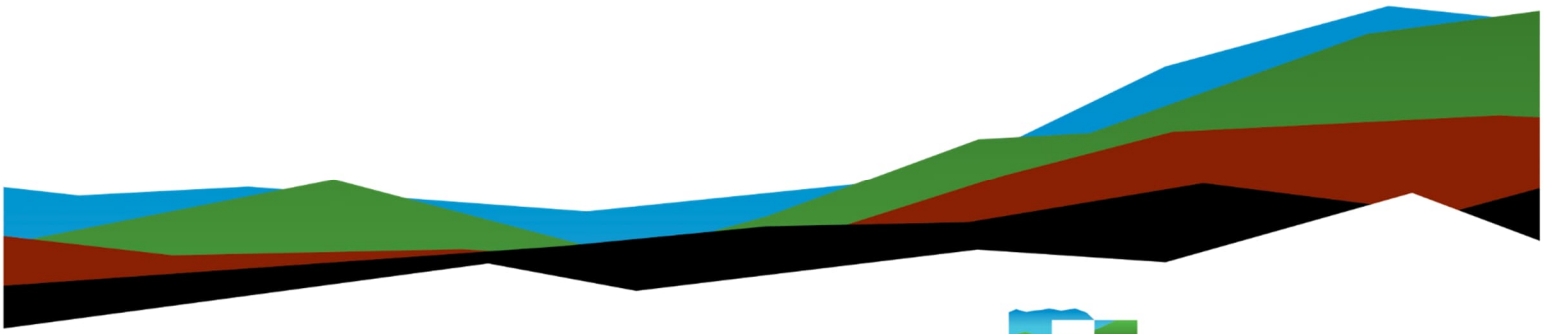
Monthly Report – March 2025

Former Dico, Inc. Property

April 11, 2025 | Terracon Project Number: 08247027A

Prepared for:

City of Des Moines
400 Robert D. Ray Drive
Des Moines, Iowa 50309-1891



Prepared by:

Terracon Consultants, Inc.
Des Moines, Iowa

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April 11, 2025

Superfund and Emergency Management Division
Environmental Protection Agency, Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219

Attn: Ms. Tonya Howell
P: (913) 551-7589
E: Howell.Tonya@epa.gov

RE: Monthly Report – March 2025
Former Dico, Inc. Property
200 SW 16th Street
Des Moines, Iowa 50309
Terracon Project No. 08247027A

Dear Ms. Howell:

Terracon Consultants, Inc. (Terracon), on behalf of the City of Des Moines, has completed the reporting for the monthly system inspections and sampling required for the groundwater remediation system at the Former Dico, Inc. Property located at 200 SW 16th Street in Des Moines, Iowa (Site). A summary of the monthly field activities and resulting measurements and analytical results are included in this letter summary and accompanying tables and attachments.

1.0 Background

The groundwater remediation system has been active at the Site since 1987. The primary function of the remediation system is to prevent the migration of volatile organic compounds (VOCs), specifically trichloroethylene (TCE), off site towards the infiltration gallery utilized by Des Moines Water Works.

We understand that weekly system and extraction well flow measurements, monthly static water level measurements, and influent/effluent analytical results have been historically submitted to the interested parties and that information continues to be shared, as appropriate, by the City of Des Moines.

2.0 Field Activites

Terracon personnel recorded flow readings from the remediation system and the extraction wells on March 4-6, 10-11, 19-20, and 24-25, 2025. Water samples were obtained from the remediation system influent and effluent on March 4, 2025. A summary of the flow measurements are included in Tables 1 and 2.

Personnel from Des Moines Water Works were on site to obtain static water level measurements from the monthly monitoring wells on March 17, 2025. The current monthly static water level measurements from each location are included in Table 3 and the quarterly measurements are included in Table 4.

