

# ANALYTICAL REPORT

May 31, 2018

Work Order: 1E81436

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Report To
Steve Yarkosky Marshalltown Water Works 205 East State Street Marshalltown, IA 50158

Work Order Information
Date Received: 05/16/2018 1:25PM Collector: YARKOSKY, STEVE Phone: (641) 753-3997 PO Number:

Project : Annual DW Testing

Project Number: 6469042

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
<b>1E81436-01</b>	1 East Main Street, Mop sink in the janitors r			Matrix:Drink Wtr		Collected: 05/16/18 09:30	
<b>Bicarbonate, as CaCO3</b>	<b>30 mg/L</b>	<b>10</b>	1BE0810	2320B	JDK	05/17/18 13:49	
<b>Alkalinity, as CaCO3</b>	<b>53 mg/L</b>	<b>10</b>	1BE0810	2320B	JDK	05/17/18 13:49	
<b>Carbonate, as CaCO3</b>	<b>22 mg/L</b>	<b>10</b>	1BE0810	2320B	JDK	05/17/18 13:49	
<b>Alkalinity, Phenolphthalein</b>	<b>10 mg/L</b>	<b>10</b>	1BE0810	2320B	JDK	05/17/18 13:49	
Conductivity	<b>333 umho/cm</b>	<b>2</b>	1BE0828	2510B2	JDK	05/17/18 13:44	
<b>Langlier Index</b>	<b>0.82 Lang</b>	<b>-5.00</b>	1BE1405	203	JHE	05/31/18 13:40	
<b>pH</b>	<b>9.4 pH</b>	<b>0.5</b>	1BE0830	150.1	JDK	05/17/18 13:42	I-03
<b>pH</b>	<b>9.4 pH</b>	<b>0.5</b>	1BE0830	4500H-B	JDK	05/17/18 13:42	I-03
<b>Silica, total</b>	<b>9.7 mg/L</b>	<b>5.0</b>	1BE1298	4500SIO2-C	JAR	05/30/18 11:07	
<b>Stability Index</b>	<b>7.77 RSI</b>		1BE1405	203	JHE	05/31/18 13:40	
<b>Solids, total dissolved</b>	<b>176 mg/L</b>	<b>50</b>	1BE0839	2540C	LJS	05/23/18 13:30	
<b>Chloride</b>	<b>19.9 mg/L</b>	<b>1.0</b>	1BE0804	300.0	MID	05/16/18 18:44	
<b>Fluoride</b>	<b>0.5 mg/L</b>	<b>0.1</b>	1BE0804	300.0	MID	05/16/18 18:44	
Nitrogen, Nitrite	<0.10 mg/L	0.10	1BE0804	300.0	MID	05/16/18 18:44	
Nitrogen, Nitrate	<0.1 mg/L	0.1	1BE0804	300.0	MID	05/16/18 18:44	
<b>Sulfate</b>	<b>66.1 mg/L</b>	<b>1.0</b>	1BE0804	300.0	MID	05/16/18 18:44	
Arsenic, total	<0.0010 mg/L	0.0010	1BE0934	200.8	RVV	05/21/18 16:52	
<b>Barium, total</b>	<b>0.0137 mg/L</b>	<b>0.0010</b>	1BE0934	200.8	RVV	05/21/18 16:52	
<b>Calcium, total</b>	<b>26.9 mg/L</b>	<b>0.1</b>	1BE0832	200.7	DRB	05/17/18 19:13	
<b>Calcium, as CaCO3</b>	<b>67 mg/L</b>	<b>0.2</b>	1BE0832	200.7	DRB	05/17/18 19:13	
Cadmium, total	<0.0004 mg/L	0.0004	1BE0934	200.8	RVV	05/21/18 16:52	
Chromium, total	<0.0020 mg/L	0.0020	1BE0934	200.8	RVV	05/21/18 16:52	
Copper, total	<0.0010 mg/L	0.0010	1BE0934	200.8	RVV	05/21/18 16:52	
Iron, total	<0.100 mg/L	0.100	1BE0832	200.7	DRB	05/17/18 19:13	
<b>Hardness, Total as CaCO3</b>	<b>115 mg/L</b>	<b>1</b>	1BE0832	2340B	DRB	05/17/18 19:13	
Mercury, total	<0.00050 mg/L	0.00050	1BE0998	245.1	DRB	05/23/18 14:26	
<b>Potassium, total</b>	<b>2.5 mg/L</b>	<b>1.0</b>	1BE0832	200.7	DRB	05/17/18 19:13	
<b>Magnesium, total</b>	<b>11.5 mg/L</b>	<b>0.10</b>	1BE0832	200.7	DRB	05/17/18 19:13	

