

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	07/13/2023 and 08/16/2023	
Media Program:	Water	
Regulatory Program(s)	CWA – NPDES	
Company Name:	Espanola, City of	
Facility Name:	Espanola Wastewater Treatment Plant	
Facility Physical Location:	308 Lower San Pedro Road	
(city, state, zip code)	Espanola, New Mexico 87532	
Mailing address:	405 N. Paseo de Oate	
(city, state, zip code)	Espanola, New Mexico 87532	
County/Parish:	Rio Arriba	
Facility Phone Number	505-747-6186	
Facility Contact:	Rodney Talcott	WWTP Superintendent
	ratalcott@espanolanm.gov	
FRS Number:	110039938583	
Identification/Permit Number:	NM0029351	
Media Identifier Number:		
NAICS:	221320	
SIC:	4952	
Personnel participating in inspection:		
<i>Name</i>	<i>Affiliation/mailcode</i>	<i>Title</i>
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Rodney Talcot	City of Espanola	WWTP Superintendent
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EPA Lead Inspector Signature/Date	AMY ANDREWS AMY ANDREWS c=US, o=U.S. Government, ou=Environmental Protection Agency, cn=AMY ANDREWS, 0.9.2342.19200300.100.1.1=68001003655888 2023.10.05 13:09:03 -06'00'	
	Amy Andrews	Date
Supervisor Signature/Date	ROBERTO BERNIER Digitally signed by ROBERTO BERNIER Date: 2023.10.05 14:16:14 -05'00'	
	Roberto Bernier	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

Environmental Protection Agency (EPA) Region 6 inspector, Amy Andrews, and New Mexico Environment Department (NMED) inspector, Jason Martinez, arrived at the City of Española Wastewater Treatment Plant (WWTP) at 10:00 AM on July 13, 2023, for an unannounced inspection. We met with Rodney Talcott, the WWTP Superintendent for the Opening Conference. I presented my credentials to Mr. Talcott and informed him that this was an EPA inspection to determine compliance with the facility's National Pollutant Discharge Elimination System (NPDES) permit and the Clean Water Act (CWA). The inspection was conducted under the authority of the NPDES permit program, in accordance with the Federal CWA. The inspection was continued remotely using Microsoft Teams on August 16, 2023, for an in-depth laboratory review with EPA Region 6 inspectors, Magda Vargas, and Amy Andrews. This report is based on information supplied by City of Española representatives (the permittee), observations made by the EPA inspectors, and records and reports maintained by the permittee and the EPA.

FACILITY DESCRIPTION

The Española WWTP is classified as a major industrial discharger under the CWA, Section 402, of the NPDES permit program and is authorized to discharge up to 2.0 million gallons per day (MGD) based on design flow, with an actual average discharge around 0.9 MGD. The population served is approximately 10,500 residents according to 2020 United States Census. Discharge is to receiving waters of the Rio Grande River, which is within the boundaries of the Pueblo of Santa Fe reservation in waterbody segment 20.6.4.114 (NMAC, State of New Mexico Standards for Interstate and Intrastate Surface Waters) of the Rio Grande Basin. This segment includes the designated uses of irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, primary contact and warmwater aquatic life, and public water supply.

The Espanola WWTP is an extended-aeration serpentine, activated sludge plant. Influent wastewater is brought into the treatment plant from seven (7) lift stations via two separate influent pipes at the entrance works, passing through mechanical bar screens with a 3/8-inch opening and an aerated grit tank where the grit slurry is sent to a cyclone for grit removal. Wastewater from the aerated grit tank is sent via influent lift pumps to a splitter box which has the influent Parshall Flume flow meter with ultrasonic secondary flow meter. The splitter box previously would have sent the wastewater to one of two separate treatment basins and associated clarifiers. One set is the original aeration basin/clarifier designated as north/south and the second set is the newer systems designated east/west system. Facility personnel stated that the north/south (original) basins are no longer being used and are currently empty.

