

REPORT OF COMPLIANCE SAMPLING INSPECTION (CSI)

AT

**CCUA Regional Wastewater Treatment Facility
5551 North Broadway
Park City, KS 67219**

NPDES NO: KS0089176
State ID #: M-LA19-OO02

February 21-24, 2023

BY

**U. S. ENVIRONMENTAL PROTECTION AGENCY
Region 7
Enforcement and Compliance Assurance Division (ECAD)**

INTRODUCTION

I performed a Compliance Sampling Inspection (CSI) at the Chisolm Creek Utility Authority (CCUA) Regional Wastewater Treatment Facility (WWTF) in Park City, Kansas from February 21 through February 24, 2023. The inspection was authorized by Section 308(a) of the Federal Water Pollution Control Act, as amended. This narrative report presents the findings of the inspection.

PARTICIPANTS

Chisolm Creek Utility Authority

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PROCEDURES

I arrived, unannounced, at the CCUA WWTF at 13:40 hours on February 21, 2023. I spoke with Anthony (Tony) Kientz, Utilities Manager. I introduced myself, presented my credentials, and explained the purpose of my visit. I then discussed the general procedures for the inspection. These procedures included completing the Water Compliance Inspection Report (attachment 1a) and the Biosolids Facility Inspection Form (attachment 1b); conducting a facility walk-through with photos (attachment 2); reviewing self-monitoring records; collecting influent and effluent samples; and completing an exit interview.

From February 21, 2023, through February 23, 2023, I collected 24-hour composite samples of the influent from the WWTF's automatic composite sampler. Samples were collected in evenly spaced aliquots every thirty minutes into a clean Nalgene bottle, which was stored in a chilled sampler. Each day, I removed the bottle, agitated its contents and poured them into clean, pre-labeled polyethylene containers for the analysis of biochemical oxygen demand (BOD), non-filterable solids (NFS), ammonia (NH₃), nitrate plus nitrite (NO₃+NO₂), total kjeldahl nitrogen (TKN), total phosphorus (TP), lead (P), chloride (Cl) and sulfate (SO₄). At the time of sampling, I preserved the NH₃, NO₃+NO₂, TKN and TP samples with 5 mL of sulfuric acid (H₂SO₄) and the Pb sample with nitric acid (HNO₃). I collected a grab sample from the same location to measure the pH and temperature using a field meter. These analyses were conducted within 15 minutes of collecting the sample. Flow numbers were determined by collecting the facility's daily flow data during my inspection.

On the same days, I collected 24-hour composite samples of the effluent from the WWTF's automatic composite sampler. Samples were collected in evenly spaced aliquots every thirty minutes into a clean Nalgene bottle, which was stored in a chilled sampler. I removed the bottle, agitated its contents and poured them into clean, pre-labeled polyethylene containers for the analysis of BOD, NFS, NH₃, NO₃+NO₂, TKN, TP, Pb, Cl and SO₄. At the time of sampling, I preserved the NH₃, NO₃+NO₂, TKN and TP samples with 5 mL of H₂SO₄ and the Pb sample with HNO₃. I also collected a grab sample from the same location to measure the pH and temperature using a field meter. These analyses were conducted within 15 minutes of collecting the sample. Flow numbers were determined by collecting the facility's daily flow data during my inspection.

On February 23, 2023, I collected discrete samples from multiple areas of the facility's biosolids storage area using a pan. I thoroughly mixed the discrete samples to composite them and then transferred the composite sample to a 32oz glass jar. The sample was submitted for the analysis of metals in solids, percent solids, and TP in soil.

For both days of sampling, I placed the samples I collected on ice in an insulated cooler, sealed the container, and shipped it overnight to the EPA Region 7 Science and Technology Center (STC) for analysis. Electronic field sheets and electronic chain of custody forms were emailed to the STC each day after samples were shipped. I followed Region 7 Laboratory Services and Applied Science Division (LSASD) standard operating procedures in the collection, packaging, transportation, and handling of the samples.

