CON 12-15
Doc #30040

MEMORANDUM TO FILE

FROM: HYLTON JACKSON
SUBJECT: 2014 GROUNDWATER SAMPLING EVENT, SUNSHINE LAUNDRY, FORT DODGE
DATE: SEPTEMBER 24, 2014

The above referenced property site was a former dry cleaning facility which operated for approximately eight years. Dry cleaning operations had ceased by the time the property was sold to the current owners (1994). A Phase I Environmental Site Assessment (ESA) referenced EPA documents (dated 1992) that indicated waste containers of tetrachloroethene (PCE) stored in the shed on eastern portion of the site had leaked on some occasions.

A soil and groundwater Phase II ESA (dated April 15, 2008) was performed by Burns and McDonnell Engineering Company, Inc. Ten borings (DP-1 through DP-10) were advanced to depths from 20 to 26 feet below ground surface (bgs). A soil sample was collected from each boring after field screening for organic vapors using a photo ionization detector (PID). All ten soil samples were analyzed for volatile organic compounds (VOCs). A groundwater sample was collected from each boring and analyzed for VOCs. Two sub-slab vapor samples (SVP-1 and SPV-2) were collected below the slab of the main building. The soil vapor samples were analyzed for BTEX, PCE, TCE, chloroform, methylene chloride, and vinyl chloride. The concentration of PCE at SVP-1 was 170 ug/m^3 and the concentration at SPV-2 was 630,000 ug/m^3. If the 10 per cent attenuation factor is used for the concentration of 630,000 ug/m^3 and the sample run through Department's LRP Cumulative Risk Calculator, that sample would grossly exceed all exposure scenarios (site resident, site worker, and construction worker).
Results from this assessment indicated that soil and groundwater had been significantly impacted by the past release of PCE and there is a potential for significant impact to indoor air in the onsite building.

The Department required an additional assessment and the environmental consultants, Barker Lemar, conducted a Site Assessment and prepared a Remedial Action Plan (report dated June 2010). Six borings (MW-1 through MW-6) had been advanced onsite to depths from 10 to 20 feet bgs and each was converted to a permanent monitoring well. A soil sample was collected from borings MW-1, MW-2, MW-3, and MW-6 after field screening for organic vapors using a photo ionization detector (PID). All four soil samples were analyzed for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and Vinyl Chloride. A groundwater sample was collected from each of the six permanent monitoring wells and analyzed for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and Vinyl Chloride. The Barker Lemar site assessment did not fully define the extent of the chlorinated groundwater plume.

The Department obtained access permission from the Wells Fargo property that lies directly east of the Sunshine Laundry property. On December 6, 2010, the Department advanced three Geoprobe® screenpoint borings to depths of 15 to 19 feet bgs in the Wells Fargo parking lot and a groundwater sample was collected from each boring. Groundwater samples were also collected from five of the six permanent wells on the Sunshine laundry property. Monitoring well MW-3 could not be located. All groundwater samples were analyzed for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and Vinyl Chloride.

On May 18, 2011, the Department obtained access permission for the Long John Silver's property that lies east of South 25th Street and east of the Wells Fargo property. Four Geoprobe® screenpoint borings were advanced to depths of 15 to 19 feet bgs on the Long John Silver's property. A groundwater sample was collected from two borings, PS-1 and PS-2. Borings PS-3 and PS-4 did not yield water. Groundwater samples were also collected from the six permanent wells on the Sunshine Laundry property. All groundwater samples were analyzed for PCE; TCE; 1-2,DCE (total); and Vinyl Chloride.

On December 19, 2011 the Department collected a of groundwater samples from the six permanent monitoring wells that remain on the Sunshine Laundry property. The groundwater samples were analyzed for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and vinyl chloride.

On August 28, 2014 the Contaminated Sites Section collected another round of groundwater samples from the onsite wells at the sunshine Laundry property. Five of the six wells were sampled (monitoring well MW-3 could not be located). The groundwater samples were submitted for laboratory analysis if VOCs. All current and historic groundwater results are listed in the attached **TABLE 1**. Relative elevations of the well top of casings (TOC) were determined and static water levels were noted before sampling. Groundwater flow on the northern half of the property was determined to be toward the north/northeast (+39°). Groundwater flow on the southern half of the property was determined to be toward the south/southeast (+157°). Significant groundwater contamination remains onsite. While current conditions onsite may not present unacceptable risks, any future redevelopment will have to take into account potential solid waste issues (in the event of excavation) and potential VI issues in existing or new structures located onsite. A letter was sent to the current owner on September 24, 2014 (see attached) summarizing the Department's position on the site.