Treated effluent flow from both basin systems would combine and then be sent to the ultraviolet (UV) bacteria control building. The UV system is a Trojan UV3000PTP with four banks of 32 UV bulbs each. The flow is then metered through the effluent Parshall Flume with an ultrasonic secondary flow meter and discharged through Outfall 001 to the Rio Grande.

The clarifiers introduce the return activated sludge (RAS) to the front of each aeration basin where it combines with the flow from the primary clarifiers. Waste activated sludge (WAS) and scum are removed and sent to the thickening centrifuges. Sludge is extracted from and sent to thickening/dewatering centrifuges and then to the digester. Combined digested sludge systems is sent to the drying beds. Facility personnel stated that they are interested in certifying their biosolids for Class A application and reuse, however they do not have the procedures and laboratory testing processes set up to do so. Biosolids were previously sent to the Cerro Colorado Landfill in Albuquerque, but now are being held indefinitely at the WWTP in anticipation of the Class A certification.

The facility's laboratory is not accredited under national or private programs. The laboratory performs sample analyses of the following parameters for compliance with their respective NPDES permit: Dissolved Oxygen (DO), *E. coli*, pH, 5-Day Carbonaceous Biochemical Oxygen Demand (5-Day CBOD), Chlorine Residual (Cl_2), and Total Suspended Solids (TSS). The laboratory performs additional sample analyses once a month of the following parameter for the Pojoaque Terrace Wastewater Treatment Plant for compliance with NPDES permit number NM0028436: *E. coli*.

On the day of the in-person inspection, the facility had three certified operators licensed by the New Mexico Water Quality Control Commission (NMWQCC). The WWTP Superintendent holds a Wastewater Level 4 (WW4) certification and has responsibility for running the entire plant, as well as oversight of the laboratory. The second certified Operator has a Wastewater Level 3 (WW3) certification and does not perform any laboratory analysis. The third certified Operator has a Wastewater Level 1 (WW1) certification and is the primary laboratory technician. There were three (3) additional uncertified operators and three (3) summer interns who also perform operations tasks at the plant and assist with sample collection and laboratory analysis. All of the uncertified operators had initiated employment with the facility within the last year. The interns were scheduled to stop working at the plant in mid-August. In accordance with the Environmental Protection Wastewater and Water Supply Facilities Utility Operator Certification Regulations at 20.7.4.13 NMAC, the Espanola WWTP is required to have a WW4 on-duty for plant operations at all times. In order to perform wastewater analysis for regulatory compliance a Wastewater Laboratory Technician Level 1 (WWLT1) is required for analyses involving colorimetry and commercially prepared reagents, including but not limited to Dissolved Oxygen (DO) and pH by probe, and commercially available test kits. A Wastewater Laboratory Technician Level 2 (WWLT2) is required for analyses using specific ion electrodes, titration, gravimetry, microbiology, media and standards preparation, including Biochemical Oxygen Demand (BOD), fecal coliform, *E. coli*, residuals (TSS), and Total Residual Chlorine (TRC) by titration. An operator holding a WW1 certification is only certified to perform TRC by the N-diethyl-p-phenylene-diamine (DPD) method, pH, Temperature and DO by probe. An operator holding a WW2 certification is certified to perform any activity which requires a WWLT1 certification. An operator holding a WW3 certification is certified to perform any activity WWLT2 certification. An operator holding a WW4 certification is certified to perform any activity which requires a WWLT2 certification.

Section II – OBSERVATIONS

PLANT OPERATIONS OBSERVATIONS

At the opening meeting introductions were made and the inspection objectives were discussed. I provided a document request list of documents and information to be reviewed as part of the inspection. Facility personnel provided a description of the operational processes of the facility and described operational challenges that had been encountered recently.

