723

October 11, 2013 Page 7 of 8

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2014
KS-NT	Kansas Department of Health and Environment	E-10287	10/30/2013
MO-KC	Missouri Department of Natural Resources	140	04/30/2014
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2014
SIA1X	Iowa Department of Natural Resources	95	02/01/2014

Notes and Definitions

S-01

The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.

End of Report

Keystone Laboratories, Inc.

Sue Thompson Project Manager II

LABORATORIES, INC.

Ames, IA 50014-7319 Environmental Resource Services 519 Lynne Ave

1131723

Work Order:

LABORATORIES, INC. RINT OR TYPE INFORMATION BELOW IMPLER: STEVE HARDY).	en, IA 50208 e: 641-792-8451 641-792-7989 REPORT TO: STEVI	Pho Fax www	v.keys	19-2: 19-2: tone	35-44 35-24	440 480	······································	Kan Pho Fax	ne: 91	13-32 13-32 		1_0F_1_
ITE NAME: KEIM TRUCK. DDRESS: HTY/ST/ZIP: FORT DODGE HONE:	ING	COMPANY NAME: ADDRESS: 5.19 CITY/ST/ZIP: AMI PHONE: 5'5.2 FAX:	ER LY	NN I	Av.	6 014	/		- -	COMF ADDR CITY/S PHON	PANY ESS: ST/ZI IE:		She)
			<u>"</u>				ANAL	YSES	REC	UIREC)	LAB USE C	
22065-3'w) 13 22065-4 (w) 13 22065-5 (w) 16	SAMPL 530 MW: 540 MW: 550 MW: 60 MW: 610 MW	E LOCATION 2 3		O MATRIX	C GRAB/COMPOSITE	28TM 1-80 1 7 2 1 7	7-00					LABORATORY WORK ORDER HO 173/723 SAMPLE TEMPERATURE UPON RECEIPT *C SAMPLE CONDITION COMMENTS	
letinquished by: (Signature)	ate - / 3 Recen	ed by: (Signature)		Date			T	ım-Aro	und:	rd		Rush	
telinquished by: (Signature)	ate Receive	red for Lab by: (Signature) Lee Result at - Return with Report	2	Days Tow-L	ر ر و	3		emarks	E			Contact Lab Prior	FORM: CCR 7-9

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.

Fax 641-792-7989



October 11, 2013 Page 8 of 8