



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO ATTENTION OF
ECW-15J

**Region 5 Enforcement and Compliance Assurance Division
SDWA DRINKING WATER INSPECTION REPORT**

Inspection Dates: August 11-12, 2021

Systems Inspected: Cahokia Heights, 2525 Mousette Lane, Cahokia, IL 62206
Operating Commonfields of Cahokia - PWSID IL1635030
Operating Village of Cahokia - PWSID IL1630200

Illinois American – East St. Louis, 300 N. Water Works Dr., Belleville, IL
62223
PWSID: IL1635040

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1 SUMMARY OF FIELD ACTIVITIES AND OBSERVATIONS

1.1 Objectives of Sampling Effort

On August 11-12, 2021, EPA Region 5 conducted an unannounced inspection of drinking water systems operating in Cahokia Heights, Illinois, including Commonfields of Cahokia Public Water Supply (PWSID IL1635030), the Village of Cahokia Public Water Supply (PWSID IL1630200), and Illinois American Water Company – East St. Louis (PWSID IL1635040) (collectively, “The Systems”). The town of Cahokia Heights is the current operator of both Commonfields of Cahokia Public Water Supply and the Village of Cahokia Public Water Supply.

The purpose of the inspection was to determine compliance with the Safe Drinking Water Act (SDWA) and the National Primary Drinking Water Regulations (NPDWR). The scope of the inspection was to monitor residual disinfection and pressure levels throughout the distribution systems in Cahokia Heights. On August 11, 2021, EPA inspectors conducted monitoring at residential hose bibs located on the exterior of homes within the distribution system. On August 12, 2021, EPA inspectors conducted monitoring at hose bibs, sampling taps, and fire hydrants operated by The Systems.

The EPA inspection team consisted of Jim Adamiec, Victoria Anderson, Taylor Girouard, and Jonathan Moody.

1.2 System Descriptions

Illinois American Water Company – East St. Louis (IAWC) is a privately owned company that draws surface water from the Mississippi River and provides treatment and distribution. IAWC owns some of the drinking water distribution system within the Cahokia Heights area.

In May 2021, the city of Cahokia Heights (CH) was formed and is the owner and operator of Commonfields of Cahokia PWS and the Village of Cahokia PWS. These systems will eventually merge into one system and will be referred to as Cahokia Heights. CH is a consecutive system that purchases water from IAWC. The only treatment that CH uses is the addition of Chlorine as a disinfectant during the summer months, typically June-September. The chlorine feed rate is automatically adjusted based on chlorine readings taken at the feed site using a digital analyzer.

On August 12, 2021, EPA inspectors conducted separate opening conferences with each system at approximately 9:00 AM. The inspectors presented their credentials, explained the purpose of their visit, and asked that representatives from each system accompany them throughout the distribution system. CH was represented by Lynn Branson Matchingtouch and Dennis Traiteur. IAWC was represented by Joe Alvin and Sam Saucier.

1.3 Sampling Event Description

Field EPA personnel used a HACH SL1000 Portable Parallel Analyzer to monitor for total chlorine (Cl), free Cl, pH, and specific conductivity. Each test set was calibrated on August 10, 2021. Free and total Cl was monitored using Hach Method 10260, pH was monitored using Hach Method 8156, and specific conductivity was monitoring using Hach Method 8160. A hydrant sampler was used to monitor system pressure at fire hydrants. Regulatory operating limits for residual chlorine and system pressure are described in the Illinois Administrative Code and summarized below.

The Illinois Administrative Code Section 604.725 states that a minimum free chlorine residual of 0.5 mg/L or a minimum combined chlorine residual of 1.0 mg/L must be maintained in all active parts of the distribution system at all times.

The Illinois Administrative Code Section 604.1415(a) System Design specifies that the system must be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. Additionally, the normal working pressure on all transmission mains for finished water must be at least 20 psi. All other water mains must have a normal working pressure of at least 35 psi.