After the opening meeting, we toured the WWTP. Observations made during the tour included the following:

1. The grit removal system has been down for more than a year, allowing grit to pass into the treatment basin. During the inspection grit was floating in the anoxic zone of the treatment basins, see Appendix 1, Photo 1. The grit is likely causing significant equipment damage to aeration nozzles, pumps, piping, sludge thickening centrifuges, as well as to treatment basin and digester basin walls. The reduced oxygen circulation in the treatment basins also likely compromises the biological treatment efficiency, which reduces the efficiency of the entire plant treatment process.
2. The north/south (original) basins which are no longer being used are currently empty except that they were never cleaned out and are still exposed to rainwater. Facility personnel are not certain where the drains for this basin are located.
3. Denitrification is occurring in the clarifiers, causing floating solids that have the potential to go over the clarifier weirs. Grit is present with the floating solids, and clarifier weirs are not level, see Appendix 1, Photo 2.
4. The three plant centrifuges cost around \$100,000 per year to run, and one of them is currently non-operational. Facility personnel would like to replace all centrifuges with a fan press at a one-time cost of \$750,000 and would like to also remove the digester and associated blowers.
5. The water reuse system is currently running on a temporary effluent pump, which is very inefficient. Facility personnel are waiting on the permanent pumps which have been delayed due to supply chain issues. At some point during the in-person inspection, the reuse pump went down, which caused the sprayers on the clarifiers to shut off.
6. The effluent Parshall Flume had algae buildup on the bottom, see Appendix 1, Photo 3. All flow meters were last calibrated on March 25, 2022. Facility personnel stated that they verify the calibration of the flow meter daily, but they do not keep records of the verification. After the inspection, facility personnel stated verbally that the flow meters had been calibrated.
7. Due to the outfall being located within the boundaries of the Pueblo of Santa Fe reservation, the outfall was not visited during this inspection. Facility personnel stated that approximately two years ago, a large rainfall caused massive flooding at the river which clogged the end of the outfall pipe. This resulted in effluent backing up in the pipe and flooding the UV building. Facility personnel at the time punched a hole in the top of outfall pipe to allow the water to flow out to the river. The clogged outfall pipe has not been fixed. On the day of the in-person inspection, a sump pump was present in the UV building, plugged in, and plumbed such that pumped water

would go into the UV trough after the UV disinfection, see Appendix 1, Photo 4. Facility personnel stated that this sump pump had been installed during the flooding event.

LABORATORY OBSERVATIONS

During the review of laboratory documents and the Microsoft Teams Laboratory Review of the facility, the following observations were made.

1. Standard Operating Procedures (SOPs) were not properly maintained, as detailed below.
 - a. The 5-Day CBOD SOP ambiguously references the entire *Standard Methods for the Examination of Water and Wastewater* (SM) 5210 Biochemical Oxygen Demand (BOD) section and does not adequately reference the individual method used. The reference does not clearly state the part number and sub-part letter of the individual method used. The method used for analysis most closely resembles SM 5210 B. 5-Day BOD Test method, therefore this method will be used for comparison.
 - b. The *E. coli* SOP does not reference an approved EPA method. The method used for analysis most closely resembles SM 9223 Enzyme Substrate Coliform Test method and Colilert media (not Colilert-18), therefore this method will be used for comparison.
 - c. The pH SOP ambiguously references SM 4500 – H⁺ B. pH Value Electrometric Method. The reference does not clearly state the part number and sub-part letter of the individual method used, nor is it clearly defined that this reference is used for the pH analysis specifically.
 - d. The TSS SOP ambiguously references the entire SM 2540 Solids section and does not adequately reference the individual method used. The references do not clearly state the part number and sub-part letter of the individual method used, nor is it clearly defined whether the references are used for the TSS analysis specifically. The method used for analysis most closely resembles SM 2540 D. Total Suspended Solids Dried at 103-105°C method, therefore this method will be used for comparison.
 - e. The DO SOP does not reference an approved EPA method. The method used for analysis most closely resembles SM 4500-O G. Membrane Filtration Method, therefore this method will be used for comparison.
 - i. The method as written does not cover the analysis of water samples using the in-line probe as indicated on the DO bench sheets, and the method observed. Rather it appears to cover the calibration of and taking measurements for the analysis of 5-Day CBOD samples.
 - f. There was no SOP provided for the analysis of Cl₂. Based off the observed method the analysis most closely resembles the Orion Research Instruction Manual, Residual Chlorine Electrode Model 97–70. 1977 (Orion) method, therefore this method will be used for comparison. As the bench sheets do not directly indicate whether the instrument reads in mV or is equipped with a direct concentration readout, it is most likely that a direct concentration readout is used based on the “Effluent Conc.” Column on the bench sheet. Based on the results observed on the bench sheets, it appears the sub method for 0.2 to 20 ppm is used.