3.0 Influent and Effluent Analytical Results

An effluent water sample obtained from the groundwater remediation system on March 4, 2025, indicated concentrations of six of the nine target chlorinated VOCs below laboratory detection limits and Iowa Department of Natural Resources (IDNR) National Pollutant Discharge Elimination System (NPDES) Permit Limits. Concentrations of TCE, cis-1,2-Dichloroethylene, and Total 1,2-Dichloroethenes indicated detections, but concentrations remained below the NPDES Permit Daily Maximum Limits. Please note that the March 2025 reduction in TCE between the influent and effluent samples (95.42%) did not meet the 96% required in the Record of Decision (ROD). A summary of the current analytical results is included in Table 5. A copy of the laboratory report is included in Attachment A.

4.0 Maintenance Issues

The individual components of the system have been shutting down at random intervals. Each time the system goes down, the air filters are cleaned, the flow meters are inspected for blockages, and the components are restarted. During the few days of extremely cold weather at the beginning of March 2025 the system was operational on March 4, but had shut down on March 5, 2025; the wind chill and temperatures were too dangerous to allow the system to be inspected and restarted until the following day March 6, 2025, at which time the system was reactivated.

The pump has been removed from ERW-6 and will remain non-operational until the previously reported sediment issue is resolved. The Environmental Protection Agency (EPA) approved deactivation of ERW-6 in email correspondence dated January 27, 2025.

The system met the TCE removal goal of 96%, as required in the ROD, between July 2024 and February 2025, but failed to meet the 96% removal rate in March 2025 (95.42%).

Previously, the system analytical results indicated TCE removal rates below 96% between January through June 2024 and indicated an average system removal rate of approximately 93.65%. The issue was first discovered by Terracon in March 2024, but is believed to have occurred periodically prior to this date. Terracon and previous consultants have completed the following maintenance activities in attempt to increase the efficiency of the system:

- Sodium bisulfate has been flushed through the system.
- The O-rings at each of the remediation wells have been replaced.
- The flow meters have been removed and thoroughly cleaned.
- The air filters have been removed and thoroughly cleaned.

The next course of action would be to replace the packing medium. Previous notes from Titan indicate the packing medium was replaced in 2017 at a cost of approximately $100,000. Cost increases over the past eight years would increase this fee substantially. The City of Des Moines, in discussion with the EPA, believes that replacement of the medium at a cost greater than $100,000 is not the best use of funding given that EPA is set to replace the system in 2025.

If you have any questions regarding this report, please contact Leah Calvert at (515) 681-4783 or via email at leah.calvert@terracon.com.

Sincerely,
Terracon Consultants, Inc.

Leah Calvert, PG, CGP
Senior Project Manager

Jesse M. Nelson, REM, CGP
Senior Scientist

Attachments

Tables

Table 1
Groundwater Remediation System Flow Measurements

Date	24-hour Flow	Static Pressure	Flow Velocity	Flow Rate
	MGD	Inches Water	Ft/min	Ft^3/min
3/6/2025	0.386	2.7	240	1500
3/11/2025	0.414	2.5	230	1438
3/20/2025	0.218	2.7	230	1438
3/25/2025	0.385	2.5	230	1438

Table 2
Extraction Well Flow Measurements

Date	ERW #5			ERW #6			ERW #7			Total
	1st Meter Reading	2nd Meter Reading	24-hr Flow	1st Meter Reading	2nd Meter Reading	24-hr Flow	1st Meter Reading	2nd Meter Reading	24-hr Flow	24-hr Flow
	(100 gallons)	(100 gallons)	Gallons	(100 gallons)	(100 gallons)	Gallons	(100 gallons)	(100 gallons)	Gallons	Gallons
3/6/2025	932094	934758	266400	Deactivated			826575	827775	120000	386400
3/11/2025	940176	941504	132800				834775	837589	281400	414200
3/20/2025	952529	953948	141900				848759	849524	76500	218400
3/25/2025	954216	956066	185000				853160	855160	200000	385000

