

# ANALYTICAL REPORT

May 05, 2017

Work Order: 1D71967

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Report To
Tim Wilson Marshalltown Water Works 205 East State Street Marshalltown, IA 50158

Work Order Information
Date Received: 04/27/2017 10:30AM
Collector: Wilson
Phone: (641) 753-3997
PO Number:

Project : Annual DW Testing

Project Number: 6469042

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
1D71967-01	Courthouse			Matrix:Drink Wtr		Collected: 04/26/17 15:00	
Bicarbonate, as CaCO3	40 mg/L	10	1AD1060	2320B	JDK	04/28/17 8:37	
Alkalinity, as CaCO3	50 mg/L	10	1AD1060	2320B	JDK	04/28/17 8:37	
Carbonate, as CaCO3	10 mg/L	10	1AD1060	2320B	JDK	04/28/17 8:37	
Alkalinity, Phenolphthalein	50 mg/L	10	1AD1060	2320B	JDK	04/28/17 8:37	
Conductivity	308 umho/cm	2	1AD1124	2510B	JDK	04/28/17 13:32	
Langlier Index	0.41 Lang	-5.00	1AE0271	203	JHE	05/05/17 13:57	
pH	9.1 pH	0.5	1AD1089	150.1	JDK	04/28/17 8:41	I-03
pH	9.1 pH	0.5	1AD1089	4500H-B	JDK	04/28/17 8:41	I-03
Silica, total	10.8 mg/L	5.0	1AE0269	4500SIO2-C	TJS	05/05/17 13:42	
Stability Index	8.60 RSI		1AE0271	203	JHE	05/05/17 13:57	
Solids, total dissolved	155 mg/L	27	1AE0011	2540C	AKM	05/01/17 17:00	
Chloride	19.6 mg/L	1.0	1AD1137	300.0	MID	04/27/17 14:10	
Fluoride	0.6 mg/L	0.1	1AE0042	300.0	MID	04/28/17 15:01	
Nitrogen, Nitrite	<0.10 mg/L	0.10	1AD1137	300.0	MID	04/27/17 14:10	
Nitrogen, Nitrate	<0.1 mg/L	0.1	1AD1137	300.0	MID	04/27/17 14:10	
Sulfate	66.2 mg/L	1.0	1AD1137	300.0	MID	04/27/17 14:10	
Arsenic, total	<0.0020 mg/L	0.0020	1AE0063	200.8	RVV	05/04/17 3:05	
Barium, total	0.0146 mg/L	0.0010	1AE0063	200.8	RVV	05/04/17 3:05	
Calcium, total	25.1 mg/L	0.1	1AD1081	200.7	DRB	04/27/17 21:33	
Calcium, as CaCO3	63 mg/L	0.2	1AD1081	200.7	DRB	04/27/17 21:33	
Cadmium, total	<0.0004 mg/L	0.0004	1AE0063	200.8	RVV	05/04/17 3:05	
Chromium, total	<0.0020 mg/L	0.0020	1AE0063	200.8	RVV	05/04/17 3:05	
Copper, total	0.0010 mg/L	0.0010	1AE0063	200.8	RVV	05/04/17 3:05	
Iron, total	<0.100 mg/L	0.100	1AD1081	200.7	DRB	04/27/17 21:33	
Hardness, Total as CaCO3	102 mg/L	1	1AD1081	2340B	DRB	04/27/17 21:33	
Mercury, total	<0.00050 mg/L	0.00050	1AD1103	245.1	DRB	04/28/17 14:01	
Potassium, total	2.8 mg/L	1.0	1AE0188	200.7	DRB	05/04/17 17:56	
Magnesium, total	9.61 mg/L	0.10	1AD1081	200.7	DRB	04/27/17 21:33	