- i. The observed method greatly resembles the SM 4500-Cl I. Iodometric Electrode Technique method, which is not an EPA approved method. However, Orion reagents are being used, therefore, for the purposes of this inspection the Orion method will be used for comparison.
2. Several SOPs provided by the facility had inconsistencies with the methods observed, as detailed below.
 - a. The 5-Day CBOD SOP does not specify the collection time or day of samples in relation to the time and day of analysis, when the pH of the samples is adjusted, or sample storage requirements.
 - b. The *E. coli* SOP does not specify the Colilert media used in analysis.
 - c. The TSS SOP appears to detail the method twice, the first using 10mL of sample with the potential to not use a filter, and the second using either 50mL of influent or 1000mL of effluent. The second method using 50 or 1000mL was the only method observed. The SOP also does not mention rinsing the graduated cylinders used in sample measurement nor the filter with water three (3) times after the entire sample is poured over the filter, as observed. Additionally, the SOP does not detail filter preparation before sample preparation.
3. The SOPs provided by the facility and the methods observed for sample analysis had several inconsistencies with EPA approved methods, as detailed below.
 - a. The 5-Day CBOD observed method and SOP did not include or otherwise mention limiting factors for data qualification such as: sample temperature at time of preparation and analysis, time of analysis after sample preparation, and minimum DO residual and depletion factors.
 - i. Per SM 5210 B. 5-Day BOD Test method, sample temperature must be at $20 \pm 3^{\circ}\text{C}$ at the time of sample preparation and analysis, sample analysis must be within 30 minutes of sample preparation, and DO readings must have a minimum residual of 1.0mg/L and minimum depletion of 2.0mg/L otherwise the data is invalid.
 - b. The *E. coli* observed method and SOP did not include or otherwise mention the limited holding time of samples after the addition of the Colilert medium. Additionally, both the observed method and SOP instruct the analyst to shake the sample after addition of Colilert media for 1-2 minutes.
 - i. Per SM 9223 Enzyme Substrate Coliform Test method for Colilert, incubation must begin within 30 minutes of the addition of Colilert media. The sample must be shaken after the addition of Colilert media for seven (7) seconds or back and forth in a one-foot space 25 times.
 - c. The pH observed method and SOP did not include or otherwise mention the 15-minute holding time of samples. Additionally, temperature dependency of pH analysis and the need to adjust calibration and readings for temperature if the instrument does not automatically do so is not included or otherwise mentioned. The pH probe used in analysis does not contain a thermometer, and so a temperature probe must be used in conjunction to the pH probe during calibration and analysis to automatically adjust for temperature.