TABLE 1

All units in ug/l. Exceedances in **BOLD**

Sample Location	Date	PCE	TCE	trans-1,2-DCE	cis-1,2-DCE	Vinyl Chloride
MW-1	1/19/2010	2.8	**6**	3.7	20.1	ND
	12/6/2010	ND	**7**	ND	18	ND
	5/18/2011	ND	ND	ND	8	ND
	12/19/2011	ND	**5**	*	9*	ND
	8/28/2014	ND	ND	*	11*	ND
MW-2	1/19/2010	**57.8**	**10.8**	13.7	46.8	ND
	12/6/2010	**350**	**89**	85	**400**	ND
	5/18/2011	**690**	**230**	**120**	**500**	**26**
	12/19/2011	**790**	**200**	*	**640***	**67**
	8/28/2014	**2,300**	**290**	*	**760***	**26**
MW-3	1/19/2010	**1,970**	**281**	**518**	**1,110**	**6.2**
	12/6/2010	NS	NS	NS	NS	NS
	5/18/2011	**4,000**	**360**	**590**	**1,100**	**11**
	12/19/2011	**3700**	**420**	*	**1,500***	**11**
	8/28/2014	NS	NS	NS	NS	NS
MW-4	1/19/2010	**7.3**	1.1	1.4	2.9	ND
	12/6/2010	**22**	ND	ND	ND	ND
	5/18/2011	ND	ND	ND	ND	ND
	12/19/2011	ND	ND	ND*	ND*	ND
	8/28/2014	ND	ND	ND*	ND*	ND
MW-5	4/22/2010	**111**	4.5	ND	ND	ND
	12/6/2010	**160**	**14**	ND	ND	ND
	5/18/2011	**160**	**20**	ND	8	ND
	12/19/2011	**190**	**13**	ND*	ND*	ND
	8/28/2014	**170**	**9**	*	7*	ND
MW-6	4/22/2010	**75.3**	**5.1**	2.5	3.5	ND
	12/6/2010	**100**	**17**	10	33	ND
	5/18/2011	**67**	**6**	ND	8	ND
	12/19/2011	**110**	**15**	*	11*	ND
	8/28/2014	**97**	**8**	*	9*	ND
WF-1	12/6/2010	**130**	**270**	**170**	**1,100**	ND
WF-2	12/6/2010	**400**	**210**	**180**	**430**	ND
WF-3	12/6/2010	**1,000**	**310**	**650**	**1,300**	ND
PS-1	5/18/2011	ND	ND	ND	ND	ND
PS-2	5/18/2011	ND	ND	ND	ND	ND
Statewide Standard		5	5	100	70	2

*Concentrations of cis-1,2-DCE and trans-1,2-DCE were combined and reported as total 1,2-DCE in 12/19/2011 sampling event. This table lists that total concentration as cis-1,2-DCE, the compound with the lower Statewide Standard.

MEMORANDUM TO FILE

FROM: HYLTON JACKSON
SUBJECT: 2014 GROUNDWATER SAMPLING EVENT, SUNSHINE LAUNDRY, FORT DODGE
DATE: SEPTEMBER 24, 2014

The above referenced property site was a former dry cleaning facility which operated for approximately eight years. Dry cleaning operations had ceased by the time the property was sold to the current owners (1994). A Phase I Environmental Site Assessment (ESA) referenced EPA documents (dated 1992) that indicated waste containers of tetrachloroethene (PCE) stored in the shed on eastern portion of the site had leaked on some occasions.

A soil and groundwater Phase II ESA (dated April 15, 2008) was performed by Burns and McDonnell Engineering Company, Inc. Ten borings (DP-1 through DP-10) were advanced to depths from 20 to 26 feet below ground surface (bgs). A soil sample was collected from each boring after field screening for organic vapors using a photo ionization detector (PID). All ten soil samples were analyzed for volatile organic compounds (VOCs). A groundwater sample was collected from each boring and analyzed for VOCs. Two sub-slab vapor samples (SVP-1 and SPV-2) were collected below the slab of the main building. The soil vapor samples were analyzed for BTEX, PCE, TCE, chloroform, methylene chloride, and vinyl chloride. The concentration of PCE at SVP-1 was 170 ug/m^3 and the concentration at SPV-2 was 630,000 ug/m^3. If the 10 per cent attenuation factor is used for the concentration of 630,000 ug/m^3 and the sample run through Department's LRP Cumulative Risk Calculator, that sample would grossly exceed all exposure scenarios (site resident, site worker, and construction worker).
Results from this assessment indicated that soil and groundwater had been significantly impacted by the past release of PCE and there is a potential for significant impact to indoor air in the onsite building.