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205 East State Street  
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Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
<b>1E81436-01</b>	1 East Main Street, Mop sink in the janitors r			Matrix:Drink Wtr		Collected: 05/16/18 09:30	
<b>Manganese, total</b>	<b>0.0032 mg/L</b>	<b>0.0010</b>	1BE0934	200.8	RVV	05/21/18 16:52	
<b>Sodium, total</b>	<b>16.8 mg/L</b>	<b>1.0</b>	1BE0832	200.7	DRB	05/17/18 19:13	
Lead, total	<0.0004 mg/L	0.0004	1BE0934	200.8	RVV	05/21/18 16:52	
Selenium, total	<0.0010 mg/L	0.0010	1BE0934	200.8	RVV	05/21/18 16:52	
Zinc, total	<0.0040 mg/L	0.0040	1BE0934	200.8	RVV	05/21/18 16:52	

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Work Order: 1E81436

**Determination of Conventional Chemistry Parameters - Quality Control**  
**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1BE0810 - Wet Chem Preparation</b>										
<b>Blank (1BE0810-BLK1)</b>				Prepared & Analyzed: 05/17/18						
Alkalinity, as CaCO <sub>3</sub>	ND	10	mg/L							
Bicarbonate, as CaCO <sub>3</sub>	ND	10	"							
Alkalinity, Phenolphthalein	ND	10	"							
Carbonate, as CaCO <sub>3</sub>	ND	10	"							
<b>LCS (1BE0810-BS1)</b>				Prepared & Analyzed: 05/17/18						
Alkalinity, as CaCO <sub>3</sub>	231	10	mg/L	235.000		98.5	90-110			
<b>Matrix Spike (1BE0810-MS1)</b>				Source: 1E81436-01 Prepared & Analyzed: 05/17/18						
Alkalinity, as CaCO <sub>3</sub>	278	10	mg/L	235.000	52.8	95.9	90-110			
<b>Matrix Spike Dup (1BE0810-MSD1)</b>				Source: 1E81436-01 Prepared & Analyzed: 05/17/18						
Alkalinity, as CaCO <sub>3</sub>	282	10	mg/L	235.000	52.8	97.6	90-110	1.45	10	
<b>Reference (1BE0810-SRM1)</b>				Prepared & Analyzed: 05/17/18						
Alkalinity, as CaCO <sub>3</sub>	233	10	mg/L	235.000		99.3	90-110			
Alkalinity, Phenolphthalein	233	10	"	235.000		99.3	90-110			
<b>Batch 1BE0828 - Wet Chem Preparation</b>										
<b>Blank (1BE0828-BLK1)</b>				Prepared & Analyzed: 05/17/18						
Conductivity	ND	2	umho/cm							
<b>Duplicate (1BE0828-DUP1)</b>				Source: 1E81436-01 Prepared & Analyzed: 05/17/18						
Conductivity	ND	2	umho/cm			ND			10	
<b>Reference (1BE0828-SRM1)</b>				Prepared & Analyzed: 05/17/18						
Conductivity	481	2	umho/cm	474.000		101	90-110			