FACILITY DESCRIPTION

The CCUA WWTF is owned and operated by the CCUA. The WWTF is located approximately one-half mile west of Interstate 135 on the south side of Park City, KS. The latitude and longitude of the plant are 37.78393° N and -97.33745° W, respectively, in Sedgwick County, Kansas. The WWTP consists of an influent headworks, a mechanical bar screen, grit removal, three-unit sequencing batch reactors, SBR effluent equalization basin, ultraviolet (UV) disinfection and cascade reaeration (attachment 3). Sludge flows to one primary and two secondary aerobic sludge digestors and then to a sludge dewatering belt press. From the belt press, biosolids (dewatered sludge) is stored in a biosolids storage building. As described in the permit, effluent from the WWTF discharges through outfall 001 to Chisolm Creek in the Little Arkansas River basin. The WWTP treats domestic wastewater from the cities of Bel Aire and Park City and local industrial users from both of those cities.

The WWTP's National Pollutant Discharge Elimination System (NPDES) Permit KS0089176 was reissued on August 1, 2021 (attachment 4). The permit expires on November 30, 2022. The permit includes concentration effluent limits at outfall 001 for BOD, total suspended solids (TSS), NH₃, E. coli, and pH. The permit requires that the facility also monitor their effluent for TKN, NO₃+NO₂, TN, TP, sulfates and flow. The permit requires that the facility monitor their influent for BOD, TSS, TKN and TP. The permit also requires a minimum 85% removal of BOD and TSS. The permit has effluent goals set for TN and TP. The permit also requires that the facility maintain compliance with the sludge regulations in 40 CFR Part 503. The permit specifically states that while the CCUA is the owner and permit holder, the cities of Bel Aire and Park City are jointly liable for compliance with the permit.

The facility was last inspected by KDHE on November 24 and December 18, 2020 (attachment 5). The inspection found that the facility must find an accurate method for calibrating flow meters. The inspection also found that the Park City collection system must secure lift stations, control fat, oil, and grease (FOG) at lift stations and provide a tentative timeline for the replacement of the Grove lift station.

FINDINGS AND OBSERVATIONS

The following findings were noted during the plant walk-through and records review. A summary is provided in the Water Compliance Inspection Report (attachment 1a) and the Biosolids Facility Inspection Form (attachment 1b). These findings were discussed with Mr. Kientz during the exit meeting.

Self-Monitoring Data Review:

Prior to the inspection, I obtained a spreadsheet of the discharge monitoring report (DMR) data for the CCUA WWTF from the EPA Region 7 data team. The spreadsheet containing the DMR reports included data from February 2018 through December 2022. Facility personnel provided me with copies of the facility's DMRs and analytical reports that were used to submit the DMR values. All DMR data obtained for this report can be found on ECAD's electronic file

management system.

My review of the WWTP's self-monitoring data found that the facility exceeded their TSS limits 15 times, NH3 limits nine times, and their BOD limits five times in the time frame listed above. These exceedances can be found in Tables 1 - 3. The facility also failed to remove 85% of BOD 10 times and TSS 30 times in this same time period (attachment 6). This is noted as item #1 on the Notice of Preliminary Findings (NOPF) that was left on-site.

Table 1: Reported Effluent Limit Exceedances for TSS (mg/l)

Date	Limit	Reported Value
1-31-18	45 (weekly avg)	45.7
3-31-19	30 (monthly avg)	91.25
3-31-19	45 (weekly avg)	300
10-31-21	30 (monthly avg)	31.6667
10-31-21	45 (weekly avg)	56
1-31-22	30 (monthly avg)	40.5
1-31-22	45 (weekly avg)	110
2-28-22	30 (monthly avg)	37.5667
2-28-22	45 (weekly avg)	65
3-31-22	30 (monthly avg)	48
3-31-22	45 (weekly avg)	67.5
5-31-22	30 (monthly avg)	57.4333
5-31-22	45 (weekly avg)	88.3
8-31-22	30 (monthly avg)	49.6
8-31-22	45 (weekly avg)	202

Table 2: Reported Effluent Exceedances of NH3 (mg/l)

Date	Limit	Reported Value
8-31-20	1.7 (monthly avg)	2.7225
9-30-20	2.3 (monthly avg)	3.0425
2-28-22	2.3 (monthly avg)	3.2325
3-31-22	2.0 (monthly avg)	7.6625
4-30-22	1.4 (monthly avg)	1.865
4-30-22	6.1 (daily max)	6.23
5-31-22	1.0 (monthly avg)	1.6725
6-30-22	0.8 (monthly avg)	1.27
6-30-22	3.1 (daily max)	3.59