The Department required an additional assessment and the environmental consultants, Barker Lemar, conducted a Site Assessment and prepared a Remedial Action Plan (report dated June 2010). Six borings (MW-1 through MW-6) had been advanced onsite to depths from 10 to 20 feet bgs and each was converted to a permanent monitoring well. A soil sample was collected from borings MW-1, MW-2, MW-3, and MW-6 after field screening for organic vapors using a photo ionization detector (PID). All four soil samples were analyzed for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and Vinyl Chloride. A groundwater sample was collected from each of the six permanent monitoring wells and analyzed for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and Vinyl Chloride. The Barker Lemar site assessment did not fully define the extent of the chlorinated groundwater plume.

The Department obtained access permission from the Wells Fargo property that lies directly east of the Sunshine Laundry property. On December 6, 2010, the Department advanced three Geoprobe® screenpoint borings to depths of 15 to 19 feet bgs in the Wells Fargo parking lot and a groundwater sample was collected from each boring. Groundwater samples were also collected from five of the six permanent wells on the Sunshine laundry property. Monitoring well MW-3 could not be located. All groundwater samples were analyzed for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and Vinyl Chloride.

On May 18, 2011, the Department obtained access permission for the Long John Silver's property that lies east of South 25th Street and east of the Wells Fargo property. Four Geoprobe® screenpoint borings were advanced to depths of 15 to 19 feet bgs on the Long John Silver's property. A groundwater sample was collected from two borings, PS-1 and PS-2. Borings PS-3 and PS-4 did not yield water. Groundwater samples were also collected from the six permanent wells on the Sunshine Laundry property. All groundwater samples were analyzed for PCE; TCE; 1-2,DCE (total); and Vinyl Chloride.

On December 19, 2011 the Department collected a of groundwater samples from the six permanent monitoring wells that remain on the Sunshine Laundry property. The groundwater samples were analyzed for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and vinyl chloride.

On August 28, 2014 the Contaminated Sites Section collected another round of groundwater samples from the onsite wells at the sunshine Laundry property. Five of the six wells were sampled (monitoring well MW-3 could not be located). The groundwater samples were submitted for laboratory analysis if VOCs. All current and historic groundwater results are listed in the attached **TABLE 1**. Relative elevations of the well top of casings (TOC) were determined and static water levels were noted before sampling. Groundwater flow on the northern half of the property was determined to be toward the north/northeast (+39°). Groundwater flow on the southern half of the property was determined to be toward the south/southeast (+157°). Significant groundwater contamination remains onsite. While current conditions onsite may not present unacceptable risks, any future redevelopment will have to take into account potential solid waste issues (in the event of excavation) and potential VI issues in existing or new structures located onsite. A letter was sent to the current owner on September 24, 2014 (see attached) summarizing the Department's position on the site.

TABLE 1

All units in ug/l. Exceedances in **BOLD**

Sample Location	Date	PCE	TCE	trans-1,2-DCE	cis-1,2-DCE	Vinyl Chloride
MW-1	1/19/2010	2.8	**6**	3.7	20.1	ND
	12/6/2010	ND	**7**	ND	18	ND
	5/18/2011	ND	ND	ND	8	ND
	12/19/2011	ND	**5**	*	9*	ND
	8/28/2014	ND	ND	*	11*	ND
MW-2	1/19/2010	**57.8**	**10.8**	13.7	46.8	ND
	12/6/2010	**350**	**89**	85	**400**	ND
	5/18/2011	**690**	**230**	**120**	**500**	**26**
	12/19/2011	**790**	**200**	*	**640***	**67**
	8/28/2014	**2,300**	**290**	*	**760***	**26**
MW-3	1/19/2010	**1,970**	**281**	**518**	**1,110**	**6.2**
	12/6/2010	NS	NS	NS	NS	NS
	5/18/2011	**4,000**	**360**	**590**	**1,100**	**11**
	12/19/2011	**3700**	**420**	*	**1,500***	**11**
	8/28/2014	NS	NS	NS	NS	NS
MW-4	1/19/2010	**7.3**	1.1	1.4	2.9	ND
	12/6/2010	**22**	ND	ND	ND	ND
	5/18/2011	ND	ND	ND	ND	ND
	12/19/2011	ND	ND	ND*	ND*	ND
	8/28/2014	ND	ND	ND*	ND*	ND
MW-5	4/22/2010	**111**	4.5	ND	ND	ND
	12/6/2010	**160**	**14**	ND	ND	ND
	5/18/2011	**160**	**20**	ND	8	ND
	12/19/2011	**190**	**13**	ND*	ND*	ND
	8/28/2014	**170**	**9**	*	7*	ND
MW-6	4/22/2010	**75.3**	**5.1**	2.5	3.5	ND
	12/6/2010	**100**	**17**	10	33	ND
	5/18/2011	**67**	**6**	ND	8	ND
	12/19/2011	**110**	**15**	*	11*	ND
	8/28/2014	**97**	**8**	*	9*	ND
WF-1	12/6/2010	**130**	**270**	**170**	**1,100**	ND
WF-2	12/6/2010	**400**	**210**	**180**	**430**	ND
WF-3	12/6/2010	**1,000**	**310**	**650**	**1,300**	ND
PS-1	5/18/2011	ND	ND	ND	ND	ND
PS-2	5/18/2011	ND	ND	ND	ND	ND
Statewide Standard		5	5	100	70	2