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**Determination of Conventional Chemistry Parameters - Quality Control**  
**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1BE0830 - Wet Chem Preparation</b>										
<b>Duplicate (1BE0830-DUP1)</b>		<b>Source: 1E81436-01</b>			<b>Prepared &amp; Analyzed: 05/17/18</b>					
pH	9.45	0.5	pH		9.43			0.212	10	
pH	9.45	0.5	"		9.43			0.212	10	
<b>Reference (1BE0830-SRM1)</b>					<b>Prepared &amp; Analyzed: 05/17/18</b>					
pH	7.03	0.5	pH	7.00000		100	90-110			
pH	7.03	0.5	"	7.00000		100	90-110			
<b>Batch 1BE0839 - Wet Chem Preparation</b>										
<b>Blank (1BE0839-BLK1)</b>					<b>Prepared &amp; Analyzed: 05/23/18</b>					
Solids, total dissolved	ND	5	mg/L							
<b>LCS (1BE0839-BS1)</b>					<b>Prepared &amp; Analyzed: 05/23/18</b>					
Solids, total dissolved	93.9	5	mg/L	100.000		93.9	79-112			
<b>Duplicate (1BE0839-DUP1)</b>		<b>Source: 1E81436-01</b>			<b>Prepared &amp; Analyzed: 05/23/18</b>					
Solids, total dissolved	182	50	mg/L		176			3.35	30	
<b>Batch 1BE1298 - Wet Chem Preparation</b>										
<b>Blank (1BE1298-BLK1)</b>					<b>Prepared &amp; Analyzed: 05/30/18</b>					
Silica, total	ND	5.0	mg/L							
<b>LCS (1BE1298-BS1)</b>					<b>Prepared &amp; Analyzed: 05/30/18</b>					
Silica, total	13.1	5.0	mg/L	12.3000		107	78-141			

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**Determination of Conventional Chemistry Parameters - Quality Control**  
**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1BE1298 - Wet Chem Preparation</b>										
<b>MRL Check (1BE1298-MRL1)</b>				Prepared & Analyzed: 05/30/18						
Silica, total	6.27	5.0	mg/L	5.46667		115	0-200			
<b>MRL Check (1BE1298-MRL2)</b>				Prepared & Analyzed: 05/30/18						
Silica, total	6.02	5.0	mg/L	5.46667		110	0-200			
<b>Matrix Spike (1BE1298-MS1)</b>		<b>Source: 1E81436-01</b>		Prepared & Analyzed: 05/30/18						
Silica, total	24.0	5.0	mg/L	12.3000	9.67	116	64-138			
<b>Matrix Spike Dup (1BE1298-MSD1)</b>		<b>Source: 1E81436-01</b>		Prepared & Analyzed: 05/30/18						
Silica, total	24.2	5.0	mg/L	12.3000	9.67	118	64-138	0.949	10	