Table 3: Reported Effluent Exceedances of BOD (mg/l)

Date	Limit	Reported Value
3-31-19	25 (monthly avg)	29.45
3-31-19	40 (weekly avg)	87.1
4-30-21	40 (weekly avg)	49.3
5-31-22	20 (monthly avg)	23.3667
5-31-22	35 (weekly avg)	41.6

Sample Results

The analytical results from the inspection were received on March 24, 2023, from the R7 STC laboratory. This data was not discussed during the exit interview. The analytical results from influent sampling conducted during the inspection at the CCUA WWTF for BOD, TSS (identified as NFS, non-filterable solids, in EPA's laboratory sheets), NH₃, TKN, NO₃+NO₂, TN, TP, Pb, Cl, SO₄ temperature, pH and flow are presented in Table 4 below. The analytical results from effluent sampling conducted during the inspection at the CCUA WWTP for BOD, TSS, NH₃, TKN, NO₃+NO₂, TN, TP, Pb, Cl, SO₄, temperature, pH, and flow are presented in Table 5 below. The removal rates for BOD and TSS are also included in Table 5. See attachment 7 for the complete analytical data packet including the analytical results from samples collected during the inspection. Analytical results for the sludge sample that was taken on February 23, 2023, can also be found in attachment 7.

As described in attachment 7, for results followed by a J, the analyte is acceptable; the reported value is an estimate. For results followed by a U, the analyte was not detected at or above the reporting limit. The number that is shown is the reporting limit. For results followed by an O, the parameter was not analyzed.

Table 4: Analytical Results for Influent Samples Collected During Inspection

Parameter	(February 22) Sample #1	(February 23) Sample #2
BOD5 (mg/L)	231	247
TSS (mg/L)	184	202
NH3 (mg/L)	42.5	49.2
TKN (mg/L)	53.6	52.4
NO3+NO2 (mg/L)	ND	0.117
TN (mg/L)	53.6	52.5
TP (mg/L)	7.4	7.20
Pb (mg/L)	1.01	ND
Cl (mg/L)	201	189
SO4 (mg/L)	98.3	98.7
Temperature (°C) ²	ND	ND
pH ²	ND	ND
Flow (MGD)	0.986	1.103

¹mg/L = milligrams per liter.

²°C = degrees Celsius, pH is not to be averaged, pH and temperature were measured in the field.

Table 5: Analytical Results for Effluent Samples Collected During Inspection

Parameter	(February 22) Sample #1	(February 23) Sample #2	Permit Limits ³
BOD5 (mg/L)	25.6J	14.9J	30/45
TSS (mg/L)	85.7	69.4	30/45
NH3 (mg/L)	0.205	0.662	2.3/9.0
TKN (mg/L)	8.27	4.13	Monitor
NO3+NO2 (mg/L)	4.79	5.72	Monitor
TN (mg/L)	13.1	9.85	10.0 (goal)
TP (mg/L)	2.57	0.948	1.0 (goal)
Pb (mg/L)	NDUJ	ND	NA
Temperature (°C)²	ND	ND	N/A
pH²	ND	ND	6.0-9.0
Flow (MGD)	1.197	1.065	Monitor
TSS Removal (%)	53.4	65.6	>85
BOD Removal (%)	89.0	93.7	>85

¹mg/L = milligrams per liter.

²°C = degrees Celsius, pH is not to be averaged, pH and temperature were measured in the field.

³Permit limits for CBOD and TSS are Monthly followed by Weekly Averages. Permit limits for NH3 are monthly average followed by daily maximum.

Effluent samples collected on both days showed effluent exceedances for TSS. Samples collected also showed exceedances of TN and TP goals on the first day. Calculations also showed the facility did not adequately remove TSS on both days. The sludge sample collected showed the facility's sludge exceeded ceiling limits for selenium at the time of inspection. The ceiling limit for selenium is 100 mg/kg and the result of the sample collected was 211 mg/kg.

Laboratory

The facility uses Meridian Analytical Labs, in Wichita and Mound Valley, Kansas to analyze wastewater samples. The facility uses Pace Analytical in Lenexa, Kansas to analyze sludge samples. The facility only conducts process control analyses on-site. The facility is certified by KDHE for the analysis of pH and dissolved oxygen (DO). During the inspection, I reviewed laboratory records to ensure that all analyses complied with requirements of 40 CFR Part 136. These records can be found on ECAD's electronic file management system. I noted that all holding times were met and all methods appeared to meet requirements of 40 CFR Part 136.