*Concentrations of cis-1,2-DCE and trans-1,2-DCE were combined and reported as total 1,2-DCE in 12/19/2011 sampling event. This table lists that total concentration as cis-1,2-DCE, the compound with the lower Statewide Standard.

State Hygienic Laboratory

The University of Iowa

Accession Number	187630
Date Sample Finalized	2014-09-03 11:03
Date Received	2014-08-29 10:00
Sample Source	Non-Drinking Water
Project	WMSF
Date Collected	2014-08-28 13:35
Collection Site	fdmw1
Collection Town	
Sample Description	ground water
Client Reference	sunshine laundry
Collector	jackson hylton
Phone	515/242-5084

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

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	Analyzed In	Coralville
Date Analyzed	2014-09-02 08:41	Date Verified	2014-09-03 11:03
Analyst	LJL	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	<5	5
Carbon disulfide	<5	5
1,1-Dichloroethene	<5	5
1,1-Dichloroethane	<5	5
Total 1,2-Dichloroethenes	13	5
Chloroform	<5	5
1,2-Dichloroethane	<5	5
2-Butanone	<5	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

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number | 187630

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

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.

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number	187631
Date Sample Finalized	2014-09-03 11:05
Date Received	2014-08-29 10:00
Sample Source	Non-Drinking Water
Project	WMSF
Date Collected	2014-08-28 13:25
Collection Site	fdmw2
Collection Town	
Sample Description	ground water
Client Reference	sunshine laundry
Collector	jackson hylton
Phone	515/242-5084

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

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	Analyzed In	Coralville
Date Analyzed	2014-09-02 09:07	Date Verified	2014-09-03 11:05
Analyst	LJL	Verifier	TGC

Analyte	Result	Quant Limit
Chloromethane	<5	5
Bromomethane	<5	5
Vinyl chloride	26	5
Chloroethane	<5	5
Methylene chloride	<5	5
Methyl-t-butyl ether (MtBE)	<5	5
Acetone	<5	5
Carbon disulfide	<5	5
1,1-Dichloroethene	<5	5
1,1-Dichloroethane	<5	5
Total 1,2-Dichloroethenes	760	5
Chloroform	<5	5
1,2-Dichloroethane	<5	5
2-Butanone	<5	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	290	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

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number | 187631

Analyte	Result	Quant Limit
Tetrachloroethene	2300	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

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.

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number	187632
Date Sample Finalized	2014-09-03 11:05
Date Received	2014-08-29 10:00
Sample Source	Non-Drinking Water
Project	WMSF
Date Collected	2014-08-28 14:30
Collection Site	fdmw4
Collection Town	
Sample Description	ground water
Client Reference	sunshine laundry
Collector	jackson hylton
Phone	515/242-5084

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

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	Analyzed In	Coralville
Date Analyzed	2014-09-02 12:09	Date Verified	2014-09-03 11:05
Analyst	LJL	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	<5	5
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	<5	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

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number | 187632

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

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.

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number	187633
Date Sample Finalized	2014-09-03 11:06
Date Received	2014-08-29 10:00
Sample Source	Non-Drinking Water
Project	WMSF
Date Collected	2014-08-28 15:15
Collection Site	fdmw5
Collection Town	
Sample Description	ground water
Client Reference	sunshine laundry
Collector	jackson hylton
Phone	515/242-5084

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

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	Analyzed In	Coralville
Date Analyzed	2014-09-02 12:35	Date Verified	2014-09-03 11:06
Analyst	LJL	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	<5	5
Carbon disulfide	<5	5
1,1-Dichloroethene	<5	5
1,1-Dichloroethane	<5	5
Total 1,2-Dichloroethenes	7	5
Chloroform	<5	5
1,2-Dichloroethane	<5	5
2-Butanone	<5	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	9	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

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number | 187633

Analyte	Result	Quant Limit
Tetrachloroethene	170	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

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.

