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February 28, 2023

Andrea Klopfenstein, P.E.
Deputy Director – City Engineer
City of Peoria Public Works Department
3505 N. Dries Lane
Peoria, IL 61604

Re: Review of Storm Water Samples Collected for the Separate Storm Sewer System –
MS4 Permit for Calendar Year 2022

Dear Andrea Klopfenstein:

The following is a summary report for storm water samples collected in 2022 from Sampling Points P1 through P4. Included in this summary report are:

- ◆ Goals of the MS4 Permit, Sampling Point Location and Descriptions
- ◆ Summary of Procedures Utilized to Collect Storm Water Samples
- ◆ Analytical Data Summary Including Trends and Potential Areas of Concern
- ◆ Figure showing Sampling Point Locations
- ◆ Laboratory Analytical Data

Goals of the MS4 Permit, Sampling Point Location and Descriptions

Four sampling locations (P1 through P4) were selected to meet requirements of the MS4 Permit and determine whether surface water quality is improving, remaining stable, or decreasing. The sampling point locations are located outside of the known Combined Sewer Overflows (CSO) system and should be storm water flowing within the City of Peoria (City) boundaries. Sampling Point P1 is located the farthest to the north and encompasses a mix of residential, industrial, and commercial properties. Sampling Point P2 covers the northwest and some of the middle parts of the city with a mix of residential, commercial, and industrial properties. Sampling Point P3 is a mix of residential and commercial properties, and Sampling Point P4 encompasses the eastern portions of the City and is predominately residential. The four sampling point locations are shown on attached Figure 1.

Summary of Procedures Utilized to Collect Storm Water Samples

Per General National Pollutant Discharge Elimination System (NPDES) Permit ILR40, storm water samples must be collected within 48 hours of a precipitation event greater than or equal to 0.25 inch of precipitation in a 24-hour period. Only one storm water grab sample per location is required to be collected per quarter. If there is insufficient precipitation during a quarter, storm water samples would not be collected. Storm water samples were collected every quarter in 2022.

Analytical Data Summary Including Trends and Potential Areas of Concern

Storm water samples were grab samples and were collected directly from the stream. Flow rate is not factored in sample collection as flow monitoring devices are not installed at the sampling point. Field observation sheets noting precipitation amount, weather conditions, sample appearance, etc. were completed at each sampling point every quarter, and are attached in Attachment 1. There were no observed factors that appeared to bias sample results. Some of those factors (if present) could be sheens, discoloration, smell, animal carcass/feces, etc. The parameters analyzed are required under General NPDES Permit ILR40 Part V.(A)(2)(c) and are shown in attached Tables 1 through 4 (2022 Analytical Laboratory Results) and graphically on Figures 2 through 8 (Data Graphs). A graph was not generated for the parameter grease and oil since all grease and oil concentrations have been reported as non-detect (ND) below the laboratory reporting limit (RL).

As shown on Figure 2, the trend continued from previous years that the highest chloride concentration reported for the year occurred during the first quarter event. A plausible explanation for this trend could be related to the seasonal effect of snowfall and the runoff of "salt" placed on local roads, residential driveways, and sidewalks as a deicer. A total of 10.6 inches of snowfall was recorded for Peoria for the month of February 2022.

A total suspended solid (TSS) is a waterborne particle that exceeds 2 microns in size (micron thickness is 0.001 millimeter [mm]). TSS can be anything that floats or is suspended in water and can affect water clarity. Common suspended solids are bacteria and sediments, such as clay, gravel, sand, and silt. Common causes of TSS in water are erosion and runoff from rainfall or snow melting. TSS concentrations in 2022 were consistent with historical concentrations except for the third quarter TSS concentration at Sampling Point P4, as shown on Figure 3. Field sheets for that event did not note any observations of additional debris or turbidity in the stream when samples were taken. The TSS concentration at Sampling Point P4 was reported as less than (<)4 milligrams per liter (mg/L) for the following fourth quarter event.

A particle smaller than 2 microns is considered a total dissolved solid (TDS). The United States Environmental Protection Agency (USEPA) secondary drinking water standard for a TDS concentration is 500 parts per million (ppm), which is considerably higher than the TSS concentrations currently being reported at Sampling Points P1 through P4 on a routine basis.

Most of the total nitrogen (Figure 4), phosphorous (Figure 5), and Total Kjeldahl Nitrogen (TKN) ammonia (Figure 6) concentrations were reported as ND at the laboratory RL for all four sampling points, with an occasional concentration reported above the RL. For illustrative purposes, ND values in the Figures are shown at the laboratory RL. Total nitrate (Figures 7 through 7D) is being detected at all four sampling locations, and concentration levels at each sampling point are consistent with what has been reported historically. Figures 7A through 7D illustrate the total nitrate concentration at each individual sampling point. There does not appear to be a concentration trend between the sampling points. Concentration levels are considerably below the Class I Groundwater Quality Standard (Potable Resource Groundwater) of 10 mg/L. The concentrations detected above the RL could be related to runoff from the application of fertilizers, herbicides, and insecticides at residences and businesses.

As shown in Figure 8, the fecal coliform concentrations in 2022 were consistent with historical concentrations across all four sampling points. There does not appear to be a disparity in fecal coliform concentrations between the sampling locations. There does appear to be a seasonal trend in that the higher fecal coliform concentrations have occurred during the third and fourth quarter sampling events for all four locations; this trend continued in 2022. Fecal coliform concentrations reported at greater than (>)2420 colony forming units per 100 milliliters (CFU/100 mL) are shown at a concentration level of 2420 CFU/100 mL in Figure 8. At this time there does not appear to be a clear trend for the fecal coliform concentrations in relation to location, precipitation amount, visible turbidity, or flow. After the TMDL (total maximum daily load) study sampling locations are finalized and fecal coliform concentrations are collected across a storm water event, a timeline of concentration levels across a storm event should help to determine peak load times.

In 2022 additional samples were collected during dry months to establish background values that storm events sample analysis could be compared with to determine if there is an impact from storm water on water quality. A background sample was collected on July 21 and tested for the same parameters that are tested for during a storm water event. Three other background samples were collected during non-rain events and only tested for fecal coliform concentrations. Attached Tables 1 through 4 show the parameters analyzed at each sampling point, including the analysis on samples collected during non-storm events.

As illustrated in Tables 1 through 4, the reported concentrations for parameters chloride, TSS, nitrate, phosphorus, and TKN were generally lower than storm events. However, there is not a significant difference between the non-storm (background) and storm events. The parameter grease and oil was not detected during background or storm events. The fecal coliform concentrations do not exhibit a clear distinction between the samples collected during non-storm events and storm events. For instance, the fecal coliform concentration of 1410 most probable number per 100 milliliters (MPN/100 mL) reported at Sampling Point P1 during the June 6, 2022, non-storm event is higher than fecal coliform concentrations reported for storm events in quarters 1 and 2.

The following items could be used to further investigate the fecal coliform and the other parameter concentrations:

- ◆ Collect background samples from upgradient watersheds that flow into the City's creeks and streams to determine a background value prior to entering the City's waterways.
- ◆ Continue to collect periodic samples during non-precipitation events to check "normal" flow background concentrations (not affected by precipitation) for all parameters.
- ◆ Collect grab samples during a storm event to evaluate concentration levels across a time period.
- ◆ Increase the number of sampling locations and consider timed collection of storm samples to evaluate concentrations across a storm event, such as the TMDL study commencing in 2023.
- ◆ Track snowfall total and amount of salt or other deicer products the City/County has applied to roads during the month, analyzing whether this corresponds with increased chloride concentrations in water samples.

- ◆ Track monthly precipitation amounts with date samples were collected, looking for indications of runoff from erosion or application of landscaping chemicals.
- ◆ Identify high fecal watershed, and sample multiple points along streams at the same time to narrow potential pollutant sources.

Some general assumptions are.

1. The periodic detection of concentrations of chloride, nitrogen, phosphorous, TKN ammonia, and nitrate could be related to either deicing chemicals applied after snowfall or runoff from the application of landscaping chemicals.
2. It appears the TSS concentration is not affected by precipitation amounts; however, this will continue to be investigated.
3. There is not a disparity between the fecal coliform concentration and the four sampling point locations. The fecal coliform concentration is consistent across all four sampling locations with higher concentrations being reported for the third and fourth quarter sampling events.
4. The concentrations of some parameters (chloride, nitrogen, phosphorous, TKN ammonia, and nitrate) analyzed during non-storm events (normal flow) are not significantly different than concentrations collected during storm events.

Early indications are that the concentrations of some parameters collected during non-storm events (background concentrations) were not significantly different than concentrations collected during storm events. Concentrations will continue to be collected periodically during non-storm events to determine if the periodic or seasonal spikes in concentrations could be related to the effects of road deicing after a snowfall event or runoff related to the application of landscape chemicals. Baseline data can then be used to determine whether water quality is improving, remaining stable, or decreasing.