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**Determination of Inorganic Anions - Quality Control**  
**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1BE0804 - General Prep HPLC/IC</b>										
<b>Blank (1BE0804-BLK1)</b>				Prepared & Analyzed: 05/16/18						
Fluoride	ND	0.1	mg/L							
Chloride	ND	1.0	"							
Nitrogen, Nitrite	ND	0.10	"							
Nitrogen, Nitrate	ND	0.1	"							
Sulfate	ND	1.0	"							
<b>LCS (1BE0804-BS1)</b>				Prepared & Analyzed: 05/16/18						
Fluoride	1.12	0.1	mg/L	1.15259		96.7	90-110			
Chloride	15.26	1.0	"	15.3188		99.6	90-110			
Nitrogen, Nitrite	0.98	0.10	"	1.02107		96.0	90-110			
Nitrogen, Nitrate	2.64	0.1	"	2.65418		99.3	90-110			
Sulfate	33.91	1.0	"	33.8710		100	90-110			
<b>LCS Dup (1BE0804-BSD1)</b>				Prepared & Analyzed: 05/16/18						
Fluoride	1.11	0.1	mg/L	1.15259		96.6	90-110	0.180	10	
Chloride	15.23	1.0	"	15.3188		99.4	90-110	0.197	10	
Nitrogen, Nitrite	0.98	0.10	"	1.02107		95.6	90-110	0.409	10	
Nitrogen, Nitrate	2.64	0.1	"	2.65418		99.4	90-110	0.114	10	
Sulfate	33.77	1.0	"	33.8710		99.7	90-110	0.423	10	
<b>MRL Check (1BE0804-MRL1)</b>				Prepared & Analyzed: 05/16/18						
Fluoride	0.03	0.1	mg/L	0.0471444		57.3	0-200			
Chloride	0.64	1.0	"	0.607474		105	0-200			
Nitrogen, Nitrite	ND	0.10	"	0.0411675			0-200			
Nitrogen, Nitrate	0.10	0.1	"	0.106249		91.3	0-200			
Sulfate	1.18	1.0	"	1.11377		106	0-200			
<b>Matrix Spike (1BE0804-MS1)</b>				Source: 1E81307-03		Prepared & Analyzed: 05/16/18				
Fluoride	1.38	0.1	mg/L	1.15259	0.41	84.6	80-120			
Chloride	34.24	1.0	"	15.3188	19.29	97.6	80-120			
Nitrogen, Nitrite	1.08	0.10	"	1.02107	ND	105	80-120			
Nitrogen, Nitrate	2.75	0.1	"	2.65418	0.13	98.8	80-120			
Sulfate	46.45	1.0	"	33.8710	12.56	100	80-120			

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**Determination of Inorganic Anions - Quality Control**  
**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1BE0804 - General Prep HPLC/IC**

<b>Matrix Spike Dup (1BE0804-MSD1)</b>	<b>Source: 1E81307-03</b>			<b>Prepared &amp; Analyzed: 05/16/18</b>						
Fluoride	1.38	0.1	mg/L	1.15259	0.41	84.3	80-120	0.217	10	
Chloride	34.42	1.0	"	15.3188	19.29	98.8	80-120	0.516	10	
Nitrogen, Nitrite	1.08	0.10	"	1.02107	ND	105	80-120	0.0930	10	
Nitrogen, Nitrate	2.80	0.1	"	2.65418	0.13	101	80-120	1.62	10	
Sulfate	46.91	1.0	"	33.8710	12.56	101	80-120	0.988	10	

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**Determination of Total Metals - Quality Control**  
**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1BE0832 - DW Metals Prep</b>										
<b>Blank (1BE0832-BLK1)</b>				Prepared & Analyzed: 05/17/18						
Hardness, Total as CaCO3	ND	1	mg/L							
Calcium, as CaCO3	ND	0.2	"							QB-01
Calcium, total	ND	0.1	"							
Iron, total	ND	0.100	"							
Magnesium, total	ND	0.10	"							
Potassium, total	ND	1.0	"							
Sodium, total	ND	1.0	"							
<b>LCS (1BE0832-BS1)</b>				Prepared & Analyzed: 05/17/18						
Calcium, as CaCO3	5.8	0.2	mg/L	5.50000		105	80-120			
Hardness, Total as CaCO3	10	1	"	9.62000		105	80-120			
Calcium, total	2.32	0.1	"	2.20000		105	85-115			
Iron, total	1.04	0.100	"	1.00000		104	85-115			
Magnesium, total	1.05	0.10	"	1.00000		105	85-115			
Potassium, total	4.28	1.0	"	4.00000		107	85-115			
Sodium, total	2.14	1.0	"	2.20000		97.1	85-115			
<b>Matrix Spike (1BE0832-MS1)</b>				<b>Source: 1E80711-01</b>		Prepared & Analyzed: 05/17/18				
Calcium, as CaCO3	34.5	0.2	mg/L	28.9474	5.4	100	80-120			
Hardness, Total as CaCO3	62	1	"	50.6316	8	106	80-120			
Calcium, total	14.5	0.1	"	11.5790	2.17	107	70-130			
Iron, total	5.52	0.100	"	5.26316	ND	105	70-130			
Magnesium, total	6.16	0.10	"	5.26316	0.63	105	70-130			
Potassium, total	61.0	1.0	"	21.0526	38.8	106	70-130			
Sodium, total	186	1.0	"	11.5790	171	132	70-130			QM-07
<b>Matrix Spike Dup (1BE0832-MSD1)</b>				<b>Source: 1E80711-01</b>		Prepared & Analyzed: 05/17/18				
Hardness, Total as CaCO3	61	1	mg/L	50.6316	8	105	80-120	0.683	20	
Calcium, as CaCO3	34.4	0.2	"	28.9474	5.4	99.9	80-120	0.319	20	
Calcium, total	14.5	0.1	"	11.5790	2.17	106	70-130	0.319	20	
Iron, total	5.49	0.100	"	5.26316	ND	104	70-130	0.574	20	
Magnesium, total	6.09	0.10	"	5.26316	0.63	104	70-130	1.21	20	
Potassium, total	60.0	1.0	"	21.0526	38.8	101	70-130	1.58	20	
Sodium, total	183	1.0	"	11.5790	171	109	70-130	1.44	20	