- d. The TSS observed method and SOP instruct the analyst to weigh the filters after just one (1) hour of drying in an oven with a 15-minute cooling period in a desiccator for both filter preparation and sample preparation.
 - i. Per SM 2540 D. Total Suspended Solids Dried at 103-105°C, filters must be dried in an oven for a minimum of one (1) hour, brought to room temperature, and weighed a minimum of two (2) times or until the difference between each weight is less than 0.5mg. This process must be done for both filter preparation and sample preparation.
- e. The Cl₂ observed method does not accurately follow the Orion method as detailed below.
 - i. The observed method does not include a daily slope check, which is separate from the direct calibration as detailed in the Orion method.
 - ii. The observed method uses different volumes of standard for the calibration curve/direct calibration as detailed in the Orion method.
 - 1. Orion: 1mL each of Residual Chlorine Standard – Orion 977007, Acid Reagent – Orion 977011, and Iodide Reagent – Orion 977010 mixed in a 150mL beaker, let sit for two (2) minutes, and add 99mL water. After initial reading, add additional 10mL of Residual Chlorine Standard – Orion 977007.
 - 2. Observed: three (3) solutions of 1mL each of Acid Reagent – Orion 977011 and Iodide Reagent – Orion 977010 mixed with 0.1mL, 1.0mL, and 10mL of Residual Chlorine Standard – Orion 977007, mixed in a 100mL volumetric flask, let sit for 2-3 minutes, and dilute to volume with water.
 - iii. The observed method uses a different technique for calibration than the direct calibration as detailed in the Orion method.
 - 1. Orion: solution of 1mL each of Residual Chlorine Standard – Orion 977007, Acid Reagent – Orion 977011, and Iodide Reagent – Orion 977010 mixed in a 150mL beaker, let sit for two (2) minutes, and 99mL water is measured under the calibration setting of the instrument and the slope set to that which was determined in the daily slope check.
 - 2. Observed: a three (3) point calibration using the solutions described in bullet ii.2. above. This calibration curve is invalidated due to the non-linear nature of the concentration after 0.2ppm.
 - iv. The observed method uses different volumes of standard for the calibration curve/direct calibration as detailed in the Orion method.
 - 1. Orion: 1mL each of Residual Chlorine Standard – Orion 977007, Acid Reagent – Orion 977011, and Iodide Reagent – Orion 977010 mixed in a 150mL beaker, let sit for two (2) minutes, and add 99mL water. After initial reading, add additional 10mL of Residual Chlorine Standard – Orion 977007.
 - 2. Observed: three (3) solutions of 1mL each of Acid Reagent – Orion 977011 and Iodide Reagent – Orion 977010 mixed with 0.1mL, 1.0mL, and 10mL of Residual Chlorine Standard – Orion 977007, mixed in a 100mL volumetric flask, let sit for 2-3 minutes, and dilute to volume with water.

- v. The observed method uses different volumes of sample for the analysis as detailed in the Orion method.
 - 1. Orion: 100mL of sample in a 150 mL beaker mixed with 1mL each of Acid Reagent – Orion 977011 and Iodide Reagent – Orion 977010, let to sit for two (2) minutes before analysis.
 - 2. Observed: 1mL each of Acid Reagent – Orion 977011 and Iodide Reagent – Orion 977010 diluted to volume with sample in a 100mL volumetric flask, not allowed to sit for two (2) minutes before analysis.
- 4. Bench sheets were not properly maintained, as detailed below. See Appendix 2 for selected examples from the documents provided.
 - a. The Cl₂ bench sheets do not reference an approved EPA method and no units are used.
 - b. The Espanola WWTP *E. coli* bench sheets cite SM 20th edition 9223 B, which is not an approved EPA method, the date of the end of incubation and subsequent analysis is not recorded, and the temperature of beginning and end of incubation is not recorded per SM 9223 Enzyme Substrate Coliform Test.
 - c. The 5-Day CBOD bench sheets cite SM 20th edition 5010, which is not an approved EPA method, and the following are autogenerated and not left to be manually entered to reflect actual data; the time for the grab samples at 10am, the effluent temperature as 20°, the time read 3:15 with no indication of am or pm, and the volume of seed for all the samples. Additionally, the following are required per SM 5210 B. 5-Day BOD Test but are not present: sample storage temperature, date of pH adjustment, time of sample preparation, time of sample analysis or DO reading before incubation, time and temperature at both the beginning and end of incubation.
 - d. The Air Basin DO bench sheets do not reference an approved EPA method, there is no calibration information, there is no indication the method uses in-line analysis on the bench sheets and as such the collection and analysis time would be the same. Without indication of in-line analysis collection and analysis times must recorded separately per SM 4500-O G. Membrane Filtration Method. Additionally, the bench sheet design does not allow for analysts to sign off on the “AM” and “PM” sample collection/analysis time individually as there is only one (1) place for a signature for both times.
 - e. No physical bench sheets were provided for TSS, the following is based on Excel reproductions of the physical bench sheets. The Excel documents cite SM 20th edition 2540 B., which is not an approved EPA method. Based off observations made of the physical bench sheets which were provided for other analysis, it can be reasonably assumed the following are auto populated and not filled with the actual values: oven or drying temperature, time of sample collection, and drying time. The following are required per SM 2540 D. Total Suspended Solids Dried at 103-105°C, assuming there are two (2) or more periods of incubation followed by two (2) or more weights, but are not present: time and temperature at both the beginning and end of incubation in the oven, time at both the beginning and end of incubation in the desiccator, and time of filtration. Additionally, no information was provided for the filter preparation.