Sincerely,

Foth Infrastructure & Environment, LLC



Joshua C. Gabehart, P.E.
Client Team Leader
Licensed in IL, IA, AR, & GA



Mark A. Williams
Lead Environmental Scientist

Enclosures

Figures

- Figure 1: Map of Sample Point Locations
- Figure 2: Total Chloride Concentration Graph
- Figure 3: Total Suspended Solids Concentration Graph
- Figure 4: Total Nitrogen Concentration Graph
- Figure 5: Total Phosphorous Concentration Graph
- Figure 6: Total TKN Ammonia Concentration Graph

Figure 7: Total Nitrate Concentration Graph

Figure 8: Total Fecal Coliform Concentration Graph

Tables

Table 1 – Sampling Point 1 Laboratory Analytical Results

Table 2 – Sampling Point 2 Laboratory Analytical Results

Table 3 – Sampling Point 3 Laboratory Analytical Results

Table 4 – Sampling Point 4 Laboratory Analytical Results

Attachment 1 Field Observation Sheets

Streams in the CSO Area

Centerlines	Combined Through StormSewers
Creeks & Streams	Partially Separate
Creeks & Streams	Separate
City Boundaries	Zoning
City Boundaries	Commercial
CSO Area	Industrial
Combined Direct	Residential
★ Sample Points	

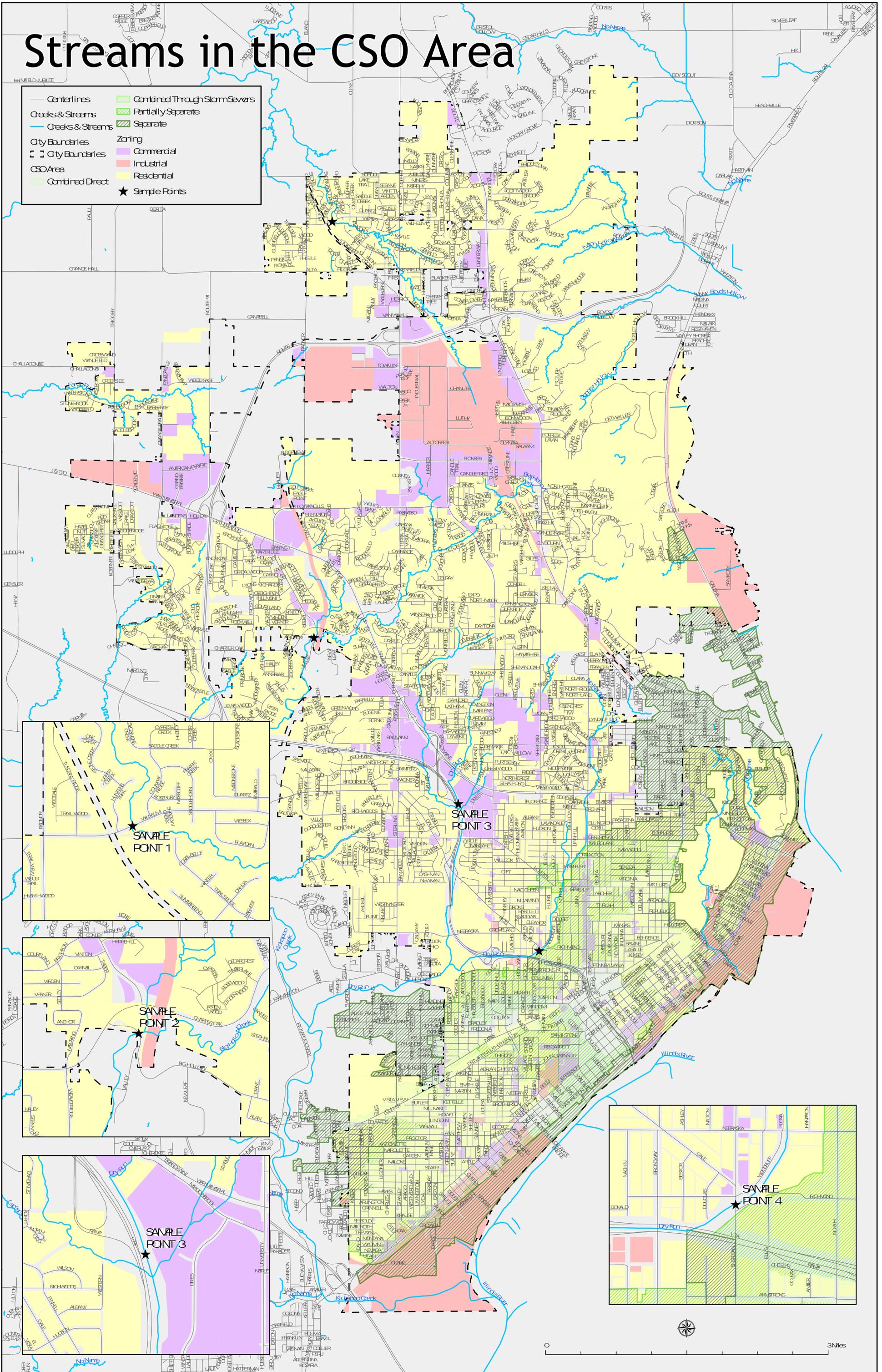


Figure 2
Total Chloride
First Quarter 2019 through Fourth Quarter 2022

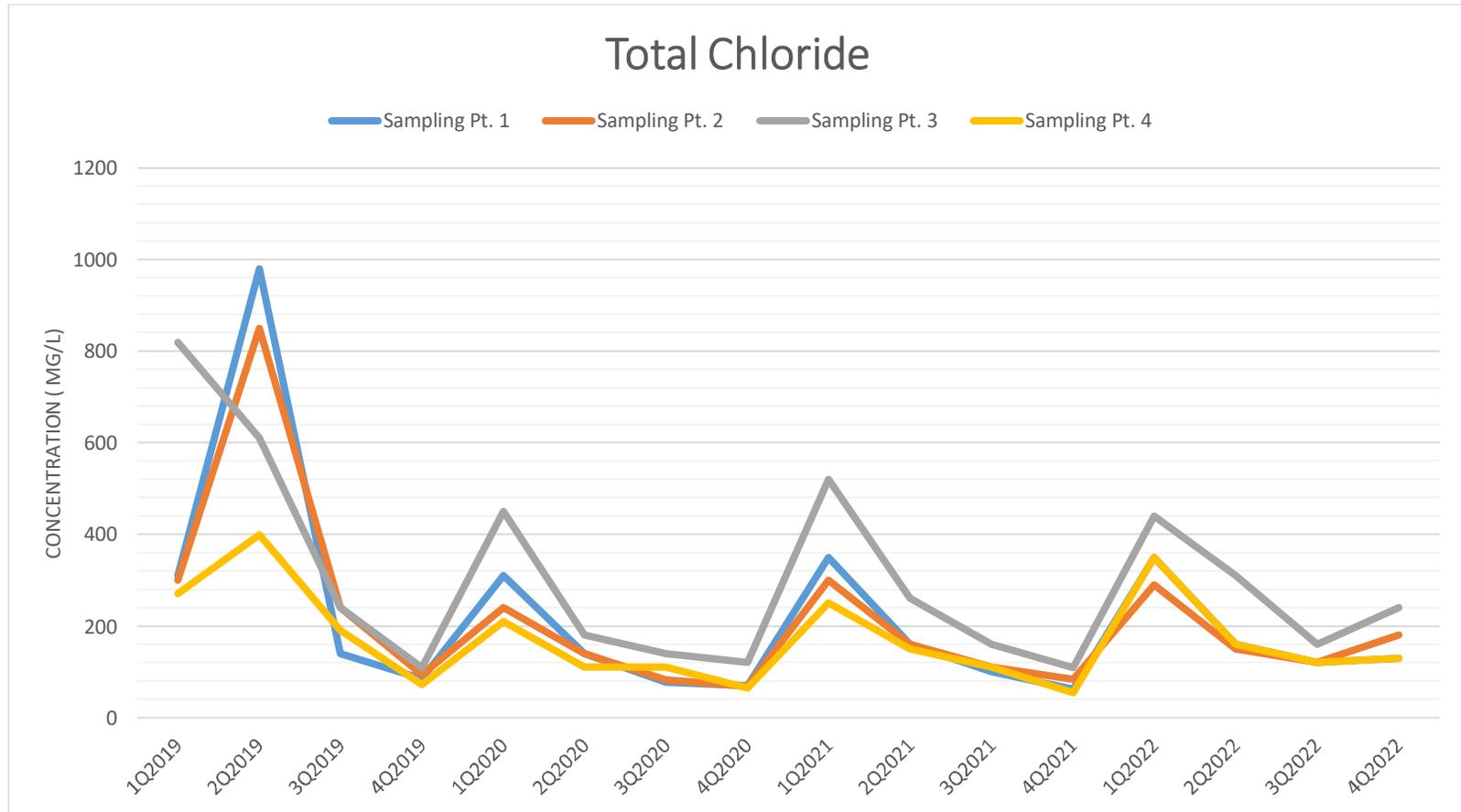


Figure 3
Total Suspended Solids (TSS)
First Quarter 2019 through Fourth Quarter 2022