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**Determination of Total Metals - Quality Control**  
**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1BE0934 - DW Metals Prep**

<b>Blank (1BE0934-BLK1)</b>				Prepared & Analyzed: 05/21/18						
Arsenic, total	ND	0.0005	mg/L							
Barium, total	ND	0.0005	"							
Cadmium, total	ND	0.0002	"							
Chromium, total	ND	0.0010	"							
Copper, total	ND	0.0005	"							
Lead, total	ND	0.0002	"							
Manganese, total	ND	0.0005	"							
Selenium, total	ND	0.0005	"							
Zinc, total	ND	0.0020	"							

<b>LCS (1BE0934-BS1)</b>				Prepared & Analyzed: 05/21/18						
Arsenic, total	0.0191	0.0005	mg/L	0.0200000		95.5	85-115			
Barium, total	0.0188	0.0005	"	0.0200000		94.0	85-115			
Cadmium, total	0.0189	0.0002	"	0.0200000		94.5	85-115			
Chromium, total	0.0183	0.0010	"	0.0200000		91.6	85-115			
Copper, total	0.0213	0.0005	"	0.0200000		106	85-115			
Lead, total	0.0194	0.0002	"	0.0200000		96.9	85-115			
Manganese, total	0.0184	0.0005	"	0.0200000		91.8	85-115			
Selenium, total	0.0193	0.0005	"	0.0200000		96.6	85-115			
Zinc, total	0.0221	0.0020	"	0.0200000		111	85-115			

<b>Matrix Spike (1BE0934-MS1)</b>				Source: 1E81436-01		Prepared & Analyzed: 05/21/18				
Arsenic, total	0.0412	0.0010	mg/L	0.0408163	0.0008	99.2	70-130			
Barium, total	0.0524	0.0010	"	0.0408163	0.0137	94.7	70-130			
Cadmium, total	0.0378	0.0004	"	0.0408163	ND	92.7	70-130			
Chromium, total	0.0371	0.0020	"	0.0408163	0.0004	89.9	70-130			
Copper, total	0.0390	0.0010	"	0.0408163	0.0009	93.2	70-130			
Lead, total	0.0390	0.0004	"	0.0408163	0.0002	95.0	70-130			
Manganese, total	0.0394	0.0010	"	0.0408163	0.0032	88.7	70-130			
Selenium, total	0.0409	0.0010	"	0.0408163	0.0005	99.1	70-130			
Zinc, total	0.0414	0.0040	"	0.0408163	0.0025	95.3	70-130			

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**Determination of Total Metals - Quality Control**  
**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1BE0934 - DW Metals Prep**