5. Discrepancies in data recording were observed, as detailed below. See Appendix 2 for selected examples from the documents provided.
- a. The Cl₂ bench sheets were missing data entries for the below dates
 - i. 6/23/2023 – no data recorded for the date, time of sample grab and analysis, and standards.
 - ii. 6/26/2023- no data recorded for the date, time of sample grab and analysis.
 - iii. 6/26/2023, second entry – no data recorded for effluent concentration, blank factor, and analyst initials.
 - iv. 6/30/2023 – no data recorded for analyst initials.
 - v. No data is recorded for the date reagent and standard replaced for the months of June, May, April, March, and February of 2023.
 - vi. No bench sheets were provided for the months of November, December, June, July, August, September, and April of 2022.
 - vii. There are no data entries for the following dates

1. 1/01-22/2023	7. 3/9/2022
2. 1/01-05/2022	8. 3/11-31/2022
3. 1/07-31/2022	9. 5/01-03/2022
4. 2/02-28/2022	10. 5/05-31/2022
5. 3/01-02/2022	11. 10/01-23/2022
6. 3/04-07/2022	12. 10/25-31/2022
- b. The Espanola WWTP *E. coli* bench sheets never list data for flow, are missing data for 5/25/2023, have no data entries for the month of April 2022, and show a transcription error in March of 2023 where the dates were written using February instead of March. Additionally, in 2022 there is supplementary data added and circled in the results column. These appear to be rounded values of the actual results, with the duplicate analysis results added together. There are no notes to indicate the significance of these rounded and circled numbers, and the practice is not continued into February of 2023 and on.
- c. The 5-Day CBOD bench sheets are missing the date read data and corresponding analyst initials for samples collected 6/22/2023, 5/18/2023, 3/30/2023, 1/19/2023, 6/30/2022, and 5/12/2022. Additionally, there is no data recorded for 4/6/2023, 3/23-2/2/2023, 1/5/2023, 4/14/2022, and the month of December 2022.
- d. The Air Basin DO bench sheets are missing data for first or second am/pm readings, effluent am/pm readings, digestion and effluent reading, analyst initials, and the date in instances that were too numerous to count. There are no bench sheets for a number of days that are too numerous to count.
- e. The Pojoaque Terrace *E. coli* Chain of Custody (COC) documents are carbon copies. Bench sheets were not provided, and it is not clear that bench sheets for these analyses exist; the COC documents do not contain all required documentation for the analysis process. There are several instances of missing data entries on the COCs, however due to the nature of the carbon copies it is not clear if the information was simply not transferred to the copy or if the information was not recorded at all. These are not adequate records of analysis for the

laboratory to keep, as they are not legible. The COC documents do not adequately trace the custody of the samples at every step of the process from sample collection to transfer to the laboratory with names times and signatures of all persons handling the samples, nor do they notate that the proper custody seals were intact upon arrival at the laboratory. Additionally, there are several instances in which the sample collection time is recorded as occurring after the sample received time, as detailed below. It is unknown how or why this occurred; however, this is not an accurate representation of sample handling and COC.

- i. 12/5/2022: Collection time 11:10, received time 9:40
- ii. 10/4/2022: Collection time 11:00, received time 10:52
- iii. 8/8/2022: Collection time 11:15, received time 9:41
- iv. 7/6/2022: Collection time 11:00, received time 9:40
- v. 5/9/2022: Collection time 11:10, received time 11:00
- vi. 4/4/2022: Collection time 11:15, received time 10:30
- vii. 3/8/2022: Collection time 11:20, received time 10:15
- viii. 1/10/2022: Collection time 11:15, received time 9:24