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Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
<b>1D71967-01</b>	Courthouse			Matrix:Drink Wtr		Collected: 04/26/17 15:00	
<b>Manganese, total</b>	<b>0.0050 mg/L</b>	<b>0.0010</b>	1AE0063	200.8	RVV	05/04/17 3:05	
<b>Sodium, total</b>	<b>16.2 mg/L</b>	<b>1.0</b>	1AD1081	200.7	DRB	04/27/17 21:33	
Lead, total	<0.0004 mg/L	0.0004	1AE0063	200.8	RVV	05/04/17 3:05	
<b>Selenium, total</b>	<b>0.0023 mg/L</b>	<b>0.0020</b>	1AE0063	200.8	RVV	05/04/17 3:05	
Zinc, total	<0.0040 mg/L	0.0040	1AE0063	200.8	RVV	05/04/17 3:05	

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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 1AD1060 - Wet Chem Preparation</b>										
<b>Blank (1AD1060-BLK1)</b>				Prepared: 04/27/17 Analyzed: 04/28/17						
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 (1AD1060-BS1)</b>				Prepared: 04/27/17 Analyzed: 04/28/17						
Alkalinity, as CaCO <sub>3</sub>	235	10	mg/L	235.000	258	100	90-110			
<b>Matrix Spike (1AD1060-MS1)</b>				Source: 1D71402-01 Prepared: 04/27/17 Analyzed: 04/28/17						
Alkalinity, as CaCO <sub>3</sub>	724	20	mg/L	470.000	258	99.1	90-110			
<b>Matrix Spike Dup (1AD1060-MSD1)</b>				Source: 1D71402-01 Prepared: 04/27/17 Analyzed: 04/28/17						
Alkalinity, as CaCO <sub>3</sub>	736	20	mg/L	470.000	258	102	90-110	1.71	10	
<b>Reference (1AD1060-SRM1)</b>				Prepared: 04/27/17 Analyzed: 04/28/17						
Alkalinity, as CaCO <sub>3</sub>	241	10	mg/L	235.000		103	0-200			
Alkalinity, Phenolphthalein	241	10	"	235.000		103	0-200			
<b>Batch 1AD1089 - Wet Chem Preparation</b>										
<b>Duplicate (1AD1089-DUP1)</b>				Source: 1D71967-01 Prepared: 04/27/17 Analyzed: 04/28/17						
pH	9.05	0.5	pH		9.06			0.110	10	
pH	9.05	0.5	"		9.06			0.110	10	
<b>Reference (1AD1089-SRM1)</b>				Prepared: 04/27/17 Analyzed: 04/28/17						
pH	7.02	0.5	pH	7.00000		100	0-200			
pH	7.02	0.5	"	7.00000		100	0-200			

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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 1AD1124 - Wet Chem Preparation</b>										
<b>Blank (1AD1124-BLK1)</b>				Prepared & Analyzed: 04/28/17						
Conductivity	ND	2	umho/cm							
<b>Duplicate (1AD1124-DUP1)</b>				Source: 1D71967-01		Prepared & Analyzed: 04/28/17				
Conductivity	310	2	umho/cm		308			0.647	10	
<b>Reference (1AD1124-SRM1)</b>				Prepared & Analyzed: 04/28/17						
Conductivity	475	2	umho/cm	474.000		100	90-110			
<b>Batch 1AE0011 - Wet Chem Preparation</b>										
<b>Blank (1AE0011-BLK1)</b>				Prepared & Analyzed: 05/01/17						
Solids, total dissolved	ND	2	mg/L							
<b>LCS (1AE0011-BS1)</b>				Prepared & Analyzed: 05/01/17						
Solids, total dissolved	95.7	2	mg/L	100.000		95.7	80-116			
<b>Duplicate (1AE0011-DUP1)</b>				Source: 1D71967-01		Prepared & Analyzed: 05/01/17				
Solids, total dissolved	155	27	mg/L		155			0.00	30	
<b>Batch 1AE0269 - Wet Chem Preparation</b>										
<b>Blank (1AE0269-BLK1)</b>				Prepared & Analyzed: 05/05/17						
Silica, total	ND	5.0	mg/L							
<b>LCS (1AE0269-BS1)</b>				Prepared & Analyzed: 05/05/17						
Silica, total	11.5	5.0	mg/L	9.84000		117	80-132			

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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
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**Batch 1AE0269 - Wet Chem Preparation**