2 FIELD MONITORING RESULTS

Site ID	Address	Type	Relative Age	Time	Gallons Flushed	Pressure (psi)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	pH	Sp. Conductivity (uS/cm)
1-01	Ex 6 (Personal Privacy)	HB	Avg	0917	4	45	1.42	1.15	7.27	466
1-03	Ex 6 (Personal Privacy)	HB	Avg	0953	4	45	1.46	1.15	7.26	472
1-04	Ex 6 (Personal Privacy)	HB	Avg	1023	4	45	1.30	1.08	7.28	472
1-05	Ex 6 (Personal Privacy)	HB	Avg	1050	4	43	-	1.00	7.23	458
1-06	Ex 6 (Personal Privacy)	HB	Avg	1107	4	45	1.69	1.36	7.28	474
1-07	Ex 6 (Personal Privacy)	HB	Avg	1129	4	46	1.47	1.22	7.28	460
1-08	Ex 6 (Personal Privacy)	HB	Avg	1325	4	40	1.86	1.43	7.21	464
1-09	Ex 6 (Personal Privacy)	HB	Avg	1407	4	41	1.46	1.17	7.36	472
1-10	Ex 6 (Personal Privacy)	HB	Avg	1503	4	47	1.81	1.48	7.28	475

2-01	Ex 6 (Personal P	HB	Avg	0900	4	162	2.39	2.11	7.26	657
2-04	Ex 6 (Personal	HB	Avg	1000	10	52*	1.54	1.27	7.29	514
2-05	Ex 6 (Personal P	HB	Avg	1030	4	150	1.8	1.53	7.23	631
2-07	Ex 6 (Personal	HB	Avg	1111	4	150	2.25	2.04	7.41	479
2-08	Ex 6 (Personal Pht	HB	Avg	1330	4	45	3.16	2.02	7.31	541
2-09a	Ex 6 (Personal Phtacy	HB	Avg	1400	4	45	1.47	1.09	7.32	523
2-09b	Ex 6 (Personal Phtacy	HB	Avg	1420	4	NA	0.21	0.08	7.53	540
2-10	Ex 6 (Personal Phtacy	HB	High	1440	10	42	2.81	2.46	7.30	587

Table 2: 8/12/21 Monitoring in the CH Distribution System, Cahokia Heights, IL

Site ID	Address	Type	Relative Age	Time	Minutes Flushed	Pressure (psi)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	pH	Sp. Conductivity (uS/cm)
1-11	Ex 6 (Personal Phtacy	FH	Avg	1011	6	50	1.15	0.75	7.36	493
1-12	Ex 6 (Personal Pht	FH	Avg	1046	3	42	2.49	2.16	7.31	489
1-13	Ex 6 (Personal Phtacy	FH	Avg	1108	4	42	1.43	1.20	7.20	490
1-14	Ex 6 (Personal Phtacy	FH	Avg	1128	4	42	1.75	1.48	7.23	475
1-15	Ex 6 (Personal Phtacy	FH	Avg	1148	2	-	1.85	1.60	7.30	485

1-16a	Ex 6 (Personal Privacy)	FH	Avg	1204	6	43	0.41	0.13	7.27	470
1-16b	Ex 6 (Personal Privacy)	FH	Avg	1215	10	-	0.38	0.13	-	-
1-17	Ex 6 (Personal Privacy)	FH	Avg	1241	4	43	0.98	0.73	7.27	470
1-18a	Ex 6 (Personal Privacy)	FH	Avg	1301	8	42	0.19	0.05	7.27	461
1-18b	Ex 6 (Personal Privacy)	FH	Avg	1310	5	-	0.21	0.05	-	-
1-19	Ex 6 (Personal Privacy)	FH	Avg	1416	4	44	2.49	2.17	7.34	485
1-20	Ex 6 (Personal Privacy)	FH	Avg	1436	5	50	1.87	1.59	7.32	484
1-21	Ex 6 (Personal Privacy)	FH	Avg	1504	5	40	2.81	2.55	7.32	497

Site ID	Address	Type	Relative Age	Time	Minutes Flushed	Pressure (psi)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	pH	Sp. Conductivity (uS/cm)
2-11	Ex 6 (Personal Privacy)	FH	Avg	922	2	60	2.08	1.71	7.07	494
2-12	Ex 6 (Personal Privacy)	FH	Avg	950	1	42	1.52	1.18	7.48	549
2-13	Ex 6 (Personal Privacy)	FH	Avg	1040	0.5	45	2	1.73	7.49	534