6. Data abnormalities were observed, as detailed below. See Appendix 2 for selected examples from the documents provided.
- a. For all bench sheets, times are recorded at exactly the ten- and five-minute marks and are consistently at the exact same time every day. It appears that an approximate time is recorded instead of the actual time, which is not an accurate representation of the data and analysis of the samples. Additionally, there is often no indication of whether the time is in the morning or afternoon.
 - b. The Cl_2 bench sheets record the sample analysis as beginning exactly 15 minutes after sample collection. Again, it appears an approximate time is recorded instead of the actual time, which is not an accurate representation of the data and analysis of the samples. Additionally, before March of 2023, the blank measurements were consistently exactly 0.001, with an occasional 0.01 which is assumed to be a transcription error. After March of 2023 the blank readings are varied and no longer exactly the same. It is not known why or how the blank readings were so consistent, however it is not an accurate representation of the data and analysis of the samples. January, February, March, and May of 2022 have effluent and blank readings recorded as only "<1", which is not an accurate representation of the data and analysis of the samples.
 - c. The Espanola WWTP *E. coli* bench sheets record the sample incubation time as beginning exactly 15 minutes after sample collection and the incubation end time is recorded as exactly 24 hours and 15 minutes later. These appear to be approximate times, not the actual times, and therefore do not accurately represent the data and analysis of the samples.
 - d. The 5-Day CBOD bench sheets regularly record the pH of samples as exactly 7.0. Such a consistent measurement is not usual, and it is not an accurate representation of the data and analysis of the samples.

7. There were too numerous to count instances where the data is invalidated due to the nature of the respective method and/or the quality assurance and quality control data, as detailed below.
 - a. Cl_2 data was invalidated when the blank samples were reading higher than the effluent samples, and when the blank and effluent measurements were less than 0.2ppm.
 - b. 5-Day CBOD data is invalidated when the final DO measurements are less than 1.0mg/L or have a depletion less than 2.0mg/L after five (5) days.
 - c. TSS measurements are invalidated when there is not a minimum of two (2) dry weights of filter and sample.
 - d. Pojoaque Terrace *E. coli* are invalidated when the holding times cannot be confirmed to be within the acceptable window.
8. The mass balance used in TSS analysis had an expired National Institute of Standards and Technology (NIST) certification at the time of the on-site inspection. See Appendix 1, Photo 5.
9. Many thermometers used to monitor the temperature-controlled instruments and analysis had an expired NIST certification at the time of the on-site inspection. See Appendix 1, Photo 6.
10. It was observed that the running temperature for temperature-controlled instrumentation and equipment used in the analysis of or storage of samples was checked once a day, and not the minimum of twice a day to ensure continuous and constant temperature.
11. There were seven (7) analysts' initials found on all the provided bench sheets which do not correspond with the three (3) NMWQCC certified employees: FL, JM, AD4, GZ, SZ, AF, CM. The initials for the certified employees are MM, RT, and SC.
 - a. The 5-Day CBOD Excel documents only display "MM" for analyst, despite the physical bench sheets regularly reflecting different analysts.
12. The following documents were requested at the time of inspection, and again during the Microsoft Teams Laboratory Review of the facility, for the dates January 2022 to June 2023 but were provided without sufficient time to be reviewed and included in this inspection report.
 - a. DMR submission receipts for 2022 and 2023
 - b. Records of monitoring for pH analysis from March 2022 to June 2023
 - c. Records of monitoring for WET testing analysis for June 20, 2023
 - d. Records of monitoring for Metals testing for 2022
13. The following documents were requested at the time of inspection, and again during the Microsoft Teams Laboratory Review of the facility, for the dates January 2022 to June 2023 but were not provided by the facility as of the writing of this inspection report.
 - a. Hand-written bench sheets, or records of monitoring, for TSS analysis
 - b. Hand-written bench sheets, or records of monitoring, for CBOD analysis for the month of February 2023 and the month of December for 2022
 - c. Records of monitoring for pH analysis for the months of January and February of 2022
 - d. Records of monitoring for Chlorine Residual analysis for the months of April, June-September, November, and December for 2022