Matrix Spike Dup (1BE0934-MSD1)	Source: 1E81436-01			Prepared & Analyzed: 05/21/18						
Arsenic, total	0.0416	0.0010	mg/L	0.0408163	0.0008	100	70-130	0.842	20	
Barium, total	0.0538	0.0010	"	0.0408163	0.0137	98.2	70-130	2.73	20	
Cadmium, total	0.0387	0.0004	"	0.0408163	ND	94.9	70-130	2.43	20	
Chromium, total	0.0379	0.0020	"	0.0408163	0.0004	91.8	70-130	2.08	20	
Copper, total	0.0399	0.0010	"	0.0408163	0.0009	95.4	70-130	2.27	20	
Lead, total	0.0392	0.0004	"	0.0408163	0.0002	95.6	70-130	0.628	20	
Manganese, total	0.0399	0.0010	"	0.0408163	0.0032	90.0	70-130	1.35	20	
Selenium, total	0.0419	0.0010	"	0.0408163	0.0005	101	70-130	2.39	20	
Zinc, total	0.0430	0.0040	"	0.0408163	0.0025	99.2	70-130	3.75	20	

**Batch 1BE0998 - EPA 245.1 Hg Dig**

Blank (1BE0998-BLK1)				Prepared: 05/22/18 Analyzed: 05/23/18						
Mercury, total	ND	0.00050	mg/L							
LCS (1BE0998-BS1)				Prepared: 05/22/18 Analyzed: 05/23/18						
Mercury, total	0.00249	0.00050	mg/L	0.00250000	ND	99.6	85-115			
Matrix Spike (1BE0998-MS1)	Source: 1E81436-01			Prepared: 05/22/18 Analyzed: 05/23/18						
Mercury, total	0.00241	0.00050	mg/L	0.00250000	ND	96.4	70-130			
Matrix Spike Dup (1BE0998-MSD1)	Source: 1E81436-01			Prepared: 05/22/18 Analyzed: 05/23/18						
Mercury, total	0.00230	0.00050	mg/L	0.00250000	ND	92.0	70-130	4.67	10	

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

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Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

May 31, 2018  
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Work Order: 1E81436

**Certified Analyses included in this Report**

Method/Matrix	Analyte	Certifications
<b>150.1 in Drink Wtr</b>	pH	SIA1X
<b>200.7 in Drink Wtr</b>	Calcium, as CaCO <sub>3</sub>	SIA1X
	Calcium, total	SIA1X
	Iron, total	SIA1X
	Magnesium, total	SIA1X
	Potassium, total	SIA1X
	Sodium, total	SIA1X
<b>200.8 in Drink Wtr</b>	Arsenic, total	SIA1X
	Barium, total	SIA1X
	Cadmium, total	SIA1X
	Chromium, total	SIA1X
	Copper, total	SIA1X
	Lead, total	SIA1X
	Manganese, total	SIA1X
	Selenium, total	SIA1X
	Zinc, total	SIA1X
<b>203 in Drink Wtr</b>	Langlier Index	SIA1X
<b>2320B in Drink Wtr</b>	Alkalinity, as CaCO <sub>3</sub>	SIA1X
	Bicarbonate, as CaCO <sub>3</sub>	SIA1X
	Alkalinity, Phenolphthalein	SIA1X
	Carbonate, as CaCO <sub>3</sub>	SIA1X
<b>2340B in Drink Wtr</b>	Hardness, Total as CaCO <sub>3</sub>	SIA1X
<b>245.1 in Drink Wtr</b>	Mercury, total	SIA1X
<b>2510B in Drink Wtr</b>	Conductivity	SIA1X
<b>2540C in Drink Wtr</b>	Solids, total dissolved	SIA1X

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Marshalltown Water Works  
205 East State Street  
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May 31, 2018  
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Work Order: 1E81436

**300.0 in Drink Wtr**

Fluoride	SIA1X
Chloride	SIA1X
Nitrogen, Nitrite	SIA1X
Nitrogen, Nitrate	SIA1X
Sulfate	SIA1X

**4500H-B in Drink Wtr**

pH	SIA1X
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**4500SIO2-C in Drink Wtr**

Silica, total	SIA1X
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Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2019
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2018
MO-KC	Missouri Department of Natural Resources	140	04/30/2018
SIA1X	Iowa Department of Natural Resources	95	02/01/2019

**Notes and Definitions**

- I-03 Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
- QB-01 The method blank contains analyte at a concentration above the MRL; however, concentration is less than 10% of the sample result, which is negligible according to method criteria.
- QM-07 The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

End of Report

Keystone Laboratories, Inc.