Table 4: 8/12/21 Monitoring at Revised Total Coliform Sites, Cahokia Heights, IL

Site ID	Address	Type	Relative Age	Time	Gallons Flushed	Pressure (psi)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	pH	Sp. Conductivity (uS/cm)
2-14	Ex 6 (Personal Privacy)	ST	Avg	1140	5	-	3.68	3.31	7.35	502
2-15a		HB	New	1210	10	40	0.08	0.02	7.63	535
2-15b		HB	New	1215	10	-	0.09	0.03	-	-
2-15c		HB	New	1230	40	-	0.42	0.21	-	-
2-15d		HB	New	1240	20	-	0.63	0.35	-	-
2-15e		HB	Avg	1330	100	-	2.83	2.60	7.39	525
2-16		ST	Avg	1305	10	-	3.93	3.39	7.41	487
2-18		ST	High	1420	10	-	1.25	0.99	7.24	651

3 CLOSING CONFERENCE AND ADDITIONAL AREAS OF CONCERN

3.1 Illinois American – East St. Louis

The closing conference was held at approximately 11:00 AM on August 12, 2021. EPA inspectors had the following observations:

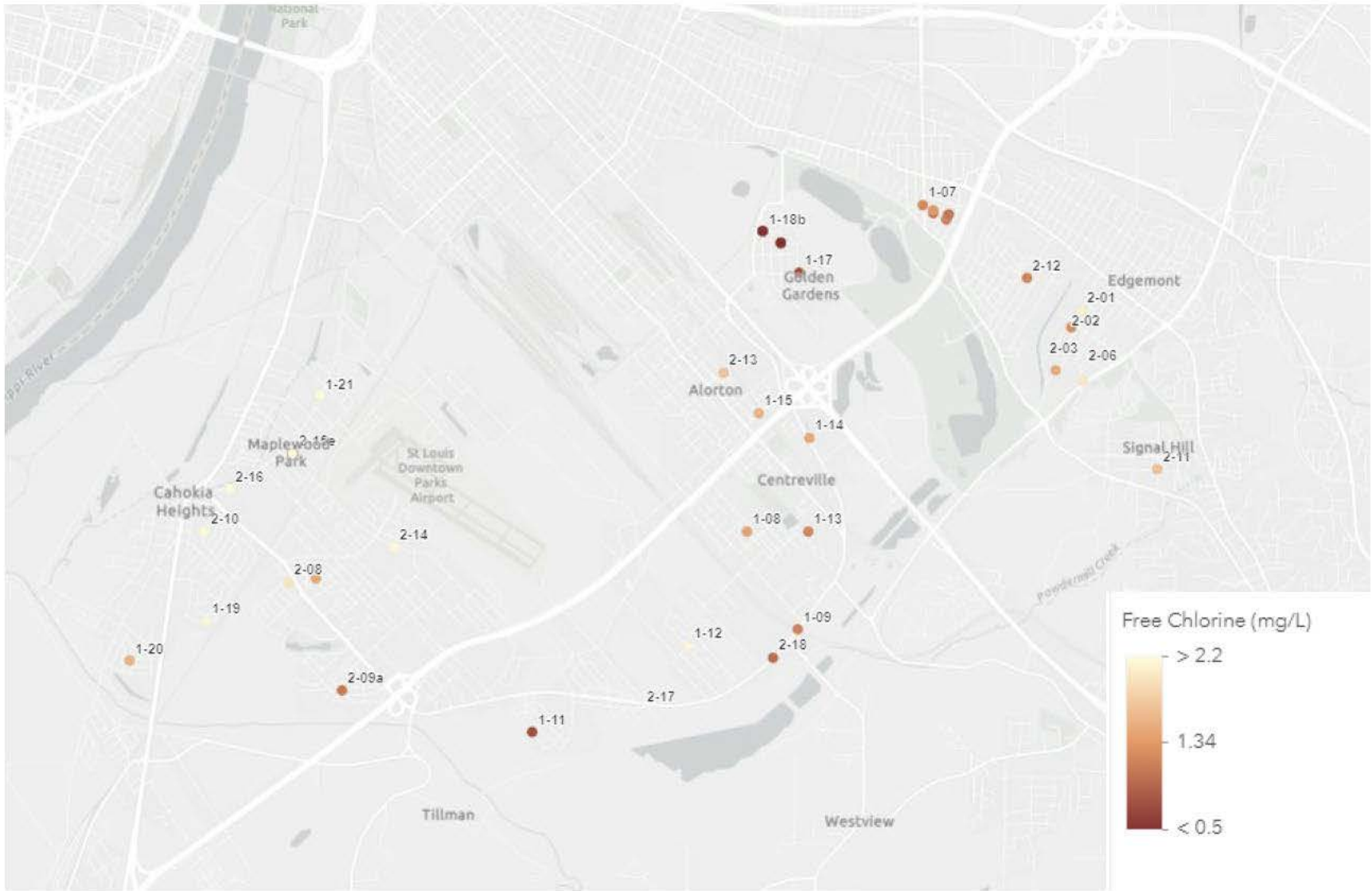
1. Industry standards for pressure management recommend that the pressure in the distribution system be less than 100 psi. The area near the Edgemont booster station, located east of 80th Street, had pressures greater than 150 psi. Residents in this area have complained of frequent line breaks and damage to their residential plumbing systems.