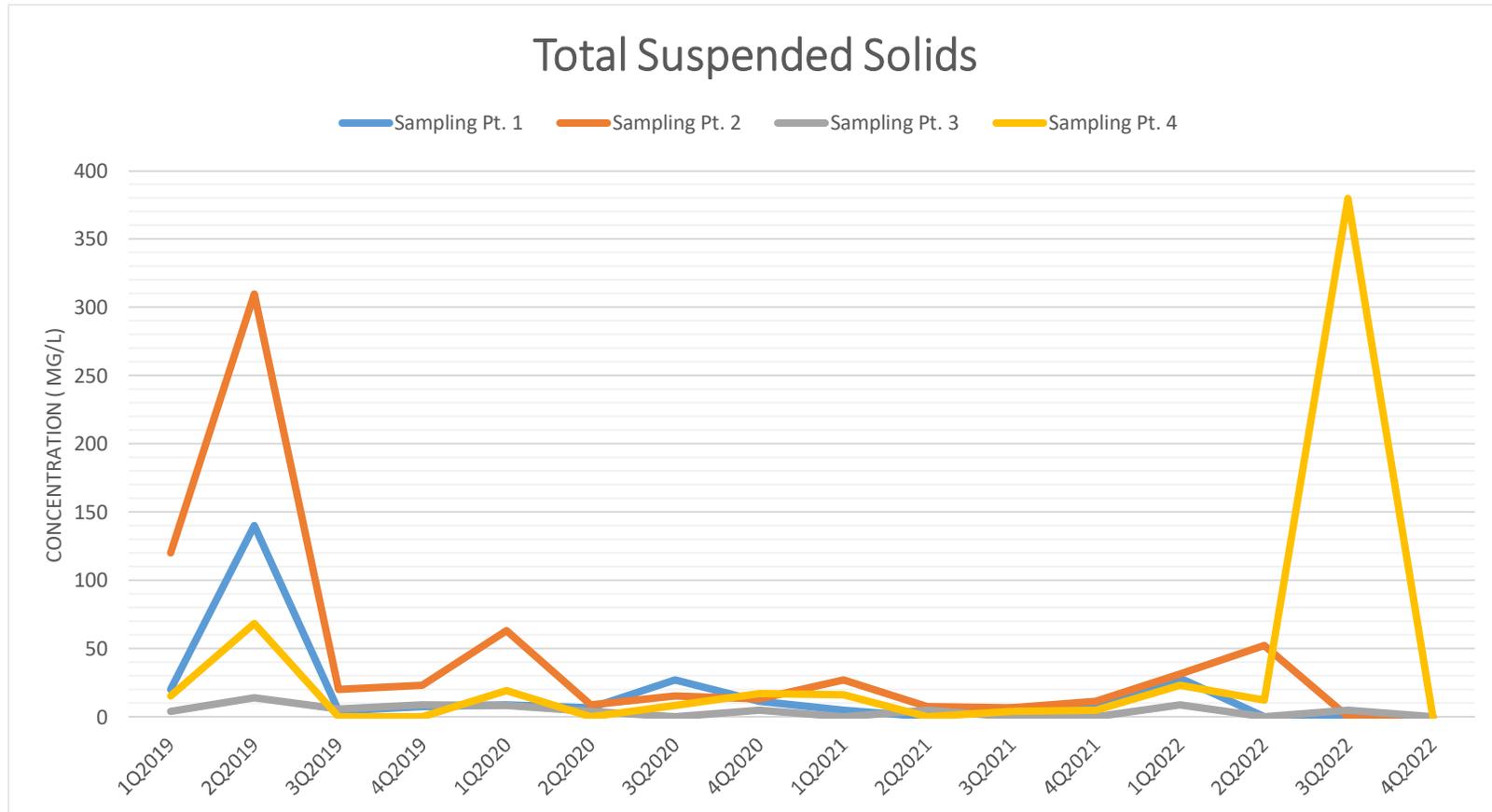
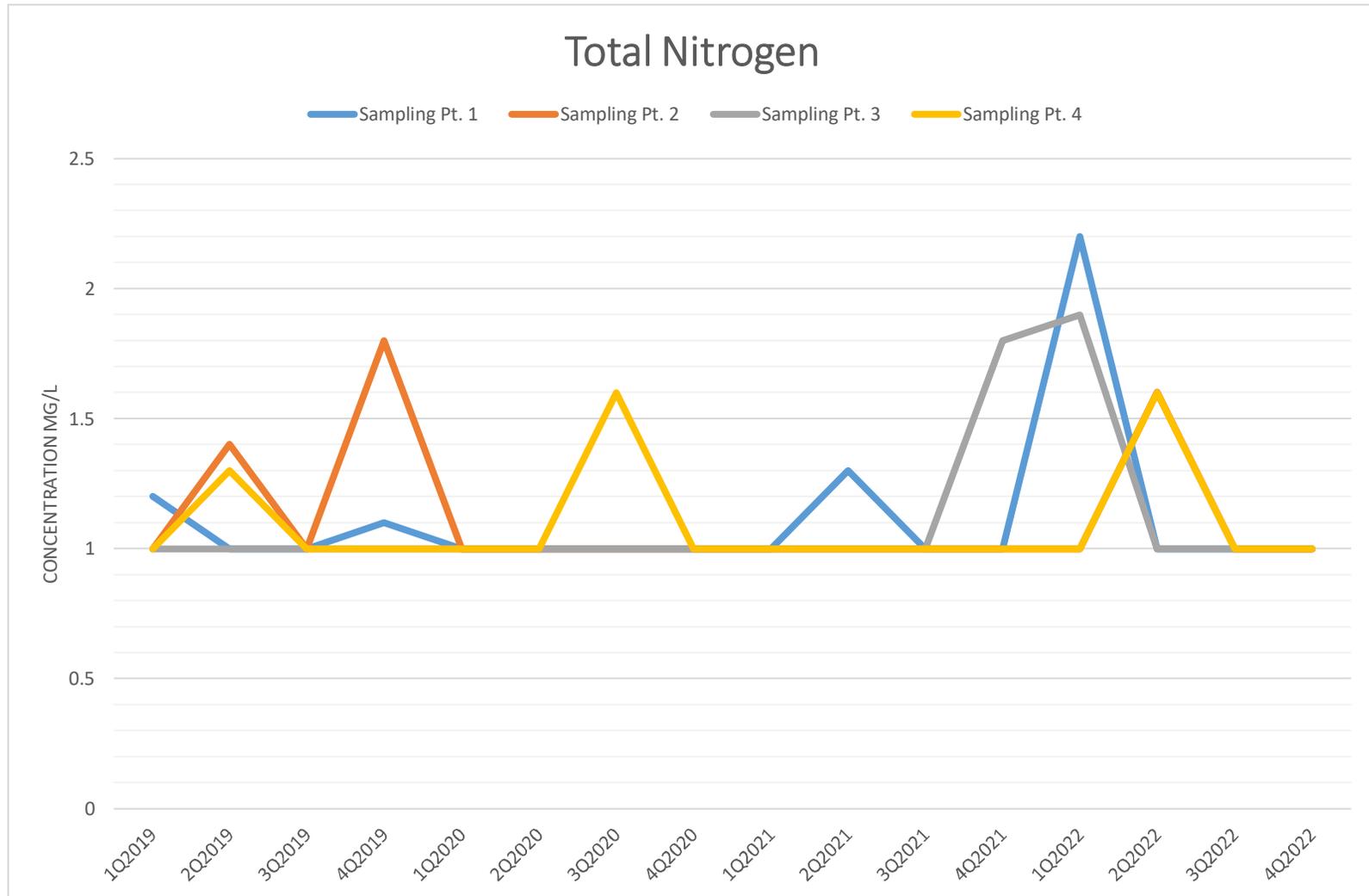


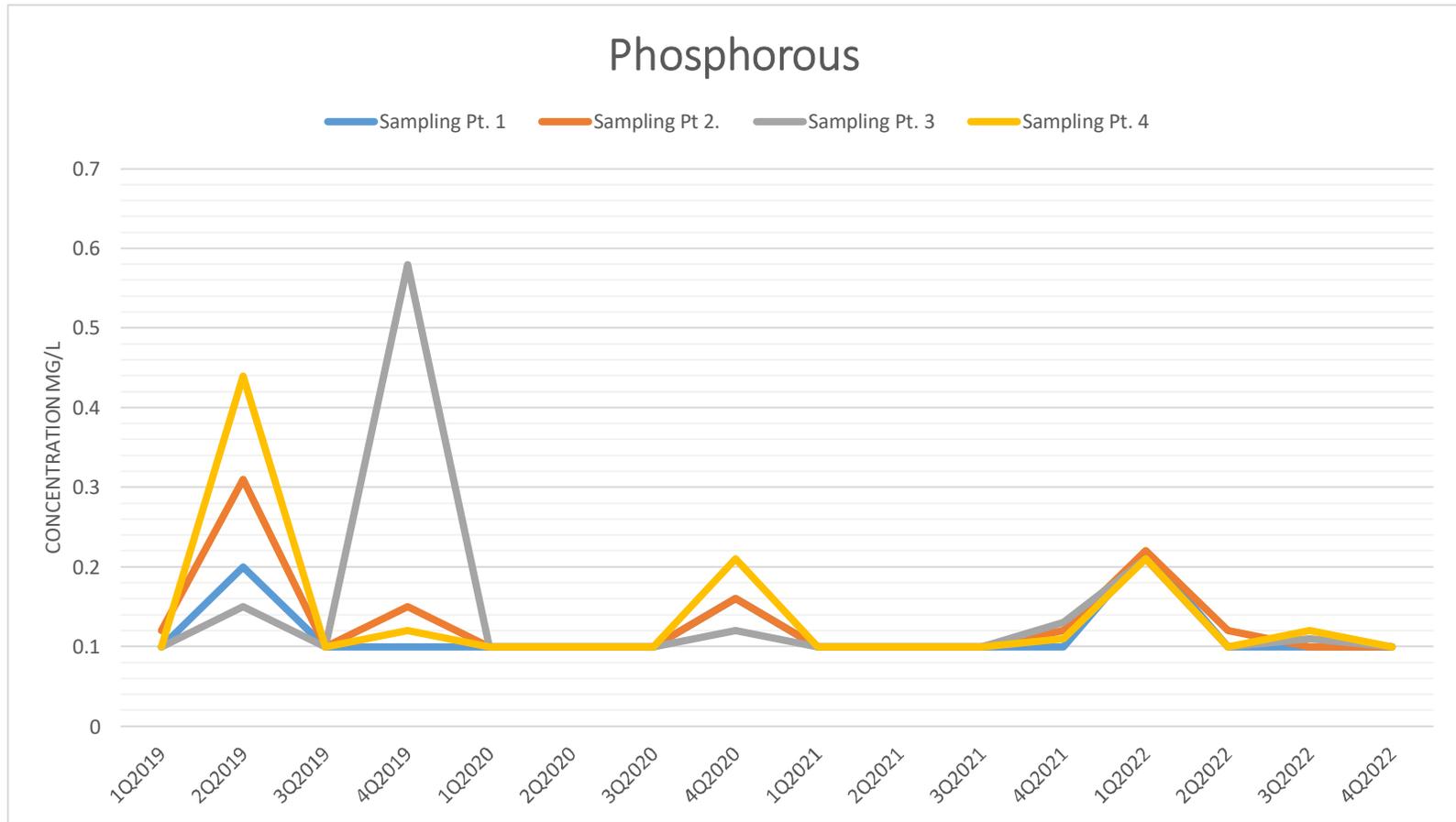
Figure 4
Total Nitrogen
First Quarter 2019 through Fourth Quarter 2022



Note:

Non-detect values are shown at the laboratory reporting limit of 1.0 mg/l

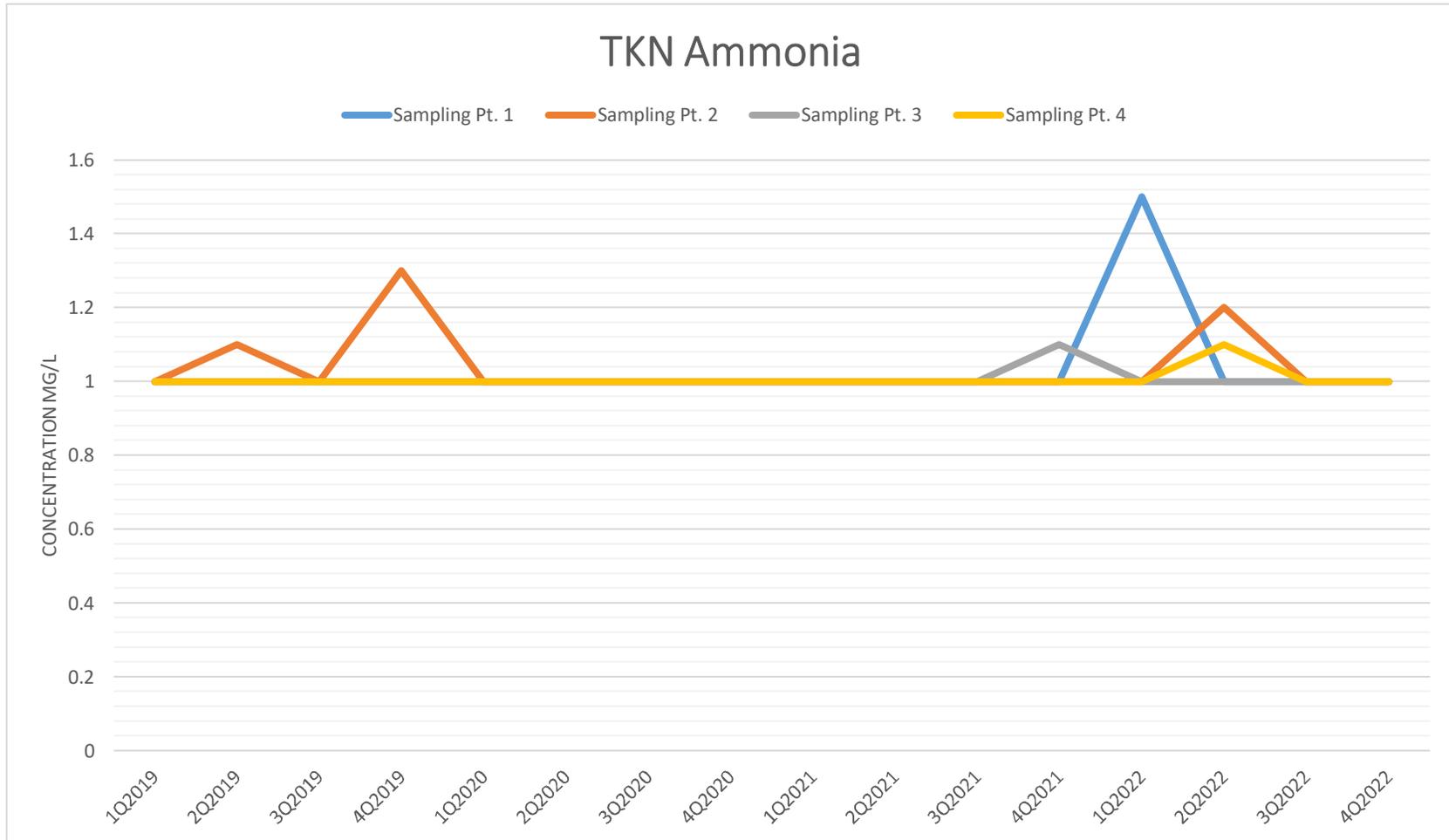
Figure 5
Total Phosphorous
First Quarter 2019 through Fourth Quarter 2022



Note:

Non-detect values are shown at the laboratory reporting limit of 0.1 mg/l

Figure 6
TKN Ammonia
First Quarter 2019 through Fourth Quarter 2022



Note:

Non-detect values are shown at the laboratory reporting limit of 1.0 mg/l

Figure 7
Total Nitrate
First Quarter 2019 through Fourth Quarter 2022

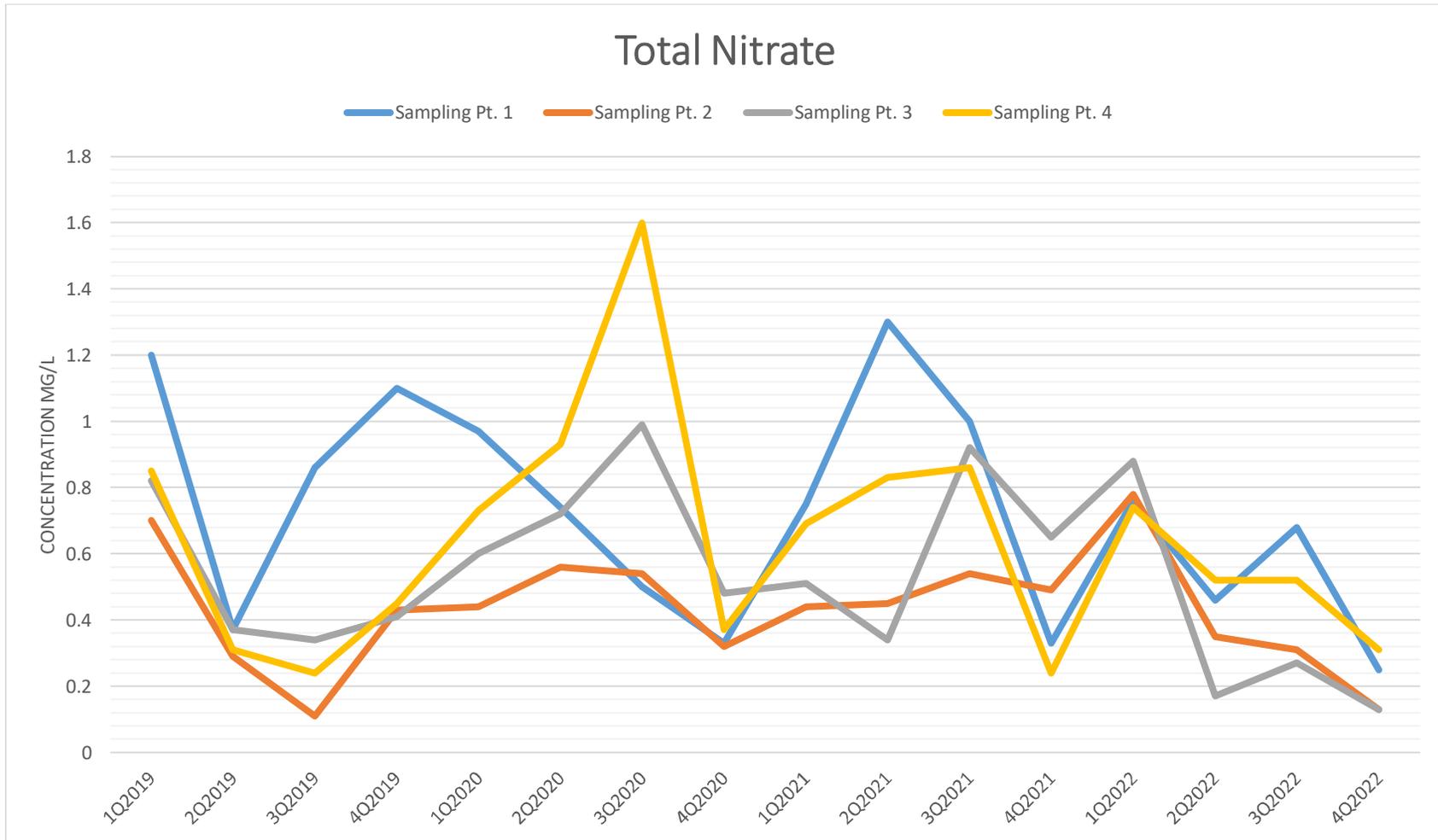


Figure 7A
Total Nitrate Concentration at
Sampling Pt. 1
First Quarter 2019 through Fourth Quarter 2022

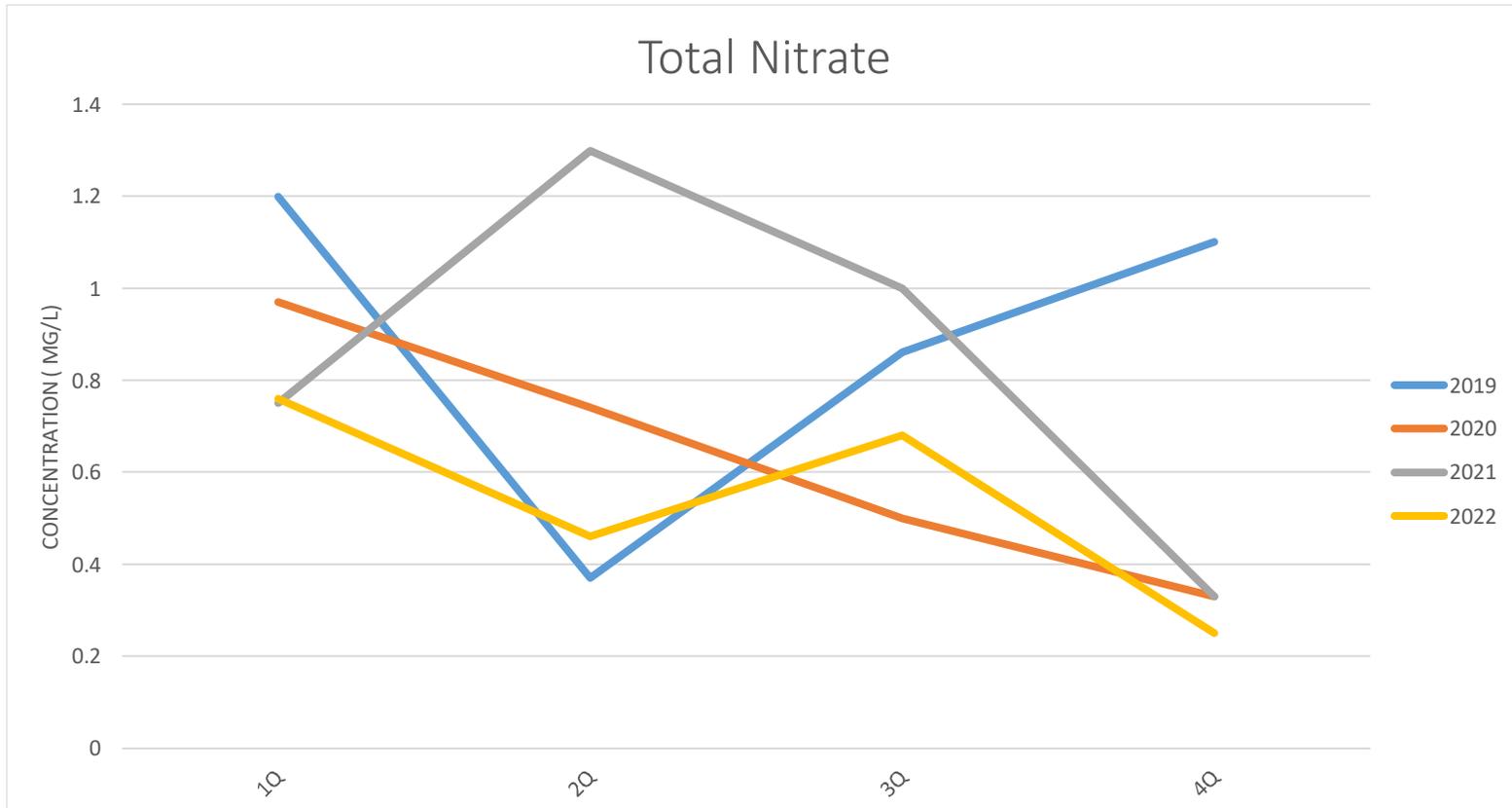


Figure 7B
Total Nitrate Concentration at
Sampling Pt. 2
First Quarter 2019 through Fourth Quarter 2022