<b>Matrix Spike (1AE0269-MS1)</b>		<b>Source: 1D71967-01</b>			<b>Prepared &amp; Analyzed: 05/05/17</b>					
Silica, total	23.4	5.0	mg/L	12.3000	10.8	102	66-141			
<b>Matrix Spike Dup (1AE0269-MSD1)</b>		<b>Source: 1D71967-01</b>			<b>Prepared &amp; Analyzed: 05/05/17</b>					
Silica, total	23.9	5.0	mg/L	12.3000	10.8	106	66-141	2.13	11	

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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 1AD1137 - General Prep HPLC/IC</b>										
<b>Blank (1AD1137-BLK1)</b>				Prepared & Analyzed: 04/27/17						
Chloride	ND	1.0	mg/L							
Nitrogen, Nitrite	ND	0.10	"							
Nitrogen, Nitrate	ND	0.1	"							
Sulfate	ND	1.0	"							
<b>LCS (1AD1137-BS1)</b>				Prepared & Analyzed: 04/27/17						
Chloride	15.10	1.0	mg/L	15.2232	36.66	89.3	90-110			
Nitrogen, Nitrite	1.07	0.10	"	1.02817	ND	105	90-110			
Nitrogen, Nitrate	2.70	0.1	"	2.64428	5.11	102	90-110			
Sulfate	34.83	1.0	"	34.4900	44.12	101	90-110			
<b>LCS Dup (1AD1137-BSD1)</b>				Prepared & Analyzed: 04/27/17						
Chloride	15.18	1.0	mg/L	15.2232	36.66	89.3	90-110	0.575	30	
Nitrogen, Nitrite	1.08	0.10	"	1.02817	ND	105	90-110	0.466	30	
Nitrogen, Nitrate	2.71	0.1	"	2.64428	5.11	102	90-110	0.296	30	
Sulfate	34.79	1.0	"	34.4900	44.12	101	90-110	0.109	30	
<b>Matrix Spike (1AD1137-MS1)</b>				Source: 1D71974-01		Prepared & Analyzed: 04/27/17				
Chloride	50.24	1.0	mg/L	15.2232	36.66	89.3	82-123			
Nitrogen, Nitrite	1.08	0.10	"	1.02817	ND	105	67-148			
Nitrogen, Nitrate	7.60	0.1	"	2.64428	5.11	94.2	82-121			
Sulfate	77.51	1.0	"	34.4900	44.12	96.8	83-125			
<b>Matrix Spike Dup (1AD1137-MSD1)</b>				Source: 1D71974-01		Prepared & Analyzed: 04/27/17				
Chloride	50.58	1.0	mg/L	15.2232	36.66	91.5	82-123	0.668	10	
Nitrogen, Nitrite	1.09	0.10	"	1.02817	ND	106	67-148	1.02	12	
Nitrogen, Nitrate	7.65	0.1	"	2.64428	5.11	96.1	82-121	0.669	10	
Sulfate	78.01	1.0	"	34.4900	44.12	98.3	83-125	0.644	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 1AE0042 - General Prep HPLC/IC</b>										
<b>Blank (1AE0042-BLK1)</b>				Prepared & Analyzed: 04/28/17						
Fluoride	ND	0.1	mg/L							
<b>LCS (1AE0042-BS1)</b>				Prepared & Analyzed: 04/28/17						
Fluoride	0.23	0.1	mg/L	0.227578		102	90-110			
<b>LCS Dup (1AE0042-BSD1)</b>				Prepared & Analyzed: 04/28/17						
Fluoride	0.23	0.1	mg/L	0.227578		102	90-110	0.00	30	
<b>Matrix Spike (1AE0042-MS1)</b>				Source: 1D72073-01			Prepared & Analyzed: 04/28/17			
Fluoride	0.46	0.1	mg/L	0.227578	0.23	98.9	76-120			
<b>Matrix Spike Dup (1AE0042-MSD1)</b>				Source: 1D72073-01			Prepared & Analyzed: 04/28/17			
Fluoride	0.45	0.1	mg/L	0.227578	0.23	96.7	76-120	1.10	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 1AD1081 - EPA 200.8 Water Preparation</b>										
<b>Blank (1AD1081-BLK1)</b>				Prepared & Analyzed: 04/27/17						
Calcium, as CaCO <sub>3</sub>	ND	0.2	mg/L							
Hardness, Total as CaCO <sub>3</sub>	ND	1	"							
Calcium, total	ND	0.1	"							