3.2 Cahokia Heights

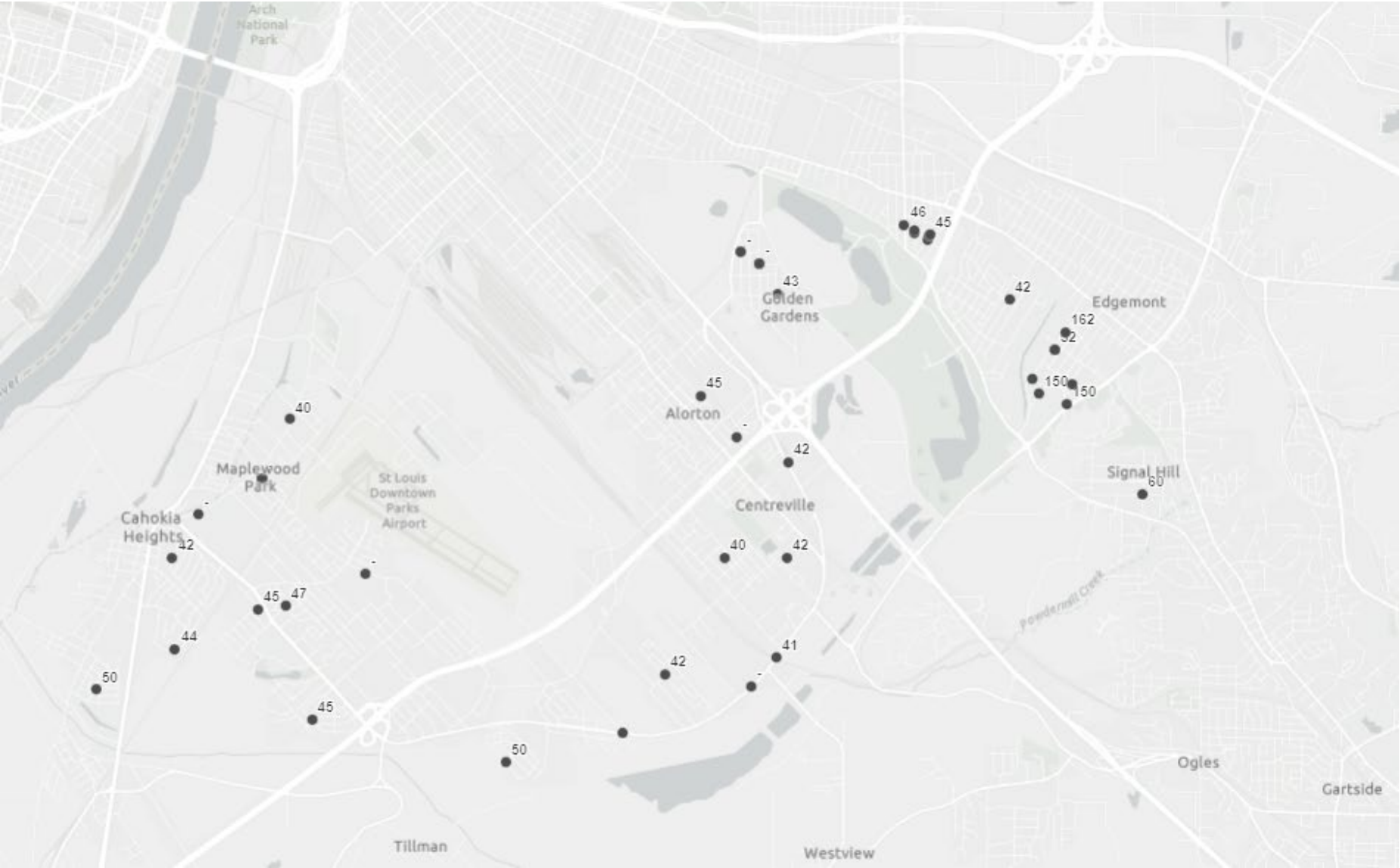
The closing conference was held at 4:00 PM on August 12, 2021. EPA inspectors had the following observations:

1. Monitoring sites 1-16 and 1-18, located in the Golden Gardens neighborhood, had free chlorine residuals below the state required minimum of 0.5 mg/l. Following the inspection, a boil order was issued to the affected community.
2. EPA inspectors were unable to access two locations used for Revised Total Coliform Rule monitoring within Cahokia Heights. The sites at Patricia Gardens Apartments, 2900 Camp Jackson Road, was disabled. The site at Centreville School, 3429 Camp Jackson Road, was damaged. Representative from CH stated that the sample boxes surrounding these locations can get twisted around but with some adjusting the taps are accessible. These locations must be accessible to maintain compliance with the requirements of the Revised Total Coliform Rule.
3. The frequency and duration of hydrant flushing may be contributing to surface flooding in low lying areas. EPA observed an open hydrant near a water tower that was open to flushing and had been left unattended (see photo RIMG1471).
4. One RTCR monitoring site, site 2-15, located at 900 Upper Cahokia, required a very long flush time and approximately 200 gallons of water flushed before the residual chlorine level was in compliance with the state standard. The cause of this should be investigated, system flushing protocols may need to be adjusted, or a new location maybe more appropriate for RTCR monitoring.
5. The highest residual chlorine measurement of 3.93 mg/L was taken at 440 Falling Springs Road station. This is near the maximum residual disinfectant level goal of 4.0 mg/L described in 40 C.F.R. Part 141.54.
6. Additional maintenance issues were observed in Cahokia Heights, including a broken hydrant nut, a leaking water line near a customer connect, and unsecured RTCR locations.
7. Prior to the inspection, Cahokia Heights was not notifying customers of when localized boil orders had been lifted. Cahokia Heights has since changed this practice and is now using an auto dialer to notify customers when a boil order is lifted.

Appendix A: Map of Monitored Locations with Free Chlorine Results



Map of Pressure Readings in Pounds per Square Inch (PSI)