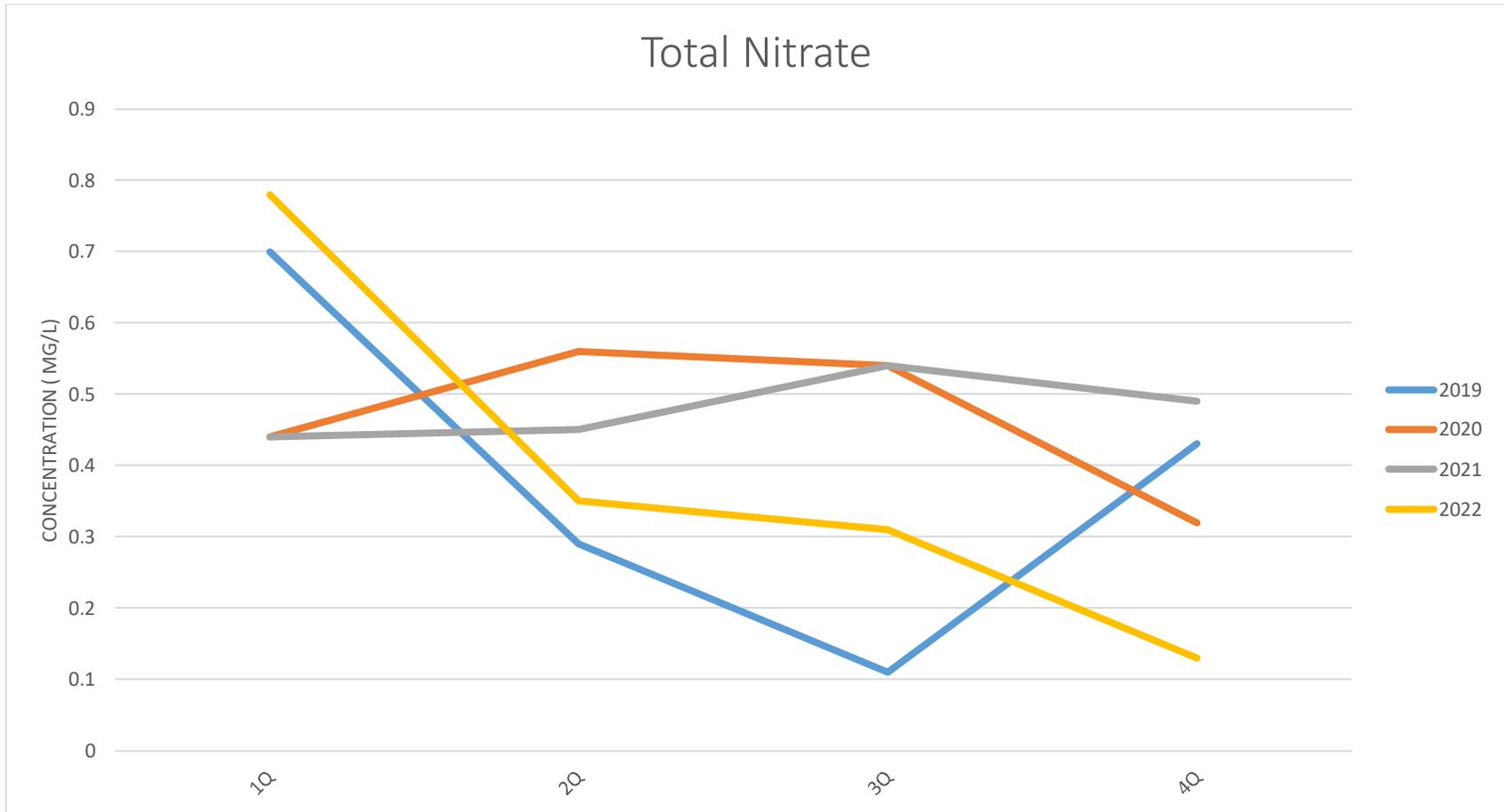


Figure 7C
Total Nitrate Concentration at
Sampling Pt. 3
First Quarter 2019 through Fourth Quarter 2022

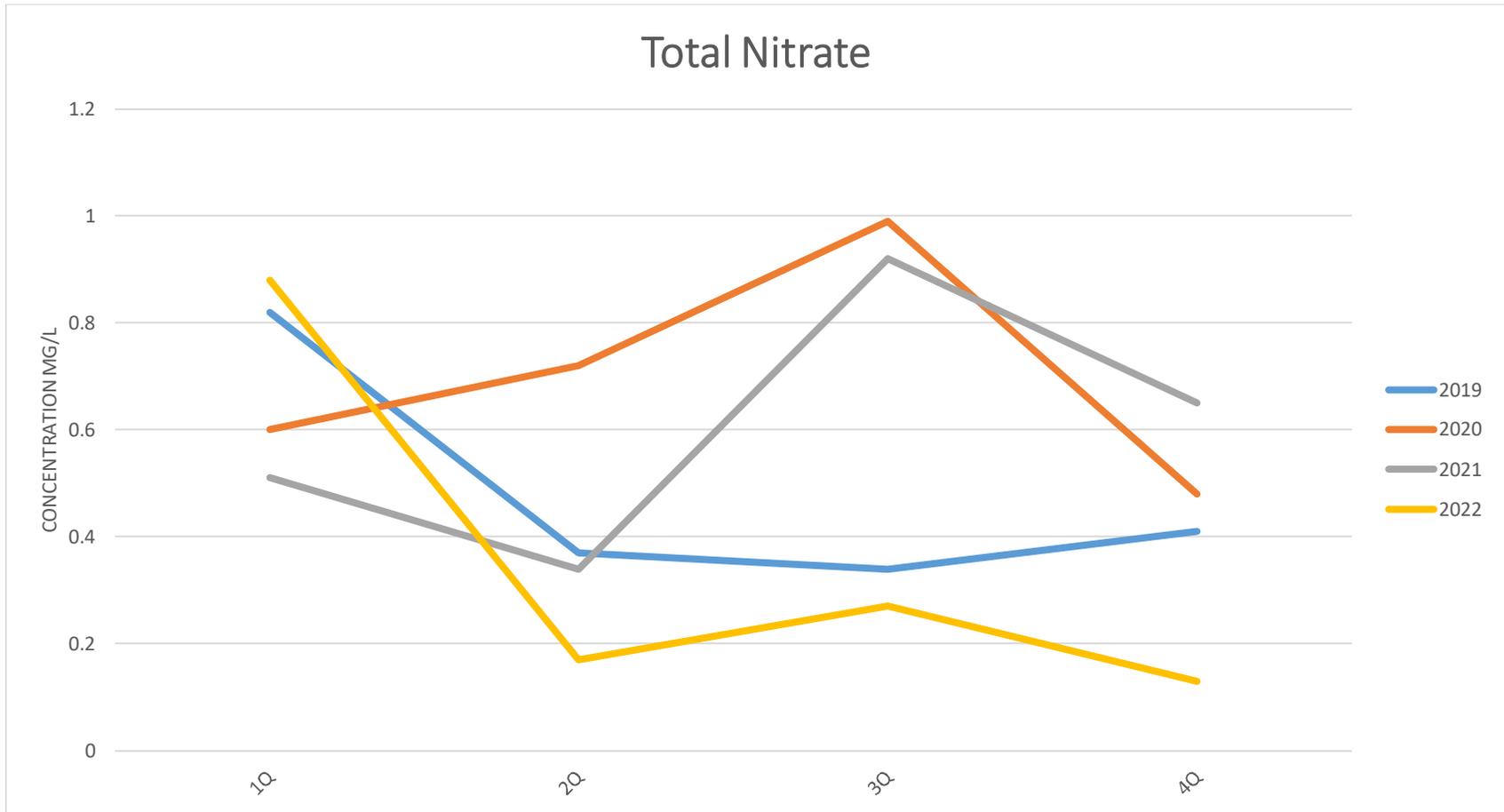


Figure 7D
Total Nitrate Concentration at
Sampling Pt. 4
First Quarter 2019 through Fourth Quarter 2022