Iron, total	ND	0.100	"							
Magnesium, total	ND	0.10	"							
Sodium, total	ND	1.0	"							
<b>LCS (1AD1081-BS1)</b>				Prepared & Analyzed: 04/27/17						
Calcium, as CaCO <sub>3</sub>	5.2	0.2	mg/L	5.50000		94.1	80-120			
Hardness, Total as CaCO <sub>3</sub>	14	1	"	14.5640		97.2	80-120			
Calcium, total	2.07	0.1	"	2.20000		94.1	85-115			
Iron, total	1.01	0.100	"	1.00000		101	85-115			
Magnesium, total	2.18	0.10	"	2.20000		99.2	85-115			
Sodium, total	2.22	1.0	"	2.20000		101	85-115			
<b>Matrix Spike (1AD1081-MS1)</b>				Source: 1D71219-01		Prepared & Analyzed: 04/27/17				
Calcium, as CaCO <sub>3</sub>	103	0.2	mg/L	28.9474	84.3	63.0	80-120			QM-12
Hardness, Total as CaCO <sub>3</sub>	190	1	"	76.6526	122	88.9	80-120			
Calcium, total	43.2	0.1	"	11.5790	33.7	81.7	70-130			
Iron, total	5.24	0.100	"	5.26316	ND	99.5	70-130			
Magnesium, total	20.0	0.10	"	11.5790	9.15	93.3	70-130			
Sodium, total	23.5	1.0	"	11.5790	13.3	88.3	70-130			
<b>Matrix Spike Dup (1AD1081-MSD1)</b>				Source: 1D71219-01		Prepared & Analyzed: 04/27/17				
Calcium, as CaCO <sub>3</sub>	102	0.2	mg/L	28.9474	84.3	61.4	80-120	0.465	20	QM-12
Hardness, Total as CaCO <sub>3</sub>	190	1	"	76.6526	122	88.9	80-120	0.00289	20	
Calcium, total	43.0	0.1	"	11.5790	33.7	79.9	70-130	0.465	20	
Iron, total	5.22	0.100	"	5.26316	ND	99.1	70-130	0.420	20	
Magnesium, total	20.1	0.10	"	11.5790	9.15	94.4	70-130	0.600	20	
Sodium, total	23.8	1.0	"	11.5790	13.3	90.4	70-130	1.03	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
<b>Batch 1AD1103 - EPA 245.1 Hg Dig</b>										
<b>Blank (1AD1103-BLK1)</b>				Prepared & Analyzed: 04/28/17						
Mercury, total	ND	0.00050	mg/L							
<b>LCS (1AD1103-BS1)</b>				Prepared & Analyzed: 04/28/17						
Mercury, total	0.00243	0.00050	mg/L	0.00250000		97.2	79-116			
<b>Matrix Spike (1AD1103-MS1)</b>				Source: 1D71398-01		Prepared & Analyzed: 04/28/17				
Mercury, total	0.00251	0.00050	mg/L	0.00250000	ND	100	56-137			
<b>Matrix Spike Dup (1AD1103-MSD1)</b>				Source: 1D71398-01		Prepared & Analyzed: 04/28/17				
Mercury, total	0.00247	0.00050	mg/L	0.00250000	ND	98.8	56-137	1.61	13	
<b>Batch 1AE0063 - DW Metals Prep</b>										
<b>Blank (1AE0063-BLK1)</b>				Prepared: 05/02/17 Analyzed: 05/04/17						
Arsenic, total	ND	0.0010	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	0.0010	"							
Zinc, total	ND	0.0020	"							
<b>LCS (1AE0063-BS1)</b>				Prepared: 05/02/17 Analyzed: 05/04/17						
Arsenic, total	0.0212	0.0010	mg/L	0.0200000		106	85-115			
Barium, total	0.0195	0.0005	"	0.0200000		97.6	85-115			
Cadmium, total	0.0198	0.0002	"	0.0200000		99.0	85-115			
Chromium, total	0.0194	0.0010	"	0.0200000		97.1	85-115			
Copper, total	0.0193	0.0005	"	0.0200000		96.4	85-115			
Lead, total	0.0196	0.0002	"	0.0200000		98.1	85-115			
Manganese, total	0.0197	0.0005	"	0.0200000		98.5	85-115			
Selenium, total	0.0215	0.0010	"	0.0200000		108	85-115			
Zinc, total	0.0192	0.0020	"	0.0200000		96.2	85-115			