Appendix B: Photo Log



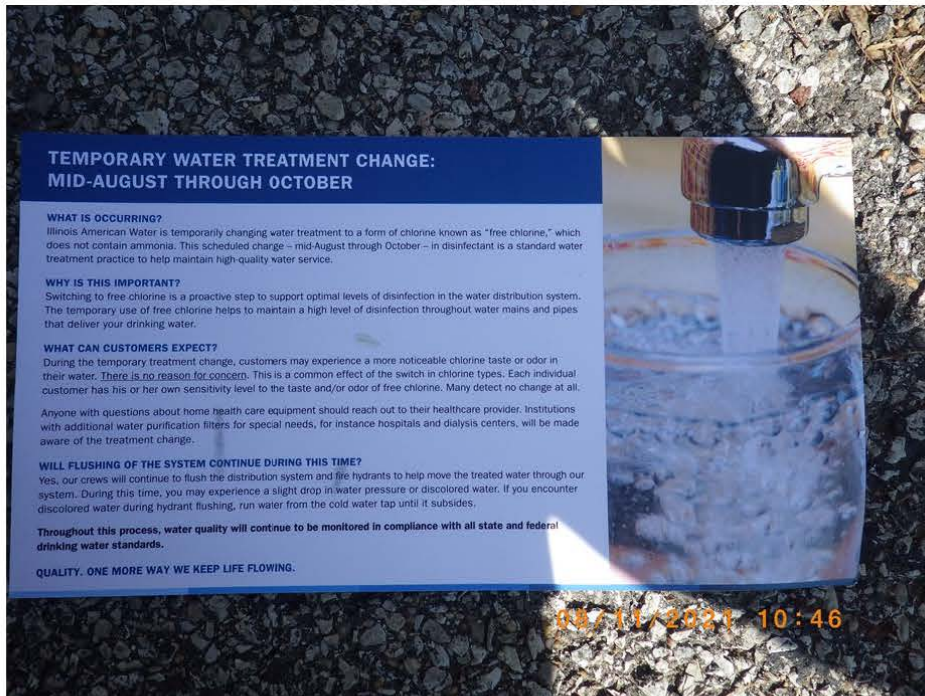
RIMG1463 Hose bib at site 1-01, 253 N 62nd St. 8/11/21



RIMG1464 Hose bib at site 1-03, 305 N 62nd St. 8/11/21



RIMG1465 Hose bib at site 1-04, 307 N 62nd St. 8/11/21



RIMG1466 Customer alert issued by IAW to notify residents of treatment change and flushing



RIMG1467 Hose bib at site 1-05, 5949 Piat Pl, 8/11/21



RIMG1468 Hose bib at site 1-06, 5951 Piat Pl, 8/11/21



RIMG1469 Hose bib at site 1-07, 401 N 59th St, 8/11/21



RIMG1470 Hose bib at site 1-08, 5620 Russell Ave, 8/11/21



RIMG1471 Ongoing flushing in Cahokia Heights near the water tower near Church St. and S 57th, 8/11/21



RIMG1472 Hose bib at site 1-09, 5603 Old missouri Ave,
8/11/21



RIMG1473 Open pit in front of Cahokia High School, 800
Range Ln



1: DSCN0196.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 9:14 AM

Camera Direction: North

Description: At the tap for monitoring location 201.



2: DSCN0197.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 9:29 AM

Camera Direction: Down

Description: At the location for monitoring location 202. The knob was missing on this tap so monitoring was not conducted.



3: DSCN0198.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 9:38 AM

Camera Direction: Down, East

Description: Meter box in front of the monitoring location 203. Monitoring was not conducted at this location since the resident was not available.



4: DSCN0199.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 9:53 AM

Camera Direction: Down

Description: Corroded pipe removed from the service line at residence where monitoring location 204 was conducted.



5: DSCN0200.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 9:54 AM

Camera Direction: Down

Description: Corroded pipe removed from the service line at residence where monitoring location 204 was conducted.



6: DSCN0201.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 9:55 AM
Camera Direction: Northwest

Description: Corroded pipe removed from the service line at residence where monitoring location 204 was conducted.



7: DSCN0202.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 10:18 AM

Camera Direction: Down

Description: Flooded pit at house service line shutoff. This is at location 204. The water line is fully submerged. Resident said that this pit is often filled with water, and that this was the location where the corroded pipe, shown in photo 6, was before it was replaced.

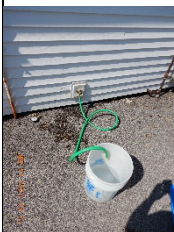


8: DSCN0203.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 10:19 AM

Camera Direction: Down

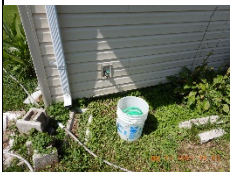
Description: Flooded pit at house service line shutoff. This is at location 204. The water line is fully submerged. Resident said that this pit is often filled with water, and that this was the location where the corroded pipe, shown in photo 6, was before it was replaced.



9: DSCN0204.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 10:35 AM
Camera Direction: Southwest

Description: Monitoring location 205.



10: DSCN0205.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 11:19 AM

Camera Direction: South

Description: Monitoring location 207.