Leslie Taylor  
Project Manager I

Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

May 31, 2018  
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Work Order: 1E81436

**CHAIN OF CUSTODY RECORD**

**Keystone**  
LABORATORIES, INC.  
600 East 17th Street South  
Newton, IA 50208  
641-792-8451

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Printed: 4/16/2018 1:19:40PM  
www.keystonelabs.com

**REPORT TO**  
Steve Yarkosky  
Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

**INVOICE TO**  
Steve Yarkosky  
Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

**LAB USE ONLY**  
Work Order: 1E81436  
Temperature: \_\_\_\_\_  
Turn-Cooler:  No

**SPECIAL INSTRUCTIONS**  
None  
Turn Around Time:  Standard  RUSH, need by \_\_\_\_\_

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	950 / 950 / _____	Drink Wtr	SP-CH	5/16/18	9:30 AM	3	alk-carbonate-2320 alk-bicarb-2320 aa-1-200.8 aa-1-200.8 aa-1-200.8 camp-2310 E-300.0 hg-1-245.1 ni02-1-4500d alk-cu03-2320 ca-1-200.7 fa-1-200.7 na-1-200.7 pl-1-500 ba-1-200.8 cd-1-200.8 cr-1-200.8 cu-1-200.8	01

Relinquished By: [Signature] Date/Time: 5-16-18 1:25 PM  
 Relinquished for Lab By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received for Lab By: [Signature] Date/Time: 5-16-18 1:32

Remarks: Valid Bacteria Sample Types  
 RT Routine  
 RP-UP Repeat Up  
 SP Special  
 RP-DN Repeat Down  
 NC New Line Ex (ONLY)  
 RL Replacement  
 RP-OR Repeat Original  
 RP-OT Repeat Other

Original - Lab Copy • Yellow - Sampler Copy

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Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

May 31, 2018  
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Work Order: 1E81436

**Keystone**  
LABORATORIES, INC.  
600 East 17th Street South  
Newton, IA 50208  
641-792-8451

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www.keystonelabs.com

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**CHAIN OF CUSTODY RECORD**

**SITE INFORMATION**

Sampler: \_\_\_\_\_  
Project: Annual DW Testing  
PWSID# 6469042

**SPECIAL INSTRUCTIONS**  
None  
Turn Around Time  
 Standard  RUSH, need by \_\_\_\_\_

**REPORT TO**  
Steve Yarkosky  
Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

**INVOICE TO**  
Steve Yarkosky  
Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

**LAB USE ONLY**  
Work Order: 1E81436  
Temperature: \_\_\_\_\_  
Turn-Cooler:  No

Custody Seal  
 Containers Intact  
 COC Labels Agree  
 Preservation Confirmed  
 Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
							mm-t-200.8 zn-t-200.8 lead-t-200.7 tdb-3540 all-phenol-2320 mg-t-200.7 no2-300.0 cl-300.0 k-t-200.7 no3-300.0 ca-t-caco3 temp-index-phg ph-t-200.8 stability-index-phg	

Relinquished By \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Relinquished for Lab By Silvia K Date/Time 1325  
 Received By \_\_\_\_\_ Date/Time \_\_\_\_\_

Original - Lab Copy • Yellow - Sampler Copy

**Remarks:**  
 Valid Bacteria Sample Types  
 RT Routine  
 SP Special  
 NC New Line Est (ONLY)  
 RL Replacement  
 RP-UP Repeat Up  
 RP-DN Repeat Down  
 RP-OR Repeat Original  
 RP-OT Repeat Other

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