Table 3
Monthly Static Water Level Measurements

Monitoring Point	MH-1S		MW-1N		NW-10		P-4		NW-22		ERW-5		ERW-6		NW-7		ERW-7	
Ground Surface	NA		NA		791.97		793.95		NA		NA		NA		792.81		NA	
Top of Casing	796.56		796.58		793.09		795.17		799.89		806.18		804.56		800.8		801.4	
Date	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL
1/29/2025	dry	-	dry	-	13.4	779.7	17.9	777.3	19.1	780.8	25.4	780.8	24	780.6	21.5	779.3	31.1	770.3
2/24/2025	dry	-	dry	-	13.5	779.6	18	777.2	19.4	780.5	29.9	776.3	22.3	782.3	20.7	780.1	31.0	770.4
3/17/2025	dry	-	16.0	780.6	10.6	782.5	15.5	779.7	18.2	781.7	28.6	777.6	22.7	781.8	19.2	781.6	29.5	771.9

Table 4
Quarterly Static Water Level Measurements

	Monitoring Location																							
Monitoring Point	P-13		NW-15		NW-25		NW-24		NW-14		NW-9		NW-27		NW-2		NW-29		P-2		NW-12		NW-4	
Ground Surface	NA		794.43		NA		NA		793.59		792.81		NA		805.27		NA		NA		803.68		801.79	
Top of Casing	793.08		795.46		796.4		797.63		794.5		794.52		802.57		806.69		NA		800.52		805.1		803.3	
Date	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL
1/29/2025	16.1	777.0	16.4	779.0	14.3	782.1	17.8	779.8	13.8	780.7	15.7	778.8	Blocked	-	Destroyed	-	Obstructed	-	23.9	776.6	24.7	780.4	24.2	779.1

Table 4 cont.
Quarterly Static Water Level Measurements

	Monitoring Location																					
Monitoring Point	P-18		NW-6		EW-5		EW-6		NW-23		EW-19		P-9		NW-20		NW-8		NW-1		P-1	
Ground Surface	NA		801.3		802.36		798.01		NA		798.5		790.82		794.95		792.96		803.77		802.96	
Top of Casing	802.64		803.2		803.41		799.55		802.2		799.97		792.17		797		793.89		803.55		804.1	
Date	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL	ft bgs	ft ASL
1/29/2025	22.4	780.2	23.1	780.2	25.4	778.0	19.3	780.3	Destroyed	-	20.6	779.4	Destroyed	-	16.7	780.3	14.3	779.6	Destroyed	-	Obstructed	-

Table 5
Summary of Analytical Results

		NPDES Limits	Influent	Effluent	% Reduction
Date Sampled			3/4/2025	3/4/2025	3/4/2025
Analyte	Units				
pH	SU	6.3-9.0	6.59	6.57	-
Iron	mg/L	1.74	0.09	0.02	-
Chloroform	mg/L	0.007	<0.0025	<0.0005	-
Vinyl Chloride	mg/L	0.011	<0.0025	<0.0005	-
1,1-Dichloroethylene	mg/L	0.006	<0.0025	<0.0005	-
trans-1,2-Dichloroethylene	mg/L	NA	<0.0025	<0.0005	-
Cis-1,2-Dichloroethylene	mg/L	NA	0.046	0.0039	91.52%
1,2-Dichloroethane	mg/L	0.002	<0.0025	<0.0005	-
1,1,1-Trichloroethane	mg/L	0.006	<0.0025	<0.0005	-
Trichloroethene	mg/L	0.028	0.24	0.011	95.42%
Total 1,2-Dichloroethenes	mg/L	2	0.046	0.0039	91.52%

Appendix A
Analytical Results

Collection Location	Collector and Phone	Client Reference	Accession #
tower influent 200 SW 16TH ST DES MOINES, IA	johnson kemp 515/294-3184	superfund site	2590705
	Collected 2025-03-04 10:15	**Received** 2025-03-04 15:52	**Project**

Report To

KEMP JOHNSON
TERRACON

600 SW 7TH ST STE M
DES MOINES, IA 50309

Sample Description
water

Sample Type
Drinking Water

Sample Source

Sample Note(s)
1

RESULTS OF ANALYSIS - FINAL REPORT

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Metals, EPA 200.7			*2*
Iron	**0.09**	**0.02**	

