



CON 12-15  
Doc #29696

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR  
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
CHUCK GIPP, DIRECTOR

Date: May 21, 2014

From: Matt Culp

To: Memo to file - Regarding follow up sampling at RC Industries site, Grinnell, Iowa

During demolition of the RC Industries building in May 2014 under the Brownfield Redevelopment Program, an area of soil contamination was discovered under the southwest corner of the floor slab of the west building that was not identified during the Site Specific Assessment (SSA) conducted in May of 2012. This area was described as the paint area of the former operation of RC.

Sampling:

One soil and one shallow ground water sample were collected and submitted to the State Hygienic labs (SHL) and analyzed for volatile organic compounds and total extractable hydrocarbons. The analytical results from the SHL for soil were reported in **ug/kg** except for the OA-2 compounds that are in **mg/kg** in soil. The Grinnell results for ground water are all in **ug/L**. The Grinnell sample results were converted to mg/kg (soil) and or mg/L (groundwater) for consistency comparison with the LRP standards.

Summary:

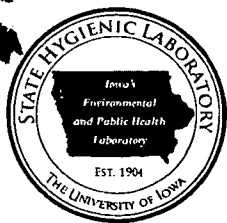
Two volatile organic compounds were detected in ground water: Acetone and Methyl-ethyl ketone (MEK). Seven volatile organic compounds were detected in soil: Acetone, Three other ketones (MEK, MIBK, MBK), and toluene, ethyl-benzene and waste oil. See table below.

Conclusion:

None of the compounds identified exceed their respective Statewide Standard in soil or ground water. The analytical results are summarized below and the individual lab reports are attached.

contaminant	Grinnell soil sample (mg/kg)	LRP Soil standard (mg/kg)	contaminant	Grinnell Ground Water Sample (mg/L)	LRP Protected GW standard (mg/L)	LRP Non-protected GW standard (mg/L)
2-Butanone (AKA) Methyl-Ethyl Ketone (MEK)	0.047	46,000	2-Butanone Methyl-Ethyl Ketone (MEK)	.008	4.0	21.0
4-Methyl-2-pentanone (AKA) Methyl-isobutyl Ketone (MIBK)	0.027	6,100	4-Methyl-2-pentanone Methyl-isobutyl Ketone (MIBK)	Non-detected	0.56	2.8
2-Hexanone (MBK)	0.029	As above	2-Hexanone (MBK)	Non-detected	As above	As above
Acetone	11	68,000	Acetone	0.32	6.6	32
Toluene	0.720	6,100	Toluene	Non-detected	1.0	5.0
Ethyl-benzene	0.560	7,600	Ethyl-benzene	Non-detected	0.7	3.5
Motor oil (waste oil)	3,600	9,400	Motor oil (waste oil)	Non-detected	.73	15





# State Hygienic Laboratory

*The University of Iowa*

DANIEL COOK  
IDNR CONTAMINATED SITES  
LAND QUALITY BUREAU  
502 E 9TH STREET  
DES MOINES, IA 50319-0034

Accession Number	163957
Date Sample Finalized	2014-05-21 10:59
Date Received	2014-05-16 14:09
Sample Source	Solid
Project	WMSF
Date Collected	2014-05-16 12:00
Collection Site	ss-01
Collection Town	GRINNELL
Sample Description	soil sample
Client Reference	wmsf
Collector	cook daniel
Phone	515/281-4171.

*Note:* Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

## Results of Analyses

*GCMS Volatiles, EPA 8260*

Units	ug/kg
Date Analyzed	2014-05-19 15:59
Analyst	LJL

Analyzed In	Coralville
Date Verified	2014-05-21 10:59
Verifier	TGC

Analyte	Result	Quant Limit
Chloromethane	<25	25
Bromomethane	<25	25
Vinyl chloride	<25	25
Chloroethane	<25	25
Methylene chloride	<25	25
Methyl-t-butyl ether (MtBE)	<25	25
Acetone	11000	620
Carbon disulfide	<25	25
1,1-Dichloroethene	<25	25
1,1-Dichloroethane	<25	25
Total 1,2-Dichloroethenes	<25	25
Chloroform	<25	25
1,2-Dichloroethane	<25	25
2-Butanone	47	25
1,1,1-Trichloroethane	<25	25
Carbon tetrachloride	<25	25
Bromodichloromethane	<25	25
1,2-Dichloropropane	<25	25
cis-1,3-Dichloropropene	<25	25
Trichloroethene	<25	25
Dibromochloromethane	<25	25
1,1,2-Trichloroethane	<25	25
Benzene	<25	25
trans-1,3-Dichloropropene	<25	25
Bromoform	<25	25
4-Methyl-2-pentanone	27	25
2-Hexanone	29	25



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*The University of Iowa*

Accession Number | 163957

Analyte	Result	Quant Limit
Tetrachloroethene	<25	25
1,1,2,2-Tetrachloroethane	<25	25
Toluene	720	620
Chlorobenzene	<25	25
Ethylbenzene	560	25
Styrene	<25	25
Total Xylenes	<25	25

**Note:** One or more quality control parameters were observed outside the QC limits in the analysis of this sample.

Improper sample collection bottle was used for volatiles analysis.