11: DSCN0206.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 1:34 PM

Camera Direction: Northwest
Description: Monitoring location 208.



12: DSCN0207.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 2:07 PM

Camera Direction: East
Description: Monitoring location 209.



13: DSCN0208.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 2:25 PM

Camera Direction: Northeast
Description: Residence northwest of location 209. Water meter appeared to be leaking at this location.



14: DSCN0212.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 2:47 PM

Camera Direction:
Description: Monitoring location 210.



15: DSCN0213.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 2:49 PM

Camera Direction:
Description: Monitoring location 210.



16: DSCN0217.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 6:51 PM

Camera Direction: West

Description: Edgemont pumping station.



17: DSCN0218.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 6:51 PM

Camera Direction: West

Description: Closeup of the east side of the Edgemont pumping station. Cones around a manhole where a discharge pipe can be seen leaving an underground structure.



18: DSCN0219.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/11/2021 6:52 PM

Camera Direction: North

Description: Hydrant near the Edgemont pumping station. There is a Telog monitoring unit on this hydrant.



19: DSCN0231.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 7:56 AM

Camera Direction: North

Description: Hydrant flushing near the intersection of Pershing Street and Calhoun Lane.



20: DSCN0232.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 7:56 AM

Camera Direction: Northwest

Description: Hydrant flushing near the intersection of Pershing Street and Calhoun Lane.



21: DSCN0233.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 7:56 AM

Camera Direction: South

Description: Hydrant flushing near the intersection of Pershing Street and Calhoun Lane. Water flowed to a sewer inlet.



22: DSCN0234.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 7:57 AM

Camera Direction: Southwest

Description: Sewer inlet receiving water from the hydrant flushing near the intersection of Pershing Street and Calhoun Lane



23: DSCN0235.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 7:58 AM

Camera Direction: Southeast

Description: Surface water across Pershing Street from the hydrant flushing shown in photos 19-21.



24: DSCN0236.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 7:58 AM
Camera Direction: South

Description:



25: DSCN0240.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 9:29 AM

Camera Direction: West

Description: Hydrant at the intersection of Hazel Avenue and Creston Drive in the Signal Hill neighborhood. Monitoring location 210.



26: DSCN0241.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 9:55 AM

Camera Direction: South

Description: Hydrant at the intersection of 73rd Street and Oakland Street. Monitoring location 211.



27: DSCN0242.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 10:42 AM

Camera Direction: East

Description: Hydrant at the intersection of 47th Street and Converse. Monitoring location 212.



28: DSCN0243.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 11:23 AM
Camera Direction: Northeast

Description: Open pit in front of the Cahokia Highschool on Range Lane.



29: DSCN0244.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 11:23 AM

Camera Direction: Down

Description: Open pit in front of the Cahokia Highschool on Range Lane.



30: DSCN0245.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 11:24 AM

Camera Direction: Northeast

Description: Open pit in front of the Cahokia Highschool on Range Lane.

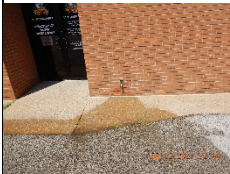


31: DSCN0246.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 11:41 AM

Camera Direction:

Description: Monitoring location 214.



32: DSCN0247.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 12:44 PM

Camera Direction:

Description: Monitoring Location 215.



33: DSCN0248.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 1:07 PM

Camera Direction:

Description: Monitoring Location 216.



34: DSCN0249.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 1:59 PM
Camera Direction: Southeast

Description: Monitoring Location 217, Tap disabled. Bleed line was crimped and the tap was twisted so that it could not be operated.



35: DSCN0250.JPG

Location: East St. Louis/Cahokia Heights
Photographer: Jonathan Moody
Date/Time: 8/12/2021 1:59 PM
Camera Direction: Southeast

Description: Monitoring Location 217, Tap disabled. Bleed line was crimped and the tap was twisted so that it could not be operated.



36: DSCN0251.JPG

Location: East St. Louis/Cahokia Heights

Photographer: Jonathan Moody

Date/Time: 8/12/2021 2:21 PM

Camera Direction: Northeast

Description: Monitoring location 218.