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number	187634
Date Sample Finalized	2014-09-03 11:06
Date Received	2014-08-29 10:00
Sample Source	Non-Drinking Water
Project	WMSF
Date Collected	2014-08-28 14:00
Collection Site	fdmw6
Collection Town	
Sample Description	ground water
Client Reference	sunshine laundry
Collector	jackson hylton
Phone	515/242-5084

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

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	Analyzed In	Coralville
Date Analyzed	2014-09-02 10:25	Date Verified	2014-09-03 11:06
Analyst	LJL	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	10.	5
Carbon disulfide	<5	5
1,1-Dichloroethene	<5	5
1,1-Dichloroethane	<5	5
Total 1,2-Dichloroethenes	9	5
Chloroform	<5	5
1,2-Dichloroethane	<5	5
2-Butanone	<5	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	8	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

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

State Hygienic Laboratory

The University of Iowa

Accession Number | 187634

Analyte	Result	Quant Limit
Tetrachloroethene	97	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

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.

Michael D. Wichman, Ph.D.
Associate Director
http://www.shl.uiowa.edu

University of Iowa Research Park
2490 Crosspark Road
Coralville, IA 52241
319/335-4500 Fax: 319/335-4555

Lakeside Laboratory
1838 Highway 86
Milford, IA 51351
712/337-3669 ext. 6 Fax: 712/337-0227

Iowa Laboratories Complex
2220 S. Ankeny Blvd
Ankeny, IA 50023
515/725-1600 Fax: 515/725-1642

Fields of Opportunities

STATE OF IOWA

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

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

September 24, 2014

Jyoti Raval
Sunshine Company LC
2716 Bittersweet Pl
Burlington, IA 52601

Re: August 28, 2014 groundwater sampling event at the Sunshine Laundry, 2422 5th Avenue South, Fort Dodge, Iowa

Dear Ms. Raval:

I am writing to provide you with an update on the Department's review of the regulatory status of the above referenced property which was a former dry cleaning facility that operated for approximately eight years. Dry cleaning operations had ceased by the time the property was sold to the current owners (1994). A Phase I Environmental Site Assessment (ESA) referenced EPA documents (dated 1992) that indicated waste containers of tetrachloroethene (PCE) stored in the shed on eastern portion of the site had leaked on some occasions. Subsequent Phase II ESAs have established that soil and groundwater (both onsite and at neighboring properties) have been impacted by chlorinated solvents. A potential vapor intrusion (VI) issue in the existing onsite building has been identified in the past. Details of these past environmental assessments are available on the Department's database at;
https://programs.iowadnr.gov/contaminatedsites/pages/addEditSite.aspx?siteID=1234

On August 28, 2014 the Contaminated Sites Section collected another round of groundwater samples from the onsite wells at the Sunshine Laundry property. Five of the six wells were sampled (monitoring well MW-3 could not be located). The groundwater samples were submitted for laboratory analysis of volatile organic compounds (VOCs). Those sample results indicate that the onsite environmental conditions have not changed significantly in the past five years. Under current site use and conditions, the Department is suspending any further requirements for continued monitoring of the referenced groundwater contaminants. Regardless of these results, groundwater contamination remains onsite. While current site use (as a commercial building and paved parking) and environmental conditions may not present unacceptable risks, any change in use could raise potential solid waste issues (in the event of excavation) and potential VI issues in existing or new structures located onsite. Any change in the configuration of the existing, onsite impermeable cover (paved area and building footprint) could change rain water infiltration rates or patterns and may have the possibility of mobilizing the groundwater plume. This does not mean that the current paved area and onsite building must remain untouched just as long as the surface of the area remains impervious to rain water infiltration.

Any future redevelopment that would constitute a change in use should include plans as to how these environmental concerns will be addressed and managed. Feel free to contact me if there are any questions, comments, or concerns at 515 242 5084.

Sincerely,

Hylton Jackson
Contaminated Sites Section
Iowa Department of Natural Resources

Cc; Cal Lundberg, Supervisor, Contaminated Sites Section, IDNR
Mr. Mel Pins, IDNR Brownfields Coordinator
IDNR Field Office #2
Vickie Reeck, Community Development Manager, City of Fort Dodge
819 1st Ave South, Fort Dodge, IA 50501