A number of non-target compounds were observed in the analysis of this sample including tentatively identified compound Butylated hydroxy toluene at an estimated concentration of 270 ug/kg.

## *Total Extractable Hydrocarbons, Iowa OA-2*

Units	mg/kg	Analyzed In	Coralville
Date Analyzed	2014-05-20 12:53	Date Verified	2014-05-21 10:47
Analyst	PM	Verifier	SJM
Analysis Prep	Prep by Sonication, Iowa OA-2		

Analyte	Result	Quant Limit
Gasoline	<300	300
Mineral spirits	<300	300
Kerosene	<300	300
Diesel fuel	<300	300
Motor oil	3600	300
Total Extractable Hydrocarbons	3600	300

**Note:** The chromatographic profile of the sample extract is similar to this laboratory's motor oil standard. Quantitation is based on this laboratory's motor oil standard.

## *Prep by Sonication, Iowa OA-2*

Units	mg/kg	Analyzed In	Coralville
Date Analyzed	2014-05-20 06:46	Date Verified	2014-05-21 10:46
Analyst	PM	Verifier	GHJ

## *Description of Units used within this report*

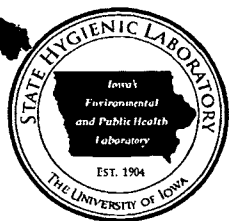
mg/kg = Milligrams per Kilogram

ug/kg = Micrograms per Kilogram

The result(s) of this report relate only to the items analyzed. This report shall not be reproduced except in full without the written approval of the laboratory.

Iowa Environmental Laboratory IDs are: Ankeny #397, Iowa City/Coralville #027, Lakeside #393.

If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500. Thank you.



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*The University of Iowa*

DANIEL COOK  
IDNR CONTAMINATED SITES  
LAND QUALITY BUREAU  
502 E 9TH STREET  
DES MOINES, IA 50319-0034

Accession Number	163956
Date Sample Finalized	2014-05-21 08:39
Date Received	2014-05-16 14:09
Sample Source	Non-Drinking Water
Project	WMSF
Date Collected	2014-05-16 12:15
Collection Site	sw-01
Collection Town	GRINNELL
Sample Description	
Client Reference	wmsf
Collector	cook dan
Phone	515/281-4171

Note: Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

## Results of Analyses

*GCMS Volatiles, EPA 8260*

Units	ug/L
Date Analyzed	2014-05-19 11:21
Analyst	LJL

Analyzed In	Coralville
Date Verified	2014-05-21 08:39
Verifier	TGC

Analyte	Result	Quant Limit
Chloromethane	<5	5
Bromomethane	<5	5
Vinyl chloride	<5	5
Chloroethane	<5	5
Methylene chloride	<5	5
Methyl-t-butyl ether (MtBE)	<5	5
Acetone	320	20.
Carbon disulfide	<5	5
1,1-Dichloroethene	<5	5
1,1-Dichloroethane	<5	5
Total 1,2-Dichloroethenes	<5	5
Chloroform	<5	5
1,2-Dichloroethane	<5	5
2-Butanone	8	5
1,1,1-Trichloroethane	<5	5
Carbon tetrachloride	<5	5
Bromodichloromethane	<5	5
1,2-Dichloropropane	<5	5
cis-1,3-Dichloropropene	<5	5
Trichloroethene	<5	5
Dibromochloromethane	<5	5
1,1,2-Trichloroethane	<5	5
Benzene	<5	5
trans-1,3-Dichloropropene	<5	5
Bromoform	<5	5
4-Methyl-2-pentanone	<5	5
2-Hexanone	<5	5





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Accession Number | 163956

Analyte	Result	Quant Limit
Tetrachloroethene	<5	5
1,1,2,2-Tetrachloroethane	<5	5
Toluene	<5	5
Chlorobenzene	<5	5
Ethylbenzene	<5	5
Styrene	<5	5
Total Xylenes	<5	5

**Description of Units used within this report**

ug/L = Micrograms per Liter

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