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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 1AE0063 - DW Metals Prep**

<b>Matrix Spike (1AE0063-MS1)</b>	<b>Source: 1D71967-01</b>			<b>Prepared: 05/02/17 Analyzed: 05/04/17</b>						
Arsenic, total	0.0438	0.0020	mg/L	0.0408163	0.0013	104	70-130			
Barium, total	0.0543	0.0010	"	0.0408163	0.0146	97.2	70-130			
Cadmium, total	0.0395	0.0004	"	0.0408163	ND	96.9	70-130			
Chromium, total	0.0414	0.0020	"	0.0408163	0.0007	99.8	70-130			
Copper, total	0.0394	0.0010	"	0.0408163	0.0010	94.1	70-130			
Lead, total	0.0394	0.0004	"	0.0408163	0.0002	96.0	70-130			
Manganese, total	0.0437	0.0010	"	0.0408163	0.0050	94.9	70-130			
Selenium, total	0.0428	0.0020	"	0.0408163	0.0023	99.1	70-130			
Zinc, total	0.0402	0.0040	"	0.0408163	0.0018	94.2	70-130			

<b>Matrix Spike Dup (1AE0063-MSD1)</b>	<b>Source: 1D71967-01</b>			<b>Prepared: 05/02/17 Analyzed: 05/04/17</b>						
Arsenic, total	0.0438	0.0020	mg/L	0.0408163	0.0013	104	70-130	0.0424	20	
Barium, total	0.0539	0.0010	"	0.0408163	0.0146	96.4	70-130	0.589	20	
Cadmium, total	0.0390	0.0004	"	0.0408163	ND	95.5	70-130	1.40	20	
Chromium, total	0.0411	0.0020	"	0.0408163	0.0007	99.1	70-130	0.742	20	
Copper, total	0.0396	0.0010	"	0.0408163	0.0010	94.6	70-130	0.551	20	
Lead, total	0.0396	0.0004	"	0.0408163	0.0002	96.7	70-130	0.739	20	
Manganese, total	0.0438	0.0010	"	0.0408163	0.0050	95.2	70-130	0.272	20	
Selenium, total	0.0422	0.0020	"	0.0408163	0.0023	97.7	70-130	1.35	20	
Zinc, total	0.0427	0.0040	"	0.0408163	0.0018	100	70-130	6.09	20	

**Batch 1AE0188 - DW Metals Prep**

<b>Blank (1AE0188-BLK1)</b>				<b>Prepared: 05/03/17 Analyzed: 05/04/17</b>						
Potassium, total	ND	1.0	mg/L							

<b>LCS (1AE0188-BS1)</b>				<b>Prepared: 05/03/17 Analyzed: 05/04/17</b>						
Potassium, total	25.2	1.0	mg/L	25.0000		101	85-115			

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Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

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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 1AE0188 - DW Metals Prep</b>										
<b>Matrix Spike (1AE0188-MS1)</b>		<b>Source: 1E70383-01</b>			Prepared: 05/03/17 Analyzed: 05/04/17					
Potassium, total	40.6	1.0	mg/L	26.3158	13.5	103	70-130			
<b>Matrix Spike Dup (1AE0188-MSD1)</b>		<b>Source: 1E70383-01</b>			Prepared: 05/03/17 Analyzed: 05/04/17					
Potassium, total	40.4	1.0	mg/L	26.3158	13.5	102	70-130	0.436	20	