TEST	RESULT (mg/L)	QUANT LIMIT	MCL	ANALYSIS NOTE(S)
GCMS Volatiles, EPA 524.2				*2*
Chloroform	**<0.0025**	**0.0025**	**0.08**	
Vinyl chloride	**<0.0025**	**0.0025**	**0.002**	
1,1-Dichloroethene	**<0.0025**	**0.0025**	**0.007**	
trans-1,2-Dichloroethylene	**<0.0025**	**0.0025**	**0.1**	
cis-1,2-Dichloroethylene	**0.046**	**0.0025**	**0.07**	
1,2-Dichloroethane	**<0.0025**	**0.0025**	**0.005**	
1,1,1-Trichloroethane	**<0.0025**	**0.0025**	**0.2**	
Trichloroethene	**0.24**	**0.0025**	**0.005**	
Total 1,2-Dichloroethenes	**0.046**	**0.0025**		

SAMPLE AND ANALYSIS NOTES

1. Unless otherwise noted, the sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

2. The MCL (maximum contaminant level) is only applicable to compliance monitoring samples under the Safe Drinking Water Act (SDWA).

ANALYSIS INFORMATION

TEST	ANALYZED	SITE	RELEASED	ANALYSIS PREP
1. Metals, EPA 200.7	2025-03-06 11:15 MRC	3201	2025-03-10 15:26 BRW	
2. GCMS Volatiles, EPA 524.2	2025-03-06 09:00 LJL	3200	2025-03-10 08:25 MW	

DESCRIPTION OF UNITS

mg/L = Milligrams per Liter

SITE(S) PERFORMING TESTING

3201 STATE HYGIENIC LABORATORY ANKENY, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Michael D. Schueller, M.S., Associate Director; Michael A. Pentella, Ph.D., D(ABMM), Director; IOWA ENVIRONMENTAL LAB ID #397

Collection Location	Collector	Client Reference	Accession #
tower influent	johnson kemp	superfund site	2590705

3200 STATE HYGIENIC LABORATORY CORALVILLE, UNIVERSITY OF IOWA RESEARCH PK, 2490 CROSSPARK RD, CORALVILLE, IA 52241; Phone 319/335-4500; Fax 319/335-4555; Michael D. Schueller, M.S., Associate Director; Michael A. Pentella, Ph.D., D(ABMM), Director; IOWA ENVIRONMENTAL LAB ID #027

Collection Location	Collector and Phone	Client Reference	Accession #
tower effluent 200 SW 16TH ST DES MOINES, IA	johnson kemp 515/294-3184	superfund site	2590706
	Collected 2025-03-04 10:30	**Received** 2025-03-04 15:52	**Project**

Report To

KEMP JOHNSON
TERRACON

600 SW 7TH ST STE M
DES MOINES, IA 50309

Sample Description
water

Sample Type
Drinking Water

Sample Source

Sample Note(s)
1

RESULTS OF ANALYSIS - FINAL REPORT

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Metals, EPA 200.7			*2*
Iron	**0.02**	**0.02**	

TEST	RESULT (mg/L)	QUANT LIMIT	MCL	ANALYSIS NOTE(S)
GCMS Volatiles, EPA 524.2				*2*
Chloroform	**<0.0005**	**0.0005**	**0.08**	
Vinyl chloride	**<0.0005**	**0.0005**	**0.002**	
1,1-Dichloroethene	**<0.0005**	**0.0005**	**0.007**	
trans-1,2-Dichloroethylene	**<0.0005**	**0.0005**	**0.1**	
cis-1,2-Dichloroethylene	**0.0039**	**0.0005**	**0.07**	
1,2-Dichloroethane	**<0.0005**	**0.0005**	**0.005**	
1,1,1-Trichloroethane	**<0.0005**	**0.0005**	**0.2**	
Trichloroethene	**0.011**	**0.0005**	**0.005**	
Total 1,2-Dichloroethenes	**0.0039**	**0.0005**		

SAMPLE AND ANALYSIS NOTES

1. Unless otherwise noted, the sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

2. The MCL (maximum contaminant level) is only applicable to compliance monitoring samples under the Safe Drinking Water Act (SDWA).

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