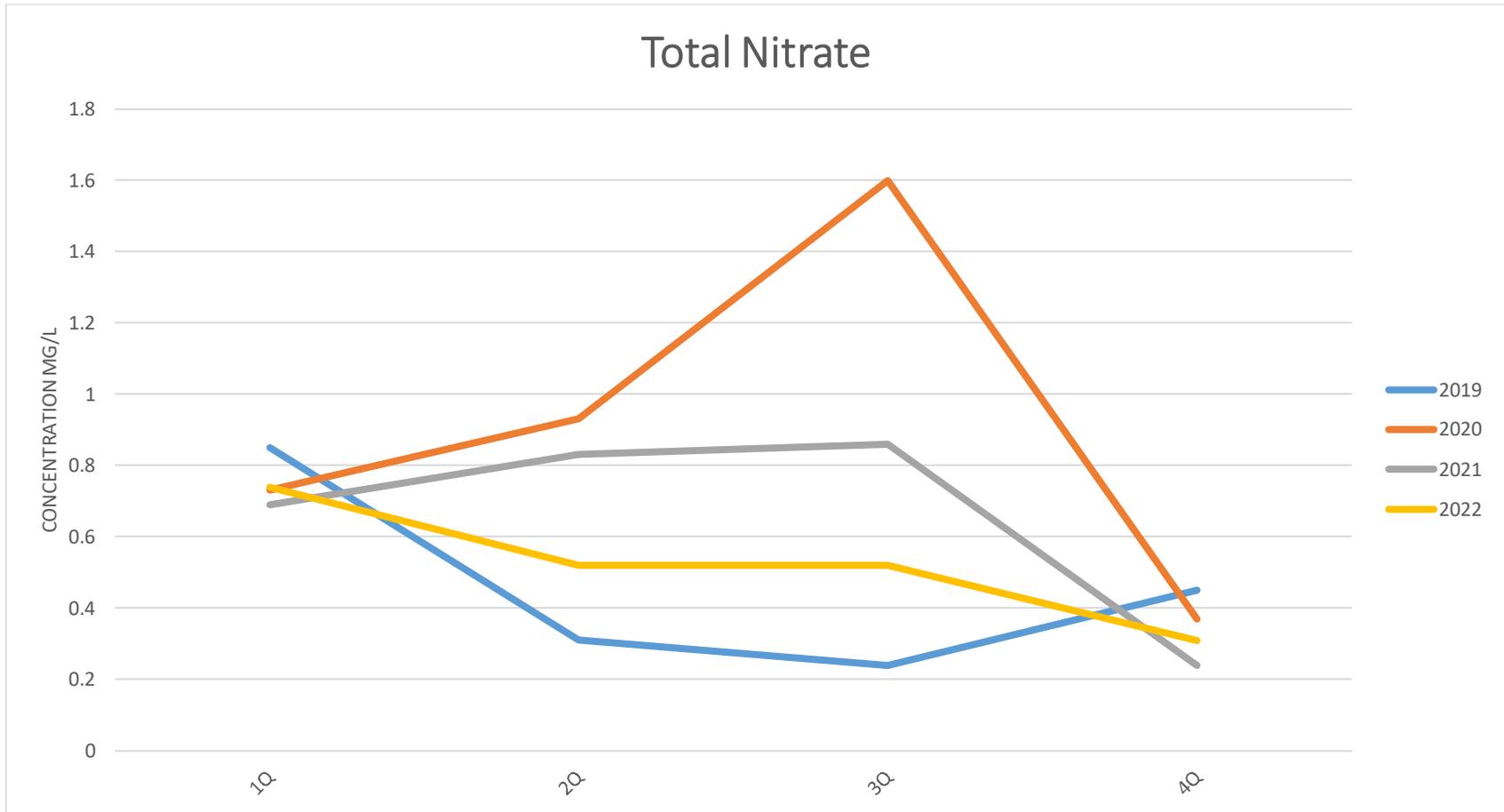


Figure 8
Total Fecal Coliform
First Quarter 2019 through Fourth Quarter 2022

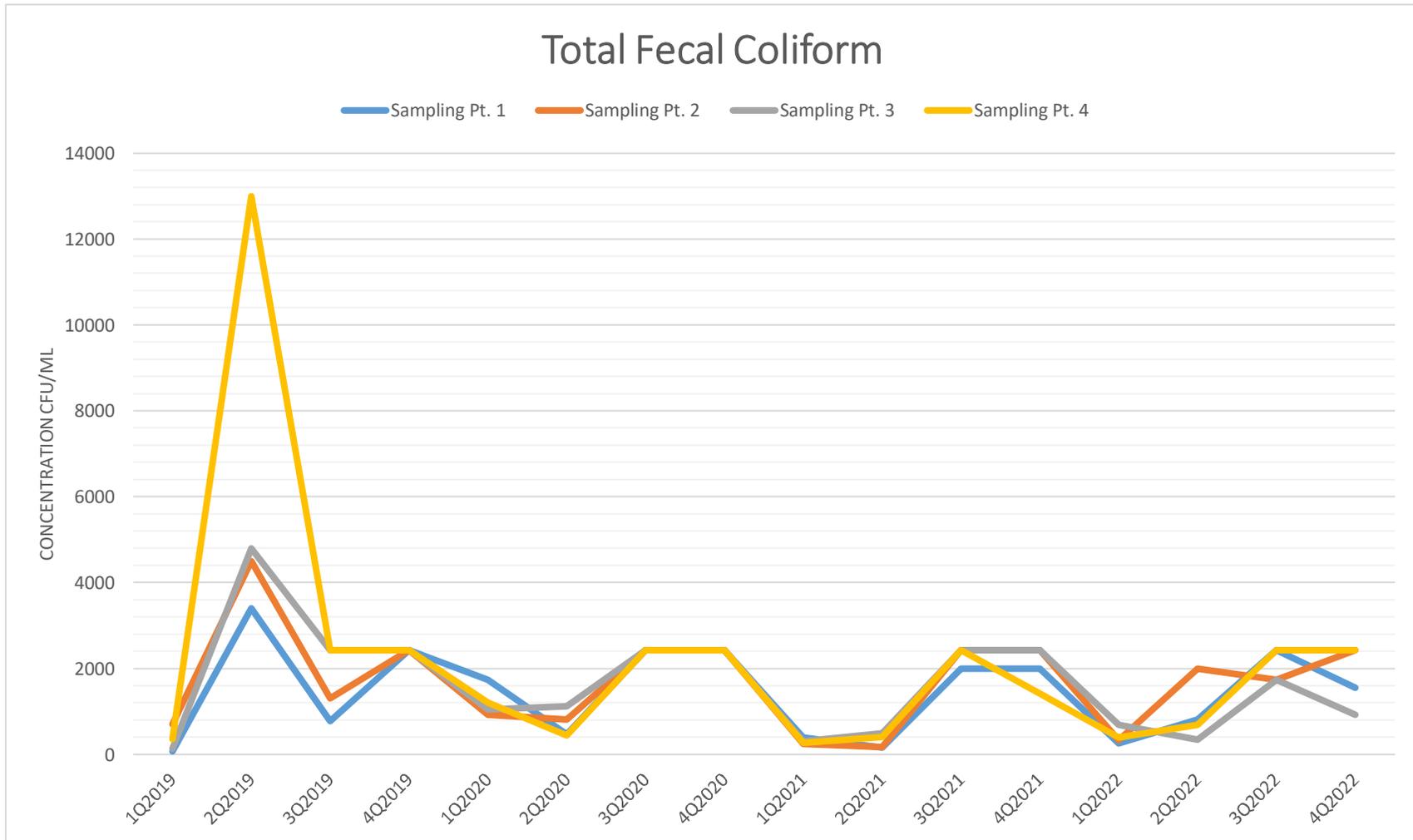


Table 1
Sampling Point 1 Laboratory Analytical Results
First through Fourth Quarters 2022

Parameters	Units	1Q2022	2Q2022	6/6/2022 (Dry)	7/21/2022 (Dry)	3Q2022	9/8/2022 (Dry)	11/21/2022 2 (Dry)	4Q2022	1Q2023
Chloride	mg/L	350	160	180		140			160	220
Oil and Grease	mg/L	<5	<5.1	<5.1		<5.0			<5	<5
Total Suspended Solids (TSS)	mg/L	28	<4	<4		<4			<4	8.8
Total Nitrogen	mg/L	2.2	<1.0	1.6		<1.0			<1	<1
Fecal Coliform	CFU/100 mL	261	816	1410	980	>2420	365	62.4	1550	488
Nitrate/Nitrite	mg/L	0.76	0.46	1.6		0.68			0.25	0.84
Phosphorous Total as P	mg/L	0.22	<0.1	<0.10		<0.10			<0.10	<0.1
Total Kjeldahl-Nitrogen (TKN)	mg/L	1.5	<1.0	<1.0		<1.0			<1.0	<1.0
Precipitation										
Last 24 hours	inch	0.73	0.6	0	0	0.26	0	0	0.74	0.67
Last 48 hours	inch	0.73	0.97	0	0	0.26	0	0	0.74	0.68

Notes:

> = greater than

< = less than

CFU/100 mL = colony forming units per 100 milliliters

mg/L = milligrams per liter

Prepared by: MAW

Checked by: JCG1

Table 2
Sampling Point 2 Laboratory Analytical Results
First through Fourth Quarters 2022

Parameters	Units	1Q2022	2Q2022	6/6/2022 (Dry)	7/21/2022 (Dry)	3Q2022	9/8/2022 (Dry)	11/21/2022 2 (Dry)	4Q2022	1Q2023
Chloride	mg/L	290	150	250		120			180	190
Oil and Grease	mg/L	<5	<5	<5.1		<5.1			<5.1	<5.1
Total Suspended Solids (TSS)	mg/L	31	52	<4		<4.0			<4	22
Total Nitrogen	mg/L	<1.0	1.6	<1		<1.0			<1.0	<1.0
Fecal Coliform	CFU/100 mL	326	1990	411	138	1730	145	46.4	>2420	980
Nitrate/Nitrite	mg/L	0.78	0.35	0.15		0.31			0.13	0.34
Phosphorous Total as P	mg/L	0.22	0.12	<0.1		<0.10			<0.10	<0.1
Total Kjeldahl-Nitrogen (TKN)	mg/L	<1.0	1.2	<1.0		<1.0			<1.0	<1.0
Precipitation										
Last 24 hours	inch	0.73	0.6	0	0	0.25	0	0	0.86	0.5
Last 48 hours	inch	0.73	0.97	0	0	0.25	0		0.86	0.5

Notes:

> = greater than

< = less than

CFU/100 mL = colony forming units per 100 milliliters

mg/L = milligrams per liter

Prepared by: MAW

Checked by: JCG1

Table 3
Sampling Point 3 Laboratory Analytical Results
First through Fourth Quarters 2022

Parameters	Units	1Q2022	2Q2022	6/6/2022 (Dry)	7/21/2022 (Dry)	3Q2022	9/8/2022 (Dry)	11/21/2022 2 (Dry)	4Q2022	1Q2023
Chloride	mg/L	440	310	340		160			240	280
Oil and Grease	mg/L	<5	<5	<5		<5.1			<5	<5.0
Total Suspended Solids (TSS)	mg/L	8.8	<4	<4		4.8			<4	4.4
Total Nitrogen	mg/L	1.9	<1.0	<1.0		<1.0			<1.0	<1.0
Fecal Coliform	CFU/100 mL	687	345	1300	687	1730	135	18.7	921	866
Nitrate/Nitrite	mg/L	0.88	0.17	0.4		0.27			0.13	0.32
Phosphorous Total as P	mg/L	0.21	<0.1	<0.10		0.11			<0.10	<0.1
Total Kjeldahl-Nitrogen (TKN)	mg/L	1	<1.0	<1.0		<1.0			<1.0	<1.0
Precipitation										
Last 24 hours	inch	0.73	0.6	0	0	0.25	0	0	0.86	0.5
Last 48 hours	inch	0.73	0.97	0	0	0.25	0		0.86	0.5