Collection System

CCUA does not manage a collection system. CCUA treats wastewater for the cities of Bel Aire and Park City, both of which operate their own collection system. During my inspection, I met with representatives from each city separately and inspected each collection system.

Bel Aire

On February 23, 2023, I inspected the Bel Aire collection system. The city of Bel Aire has five lift stations (photos 10-14). All five lift stations have on-site generators, with a third-party service contract. All of the lift stations except one are on the city's supervisory control and data acquisition (SCADA) system, with remote operation capabilities. City personnel explained that they will be adding the last lift station to the SCADA system in the next couple months after my inspection. At the time of inspection, the system was two years into a three-year project to re-line the entire collection system. They expected the last portion of the project to be completed later in 2023. The 37th Street and 53rd Street lift stations both pump directly to CCUA. Facility personnel estimate that the 53rd street lift station collects approximately 50% of the city's flow and has a working flow meter. The 37th street lift station does not have a flow meter. The city uses pump hours to determine flow. All lift stations are cleaned three times per year by a third-party contractor, according to facility personnel. At the time of inspection, the lift stations all appeared to be in good working order and did not contain excessive amounts of FOG.

During wet weather, CCUA personnel stated that they receive high volumes of flow from the collection systems. I explained this to Bel Aire personnel and explained that the City needs to continue to work on inflow and infiltration (I&I) as they have. This was noted as item #6 on the NOPF that was left on-site.

Park City

On February 24, 2023, I inspected the Park City collection system. The city of Park City has six lift stations. All of the city's lift stations are on SCADA. The Main lift station collects all wastewater from Park City prior to going to CCUA. It is located at the city's old wastewater plant. It consists of a mechanical bar screen (photo 20) and a comminutor. During high flow events, the city can bypass the lift station and collect wastewater in an extraneous flow basin (photo 17), which holds approximately four days of flow according to system personnel. If the extraneous flow basin fills up, they can direct the bypass to a "kidney" shaped extraneous flow pond. My inspection of the extraneous flow pond found the berms to be overgrown with large trees and brush (photos 15-16). This pond apparently was used as part of the old Park City WWTF but has been dry most of the time since it was shuttered. The city should ensure that this pond is properly built to hold untreated wastewater during high flow events. This is noted as item #7 in the summary of this report.

During my inspection of the city's lift stations, I found multiple lift stations had a large amount of FOG (photos 17-28). I found the 85th Street lift station and the Broadway lift station to be about 50% covered in FOG. I observed the Grove and 53rd Street lift stations to be about 70-75% covered in FOG and the Primrose lift station was approximately 25% cover in FOG. I asked the city personnel if they had a regular cleaning program for the lift stations, and they stated they did not. They explained they treat lift stations with "Purple Power" and/or "Energizer" degreasers. This was noted as item #4 on the NOPF that was left on-site.

Facility personnel explained that the collection system has not been re-lined and none of the

manholes have been rehabbed. It is suspected that the collection system has a large amount of inflow and infiltration (I&I) but cannot be properly determined due to lack of flow meters between the two collection systems. City personnel stated that they currently have a third party conducting an I&I study to determine the best way to fix the collection system. The city has budgeted for 2023 to rehabilitate five manholes, repair the Grove lift station and begin relining collection lines. I explained that I&I in the collection system needs to be controlled so the WWTF is not overloaded during wet periods. This was noted as items #3 and #6 on the NOPF that was left on-site.

Operation and Maintenance

During the inspection, I observed the treatment system, the facility outfall, and the sludge management system (attachment 3). The treatment plant consists of an influent wet well and pump station, a mechanical bar screen (photo 1), grit removal (photo 2), three-unit sequencing batch reactors (SBR) (photos 6), SBR effluent equalization basin (photo 7), and ultraviolet (UV) disinfection (photo 3). From the UV disinfection system, water flows to a cascade aerator (photo 9) and is discharged from outfall 001 (photo 8).