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

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Marshalltown Water Works  
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**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 Water</b>	Solids, total dissolved	SIA1X

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Marshalltown Water Works  
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**300.0 in Drink Wtr**

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

**4500H-B in Drink Wtr**

pH	SIA1X
----	-------

**4500SIO2-C in Drink Wtr**

Silica, total	SIA1X
---------------	-------

Code	Description	Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	05/31/2017
KS-NT	Kansas Department of Health and Environment (NELAP)	E-10287	10/31/2017
MO-KC	Missouri Department of Natural Resources	140	04/30/2015
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.
- QM-12 The spike recovery was outside acceptance limits for the MS and/or MSD.

End of Report

Keystone Laboratories, Inc.

Sue Thompson For Staci Arnold  
Project Manager I

Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

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**CHAIN OF CUSTODY RECORD**

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

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Printed: 4/20/2017 12:18:12PM  
www.keystonelabs.com

**INVOICE TO**  
Tim Wilson  
Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

**REPORT TO**  
Tim Wilson  
Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

**LAB USE ONLY**  
Work Order: 1D71967  
Temperature: \_\_\_\_\_  
Turn-Cooler: **No**

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

**SITE INFORMATION**  
Sampler: Wilson  
Project: Annual DW Testing  
PWSID# 6469042

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

Number	Sample Identification / Client ID	Matrix	Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
01-001	950 / 950 / <u>Courthouse</u>	Drink Wtr	SP-CH	4/26/17	15:30	3	alk-carbonate-2320 alk-bicarb-2320 mp-300.0 aa-1-200.8 ac-1-200.8 cond-2310 F-300.0 hg-1-245.1 nit2-1-4590J alk-calc-2320 ca-1-200.7 fa-1-200.7 na-1-200.7 ph-4.900 ba-1-200.8 cl-1-200.8 cr-1-200.8	01

Relinquished By: [Signature] Date/Time: 4/26/17 15:30

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received for Lab By: Suzanne Johnson Date/Time: 4-27-17 10:30

Original - Lab Copy • Yellow - Sampler Copy

**Remarks:**  
Valid Bacteria Sample Types  
RT Routine  
RP-Up Repeat Up  
SP Special  
RP-DN Repeat Down  
MC New Line Ext (ONLY)  
RP-OR Repeat Original  
RL Replacement

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Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

May 05, 2017  
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Work Order: 1D71967

**CHAIN OF CUSTODY RECORD**

**Keystone**  
LABORATORIES, INC.

600 East 17th Street South  
Newton, IA 50208  
641-792-8451

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**INVOICE TO**  
Tim Wilson  
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**REPORT TO**  
Tim Wilson  
Marshalltown Water Works  
205 East State Street  
Marshalltown, IA 50158

**LAB USE ONLY**  
Work Order: 1D71967  
Temperature: \_\_\_\_\_  
Turn-Cooler: **No**

**INVOICE TO**  
Custody Seal  
Containers Intact  
COC/Labels Agree  
Preservation Confirmed  
Received on Ice

**SITE INFORMATION**  
Sampler: L150n  
Project: Annual DW Testing  
PWSID# 6469042

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

Number	Sample Identification / Client ID	Matrix	Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
							mm-h-200.8 zn-h-200.8 huer-h-200.7 tds-2540 alk-phosol-2320 mg-s-200.7 no2-300.0 cl-300.0 k-h-200.7 no3-300.0 ca-t-calc3 hmg-index-phg ph-t-200.8 stability-index-phg	

Relinquished By: [Signature] Date/Time: 4/20/17 1530

Received for Lab By: [Signature] Date/Time: 4-27-17 10:30

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Original - Lab Copy • Yellow - Sampler Copy

**Remarks:**  
 Valid Bacteria Sample Types  
 RT Routine  
 RP-UP Repeat Up  
 RP-DN Repeat Down  
 RP-OR Repeat Original  
 RL Replacement

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