Notes:

> = greater than

< = less than

CFU/100 mL = colony forming units per 100 milliliters

mg/L = milligrams per liter

Prepared by: MAW

Checked by: JCG1

Table 4
Sampling Point 4 Laboratory Analytical Results
First through Fourth Quarters 2022

Parameters	Units	1Q2022	2Q2022	6/6/2022 (Dry)	7/21/2022 (Dry)	3Q2022	9/8/2022 (Dry)	11/21/2022 2 (Dry)	4Q2022	1Q2023
Chloride	mg/L	350	160	210		120			130	140
Oil and Grease	mg/L	<5	<5.1	<5		<5.1			<5.1	<5.1
Total Suspended Solids (TSS)	mg/L	23	12	<4		380			<4	8
Total Nitrogen	mg/L	<1	1.6	<1.0		<1.0			<1.0	<1.0
Fecal Coliform	CFU/100 mL	387	687	345	816	2420	345	308	>2420	>2420
Nitrate/Nitrite	mg/L	0.74	0.52	0.86		0.52			0.31	0.44
Phosphorous Total as P	mg/L	0.21	<0.1	0.1		0.12			<0.10	<0.1
Total Kjeldahl-Nitrogen (TKN)	mg/L	<1.0	1.1	<1.0		<1.0			<1.0	<1.0
Precipitation										
Last 24 hours	inch	0.73	0.6	0	0	0.41	0	0	0.87	0.4
Last 48 hours	inch	0.73	0.97	0	0	0.41	0		0.87	0.4

Notes:

> = greater than

< = less than

CFU/100 mL = colony forming units per 100 milliliters

mg/L = milligrams per liter

Prepared by: MAW

Checked by: JCG1



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	09-17-2002	
Sampling Location Point:	Sample Pt 1	
Sampling Personnel:	Dakota Ludwig	
Conditions of Sampling Point Location		

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	high volume	
	normal flow	
	no debris	
	Last 24 hours	Last 48 hours
Precipitation:	0.73"	0.73"
Current Outdoor Air Temperature:	32°F	
Current Weather Conditions:	Cloudy, Wind N 19 mph	

Water Sample Observations		
Odor:	none	
Appearance:		
Color:	brown	
Turbidity:	moderate	
Other:		

Additional Information/Comments

TOS 0950



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	02-17-2022	
Sampling Location Point:	Sample Pt 2	
Sampling Personnel:	Dakota Ludwig	

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	v. swift flow	
	milky brn in-site	
	no debris	
	Last 24 hours	Last 48 hours
Precipitation:	0.73"	0.73"
Current Outdoor Air Temperature:	31°F	
Current Weather Conditions:	Cloudy, wind N 17 mph	

Water Sample Observations

Odor:	none
Appearance:	brown
Color:	↓
Turbidity:	high
Other:	

Additional Information/Comments

TOS 09:30



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	02-17-2022	
Sampling Location Point:	Sample Pt 3	
Sampling Personnel:	Dakota Ludwig	

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Volume seem higher, normal flow no debris	
Precipitation:	Last 24 hours 0.73"	Last 48 hours 0.73"
Current Outdoor Air Temperature:	31°F	
Current Weather Conditions:	Cloudy, wind 15 mph	

Water Sample Observations

Odor:	none
Appearance:	
Color:	lt brn
Turbidity:	some
Other:	

Additional Information/Comments

TOS 09:15



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	02-17-2022		
Sampling Location Point:	Sample Pt 4		
Sampling Personnel:	Dakota Ludwig		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Swift flow	
	no visible debris	
Precipitation:	Last 24 hours	Last 48 hours
	0.73"	0.73"
Current Outdoor Air Temperature:	31°F	
Current Weather Conditions:	Cloudy, wind N 12 mph	

Water Sample Observations

Odor:	none		
Appearance:			
Color:	lt brown		
Turbidity:	moderate		
Other:			

Additional Information/Comments

TAS 0900



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	05-05-2022		
Sampling Location Point:	Sample Point 1		
Sampling Personnel:	Dakota Ladwig & Mark Williams		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Higher level, swift flow, no debris seen	
	upstream	
Precipitation:	Last 24 hours 0.60"	Last 48 hours TE DL 5-5-22 1.02"
Current Outdoor Air Temperature:	54°F	
Current Weather Conditions:	Rain	

Water Sample Observations

Odor:	None
Appearance:	light brown
Color:	"
Turbidity:	Medium
Other:	

Additional Information/Comments

TOS; 11:50



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	05-05-2022		
Sampling Location Point:	Sample Point 2		
Sampling Personnel:	Dakota Ludwig & Mark Williams		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	V. swift flow over rocks, high volume	
Precipitation:	Last 24 hours 0.60"	Last 48 hours 0.97"
Current Outdoor Air Temperature:	54°F	
Current Weather Conditions:	Rain	

Water Sample Observations

Odor:	Earthy
Appearance:	Milky brown
Color:	"
Turbidity:	high
Other:	

Additional Information/Comments

TDS; 11:30



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	05-05-2022		
Sampling Location Point:	Sample Point 3		
Sampling Personnel:	Dakota Ludwig & Mark Williams		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	High volume, swift flow. Some brush upstream.	
	Last 24 hours	Last 48 hours
Precipitation:	0.60"	0.77"
Current Outdoor Air Temperature:	50°F	
Current Weather Conditions:	Rain / Mist	

Water Sample Observations

Odor:	Earthy
Appearance:	v. light brown
Color:	"
Turbidity:	low
Other:	

Additional Information/Comments

TOS; 09:30



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	05-05-2022		
Sampling Location Point:	Sample Point 4		
Sampling Personnel:	Dakota Ladwig & Mark Williams		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Normal debris upstream; concrete rubble, tires, some downed trees.	
	Swift Flow	
	Last 24 hours 0.60"	Last 48 hours 0.77"
Precipitation:		
Current Outdoor Air Temperature:	50°F	
Current Weather Conditions:	Rain / Mist	

Water Sample Observations

Odor:	Earthy		
Appearance:	v. light brown		
Color:	"		
Turbidity:	low		
Other:			

Additional Information/Comments

TOS; 09:20



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	07/25/2022	
Sampling Location Point:	Sample Pt 1	
Sampling Personnel:	Mark Williams and Dakota Ladwig	

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	no visible debris	
Precipitation:	Last 24 hours 0.26'	Last 48 hours 0.26"
Current Outdoor Air Temperature:	82°	
Current Weather Conditions:	P. Cloudy	

Water Sample Observations

Odor:	none
Appearance:	clear
Color:	v. lt brn
Turbidity:	low
Other:	

Additional Information/Comments

TOS 1220

PRISM weather station "PEORIA-RGHAWLEY"



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	07/25/2022
Sampling Location Point:	Sample Pt 2
Sampling Personnel:	Mark Williams and Dakota Ladwig

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	low level, low → moderate flow	
	no visible debris	
Precipitation:	Last 24 hours 0.25"	Last 48 hours 0.25"
Current Outdoor Air Temperature:	85°F	
Current Weather Conditions:	P. cloudy	

Water Sample Observations

Odor:	none
Appearance:	clear
Color:	lt brn
Turbidity:	low
Other:	

Additional Information/Comments

TOS 1200

PRISM weatherstation "PEORIA-RGPWF"



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	07/25/2022		
Sampling Location Point:	Sample Pt 3		
Sampling Personnel:	Mark Williams and Dakota Ladwig		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	low level/flow	
Precipitation:	Last 24 hours	Last 48 hours
	0.25"	0.25"
Current Outdoor Air Temperature:	85°	
Current Weather Conditions:	P. Cloudy	

Water Sample Observations

Odor:	none
Appearance:	clear
Color:	lt brn
Turbidity:	Moderate
Other:	

Additional Information/Comments

TOS 1135

PRISM weather station "PEORIA-RGPWF"



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	07/25/2022	
Sampling Location Point:	Sample Pt 4	
Sampling Personnel:	Mark Williams and Dakota Ladwig	

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	low level, moderate flow	
	normal debris	
Precipitation:	Last 24 hours 0.41"	Last 48 hours 0.41'
Current Outdoor Air Temperature:	82°F	
Current Weather Conditions:	P. Cloudy	

Water Sample Observations

Odor:	none
Appearance:	clear
Color:	lt brown
Turbidity:	low - moderate
Other:	

Additional Information/Comments

TOS: 1100



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	11/28/2022
Sampling Location Point:	Sample Pt 1
Sampling Personnel:	Dakota Ladwig & Mark Williams

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	medium water level	
	moderate flow	
Precipitation:	Last 24 hours	Last 48 hours
	0.74"	0.74"
Current Outdoor Air Temperature:	50°F, M. Cloudy, wind S 0-5mph	
Current Weather Conditions:		

Water Sample Observations

Odor:	low
Appearance:	lt brn
Color:	"
Turbidity:	moderate
Other:	

Additional Information/Comments

Weather Station: PRISM "Peoria-IGHAWLEY"

TOS: 11:15 AM



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	11/28/2022
Sampling Location Point:	Sample Pt 2
Sampling Personnel:	Dakota Ladwig & Mark Williams

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	low water level	
	moderate flow	
Precipitation:	Last 24 hours 0.86"	Last 48 hours 0.86"
Current Outdoor Air Temperature:	47°F	
Current Weather Conditions:	M. Cloudy, Wind S 0-5mph	

Water Sample Observations

Odor:	low
Appearance:	light brown
Color:	" "
Turbidity:	moderate
Other:	

Additional Information/Comments

Weather Station: PRISM "Peoria-RGPWF"

TOS; 11:00



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	11/28/2022		
Sampling Location Point:	Sample Pt 3		
Sampling Personnel:	Dakota Ladwig & Mark Williams		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	low water levels	
	moderate flow	
Precipitation:	Last 24 hours	Last 48 hours
	0.86"	0.86"
Current Outdoor Air Temperature:	45°F	
Current Weather Conditions:	M. Cloudy, Wind S 0-5 mph	

Water Sample Observations

Odor:	low
Appearance:	light brown
Color:	''
Turbidity:	moderate
Other:	