During my inspection, I asked about the facility's TSS and BOD exceedances. Facility personnel explained that Mr. Kientz has been Utilities Manager since August 2022. Prior to Mr. Kientz being promoted, they had old facility personnel that would change treatment operations without discussion or notification of the other operators. This led to short cycling the SBRs, which in turn lead to incomplete treatment. Mr. Kientz and Ms. Miller both stated that since Mr. Kientz was promoted, they have had almost no exceedances of effluent limits. Tables 1-3 generally coincide with the timeline that they described.

Facility personnel also stated that they believe some of the effluent limit issues are due to industrial wastewater. The facility's permit and fact sheet do not list any high strength industrial discharges, but the area has a high number of industrial facilities. Facility personnel stated that there is a truck washing business, Sani-Kleen, that washes out tank trailers. When we drove by this business during our inspection of the Park City collection system, it appeared that this business was washing out dairy trucks, which tend to generate high levels of BOD. Mr. Kientz also stated that he has found metal shavings in the plant influent on multiple occasions when sampling. He stated he believes this material is coming from the collection system and not on-site equipment. A quick internet search shows there are numerous manufacturers, include metal fabricators and aerospace manufacturing that are on the collection systems. I explained to Mr. Kientz that CCUA, Bel Aire and Park City all need to conduct a thorough investigation into industrial discharges within their collection system and ensure they are not receiving any high strength wastewater that they are unaware of. This was noted as item #5 on the NOPF that was left on-site.

Biosolids (Sludge)

Sludge from the clarifiers goes to a primary aerobic digester, then to two secondary aerobic digestors (photo 7). From the digestors, sludge is dewatered through a belt press and stored in a

covered biosolids storage building. Biosolids is then land applied by a third-party contractor. The facility submits annual sludge reports to EPA. Their sludge reports and sampling records show that they have not exceeded metals concentrations. The facility meets pathogen reduction requirements by sampling for fecal coliform and using aerobic digestion. Vector attraction reduction requirements are met by volatile solids reduction and timely incorporation of sludge into the soil. In 2022, the facility land applied 1265.2 dry tons of biosolids. The system's biosolids records are available on ECAD's electronic file management system.

The sludge sample collected showed the facility's sludge exceeded ceiling limits for selenium at the time of inspection. The ceiling limit for selenium is 100 mg/kg and the result of the sample collected was 211 mg/kg.

Stormwater

During my inspection, I asked facility personnel for a copy of their Stormwater Pollution Prevention Plan (SWPPP). Mr. Kientz stated the facility does not have a SWPPP. I explained to Mr. Kientz and Ms. Miller that because the facility was designed to treat more than one million gallons per day, the facility was required to submit a Notice of Intent (NOI) to KDHE for coverage under the industrial stormwater general permit, as required by 40 CFR 122.26(b)(14)(xi). This was noted as item #2 on the NOPF.

Summary

On February 24, 2023, I conducted an exit briefing with Mr. Kientz. In the exit briefing, I explained the preliminary findings that I observed during the inspection. A NOPF was left on site with the following findings (Attachment 8):

1. Failure to meet effluent limits.
2. Failure to obtain stormwater coverage under KDHE stormwater permit.
3. System needs to determine source of I&I to correct.
4. Park City collection system must manage FOG.
5. Park City and CCUA need to investigate industrial discharges and ensure high strength waste is not affecting treatment plan.
6. Continue to work on correcting I&I issues in all collection systems.

Preliminary findings determined after the inspection:

7. Ensure Park City extraneous stormwater pond is properly designed and built to hold untreated wastewater.

At the time of the writing of this report, no response had been received from the facility addressing any of the potential findings cited during the inspection.

**BRIAN
D'ALFONSO**
Brian D'Alfonso
Biologist

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D'ALFONSO
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**Moran,
Nicole**
Nicole Moran
Section Chief, ECAD/WB/DWIS

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Attachments:

1. Inspection Forms:
 - a. Water Compliance Inspection Report 3560-3 (4 pages)
 - b. Biosolids Facility Inspection Form (3 pages)
2. Digital Photographs with Photo Log (16 pages)
3. Site Aerial Map and Layout (1 page)
4. NPDES Permit KS0089176 issued on August 1, 2021 (14 pages)
5. March 11, 2021, KDHE Inspection (69 pages)
6. BOD and TSS removal efficiency (1 page)
7. Laboratory Analytical Report for BDA2303 (28 pages)
8. February 24, 2023, Notice of Preliminary Findings (1 pages)