Additional Information/Comments

Weather Station: PRISM "Peoria - RG PWF"

TOS: 10:40 AM



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	11/28/2022	
Sampling Location Point:	Sample Pt 4	
Sampling Personnel:	Dakota Ladwig & Mark Williams	

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	low water level	
	moderate flow	
Precipitation:	Last 24 hours 0.87"	Last 48 hours 0.87"
Current Outdoor Air Temperature:	42°F	
Current Weather Conditions:	M. Cloudy, Wind S 0-5 mph	

Water Sample Observations

Odor:	low
Appearance:	light brown
Color:	" "
Turbidity:	moderate
Other:	

Additional Information/Comments

Weather Station: PRISM "Peoria-RGBRADLEY"

TOS: 10:10 AM



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	06/06/2022
Sampling Location Point:	Sample Pt 1
Sampling Personnel:	Mark Williams & Dalesta Ludwig

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	v. low water level, slow flow	
Precipitation: *	Last 24 hours 3 days 0"	Last 48 hours 7 days 0.02"
Current Outdoor Air Temperature:	88°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	None
Appearance:	v. clear
Color:	none
Turbidity:	v. low
Other:	

Additional Information/Comments

TOS 12:55

* Via PRISM "Peoria - RGHAWLEY"

Dry weather background



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	06/06/2022
Sampling Location Point:	Sample Pt 2
Sampling Personnel:	Mark Williams & Dakota Ludwig

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	v. low water level, v. slow flow	
Precipitation:*	Last 24 hours 3 days 0"	Last 48 hours 7 days 0.04"
Current Outdoor Air Temperature:	88°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	None
Appearance:	Clear
Color:	None
Turbidity:	v. low
Other:	

Additional Information/Comments

	TOS 1235
	* Via PRISM "PEORIA_RGPWF"
	Dry weather background



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	06/06/2022
Sampling Location Point:	Sample Pt 3
Sampling Personnel:	Mark Williams & Dakota Ludwig

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	low water level, low flow rate	
Precipitation: *	Last 24 hours - 3 days 0"	Last 48 hours 7 days 0.04"
Current Outdoor Air Temperature:	88°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	None
Appearance:	Clear
Color:	v. light brown
Turbidity:	low
Other:	

Additional Information/Comments

TOS 12:20

* Via PRISM "PEORIA - RG PWF"

Dry weather background



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	06/06/2022
Sampling Location Point:	Sample Pt 4
Sampling Personnel:	Mark Williams & Dakota Ludwig

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	v. low level, v. low flow rate	
	Last 24 hours 3 days	Last 48 hours 7 days
Precipitation: *	0"	0.11"
Current Outdoor Air Temperature:	87°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	None
Appearance:	Clear
Color:	None
Turbidity:	v. low
Other:	

Additional Information/Comments

TOS 1205

* via PRISM "PEORIA-RGBRADLEY"

Dry weather background



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	07/21/2022
Sampling Location Point:	Sample Pt 1
Sampling Personnel:	Dakota Ludwig

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	v. low flow/level	
	no visible debris upstream	
	Last 24 hours 3 days	Last 48 hours 7 days
Precipitation:	0"	0.52"
Current Outdoor Air Temperature:	92°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	none
Appearance:	clear
Color:	none
Turbidity:	v. low
Other:	

Additional Information/Comments

TOS ; 11:55

* Via PRISM "Peoria - RGHAWLEY"

Dry Weather Background



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	07/21/2022	
Sampling Location Point:	Sample Pt 2	
Sampling Personnel:	Dakota Ludwig	

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	v. low level / flow	
	no debris visible	
Precipitation:	Last 24 hours 3 days 0.09"	Last 48 hours 7 days 0.50"
Current Outdoor Air Temperature:	94°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	none
Appearance:	clear
Color:	none
Turbidity:	v. low
Other:	

Additional Information/Comments

TOS ; 11:40

* Via PRISM "Peoria - RGPWF"

Dry weather Background



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	07/21/2022		
Sampling Location Point:	Sample Pt 3		
Sampling Personnel:	Dalesta Ladwig		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	v. low flow / level	
	No visible debris	
Precipitation:	Last 24 hours 3 days 0.09"	Last 48 hours 7 days 0.50"
Current Outdoor Air Temperature:	93°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	none
Appearance:	clear
Color:	none
Turbidity:	v. low
Other:	

Additional Information/Comments

TOS: 11:20 AM
 * Via PRISM "Peoria - RGPWF"

Dry Weather Background



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	07/21/2022		
Sampling Location Point:	Sample PE 4		
Sampling Personnel:	Dakota Ladwig		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	V. low water level	
	usual concrete & tire upstream	
Precipitation:	Last 24 hours 3 day 0"	Last 48 hours 7 day 0.43"
Current Outdoor Air Temperature:	91° F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	Earthy
Appearance:	Clear
Color:	1"
Turbidity:	v. low
Other:	

Additional Information/Comments	TOS 11:05
	* Via PRISM "Peoria - RGBRADLEY"
	Dry Weather Background



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	09/08/2022
Sampling Location Point:	Sample Pt 1
Sampling Personnel:	Dakota Ladwig

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Normal conditions	
	low water level	
Precipitation:	Last 24 hours 3 days 0.00"	Last 48 hours 7 days 0.00"
Current Outdoor Air Temperature:	75°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	none
Appearance:	clear
Color:	none
Turbidity:	none
Other:	

Additional Information/Comments

PRISM Weather Station "PEORIA-RGHAWLEY"

Dry weather sample

TOS: 1135



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	09/08/2022		
Sampling Location Point:	Sample Pt 2		
Sampling Personnel:	Dakota Ladwig		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Normal conditions	
	Low water level	
Precipitation:	Last 24 hours 3 days 0.00"	Last 48 hours 7 days 0.00"
Current Outdoor Air Temperature:	75°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	none
Appearance:	v. lt brown
Color:	1"
Turbidity:	low
Other:	

Additional Information/Comments

PRISM Weather Station "PEORIA_RGPWF"
 Dry weather sample
 TOS 11:20



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling		
Date:	09/08/2022		
Sampling Location Point:	Sample Pt 3		
Sampling Personnel:	Dakota Ladwig		

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Normal conditions	
	low water level	
Precipitation:	Last 24 hours 3 days 0.00"	Last 48 hours 7 days 0.00"
Current Outdoor Air Temperature:	74°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	None
Appearance:	v. lt brown
Color:	"
Turbidity:	low
Other:	

Additional Information/Comments

PRISM Weather Station "PEORIA_RGPWF"
 Dry weather sample
 TOS 11:05



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	09/08/2022
Sampling Location Point:	Sample Pt 4
Sampling Personnel:	Dakota Ladwig

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	More trash (plastic bags, bottles, etc.) in addition to normal tires & concrete debris	
	low water level	
Precipitation:	Last 24 hours 3 days 0.00"	Last 48 hours 7 days 0.18"
Current Outdoor Air Temperature:	73°F	
Current Weather Conditions:	Sunny	

Water Sample Observations

Odor:	none
Appearance:	v. lt brn
Color:	"
Turbidity:	low
Other:	

Additional Information/Comments

PRISM weather station "PEORIA-RGBRADLEY"
 Dry weather sample
 TOS 1045
 Bradley Park Stormwater site checked, dry



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	11-21-2022
Sampling Location Point:	Sample Pt 1
Sampling Personnel:	Dakota Ladwig & Mark Williams

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Normal debris, frozen upstream	
	Water level low, v. slow rate of flow	
Precipitation:	Last 24 hours - 3 days 0.00"	Last 48 hours - 7 days 0.18"
	Current Outdoor Air Temperature: 48°F	
Current Weather Conditions: Sunny, wind SW 10 mph		

Water Sample Observations

Odor:	Algae
Appearance:	M. Clear
Color:	None
Turbidity:	Moderate
Other:	

Additional Information/Comments Dry weather background, Fecal only

 Rain Gauge: "PEORIA-AGHAWLEY"

 TOS; 11:25 AM



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling
Date:	11-21-2022
Sampling Location Point:	Sample Pt 2
Sampling Personnel:	Dakota Ladwig & Mark Williams

Conditions of Sampling Point Location

Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Normal debris upstream	
	v. low water level, low flow rate	
Precipitation:	Last 24 hours 3 days	Last 48 hours 7 days
	0.00"	0.25"
Current Outdoor Air Temperature:	46°F	
Current Weather Conditions:	Sunny, Wind SW 10 mph	

Water Sample Observations

Odor:	None
Appearance:	W. Clear
Color:	None
Turbidity:	Moderate
Other:	

Additional Information/Comments

Weather Station; PRISM "PEORIA-RG PWF"

Dry weather background, fecal only

TOS; 10:55 AM



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	11-21-2022	
Sampling Location Point:	Sample Pt 3	
Sampling Personnel:	Dakota Ladwig & Mark Williams	
Conditions of Sampling Point Location		
Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Slightly frozen upstream	
Precipitation:	Last 24 hours 3 days 0.00"	Last 48 hours 7 days 0.25"
Current Outdoor Air Temperature:	38°F	
Current Weather Conditions:	Sunny, Wind SW 10mph	
Water Sample Observations		
Odor:	none	
Appearance:	clear	
Color:	none	
Turbidity:	low	
Other:		
Additional Information/Comments	Dry weather background, fecal only	
	Weather Station; PRISM "PEORIA - RG PWF"	
	TOS; 10:40 AM	



Storm Water Sample Collection Form

Proj. Name:	City of Peoria, IL - Storm Water Sampling	
Date:	11-21-2022	
Sampling Location Point:	Sample Pt 4	
Sampling Personnel:	Dakota Ladwig & Mark Williams	
Conditions of Sampling Point Location		
Observations of Sampling Point Location (e.g., debris, downed trees, erosion, excessive sediment, etc.):	Normal debris	
	v. low water level & flow	
Precipitation:	Last 24 hours 3 days 0.00"	Last 48 hours 7 days 0.22"
Current Outdoor Air Temperature:	38°F	
Current Weather Conditions:	Sunny, Wind SW 10 mph	
Water Sample Observations		
Odor:	none	
Appearance:	clear	
Color:	none	
Turbidity:	low	
Other:		
Additional Information/Comments	Dry weather background, fecal only	
	PRISM Weather Station: "PEORIA-RGBRADLEY"	
	TOS; 10:30 AM	