- e. Records of monitoring for DO analysis for the months of January, February, and June for 2022
- f. Records of monitoring for WET testing analysis for 2022 and the first quarter of 2023
- g. Records of monitoring for Metals analysis for 2023
- h. Calibration reports for any instrumentation used in the analysis of regulated pollutants
- i. Temperature records for all equipment and instrumentation used in the analysis of regulated pollutants
- j. NIST calibration certificates for laboratory instrumentation used in the analysis of regulated pollutants, except for the in-flow DO meter
- k. Records of monitoring for Pojoaque Terrace *E. coli* sample analysis

Section III – AREAS OF CONCERN

Requirement 1

NPDES Permit NM0029351 Part I. A.1. *Final Effluent Limits:*

POLLUTANT	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	6.6 Standard Units	8.8 Standard Units	Daily	Grab

Concern 1

Facility personnel stated during the in-person portion of the inspection that they were not collecting pH on weekend days and were therefore only collecting pH on five (5) of the seven (7) required days. See Appendix 1, Photo 7.

Requirement 2

NPDES Permit NM0029351 Part III. A. 7. Duty to Provide Information. *The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.*

Concern 2

The facility did not provide the EPA with all the requested documents or provide explanation that one (1) or more of the documents did not exist, within two (2) months of the initial request date (see item 13 of the Laboratory Observations).

Requirement 3

NPDES Permit NM0029351, Part III: B.3.a. Proper Operation and Maintenance. *The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which*

will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit.

Concern 3

The grit removal system has been down for over a year, allowing significant damage to the entire plant. Even if the grit removal system were replaced today, this damage will continue to cost the City of Espanola money for years to come, in all the other downstream systems affected. The biological treatment processes are not operating properly, as evidenced by the effluent violations, and the denitrification taking place in the clarifiers. The clarifier weirs are not level, and the effluent flow meter has not been cleaned often enough to prevent algae buildup. The outfall pipe has not been repaired in a timely manner.

Requirement 4

NPDES Permit NM0029351 Part III.B.3.b. Proper Operation and Maintenance. *The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.*

Concern 4

City of Espanola representatives have said on multiple occasions that this WWTP requires 13 full time operators in order to be fully staffed, and that they cannot find qualified operators to hire. At the time of this inspection the facility employed three (3) licensed operators and six (6) unlicensed technicians who regularly perform laboratory analysis for regulated pollutants in addition to their plant operational duties. The main laboratory technician is not adequately licensed for the analysis performed in the laboratory. In accordance with NMAC 20.7.4, "operate" is defined as "performing any activity or function or making any process control or system integrity decision regarding water quality or water quantity that has the potential to affect the proper functioning of ... a public wastewater facility or to affect human health, public welfare or the environment." Facility personnel without any operator certification are not qualified to "operate" the facility nor perform any laboratory analysis including pH and dissolved oxygen without constant oversight from a certified operator. It is the responsibility of the municipality to offer operators a salary commensurate with the tasks of running the WWTP and the laboratory. Plant operations and laboratory analysis are not unskilled tasks, they require years of training and testing, and if operators are able to find unskilled work that pays higher than WWTP operations, they will not accept employment as an operator.

Requirement 5

NPDES Permit NM0029351 Part III.B.4.c.(1) Prohibition of Bypass. *Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless: (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and, (c) The permittee submitted notices as required by Part III.B.4.b.*

Concern 5

All water pumped from the floor of the UV building into the effluent flow trough after the UV disinfection is a bypass and is not allowed unless the above conditions have been met. The sump pump has been present and possibly bypassing for the last two years, since the UV building flooded.

Requirement 6

NPDES Permit NM0029351 Part III.C.2. Representative Sampling: *Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.*

Concern 6

Facility personnel stated that they clean the clarifiers every Wednesday and collect compliance samples on Thursday. This would cause the samples to be collected at the cleanest time period during the week and would not capture a representative sample of the effluent prior to the clarifiers being cleaned.

Requirement 7

NPDES Permit NM0029351 Part III.C.5.a. Monitoring Procedures. *Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.*

Concern 7

Facility personnel are not following the test procedures properly (see items 2 through 7 of the Laboratory Observations) from the methods approved under 40 CFR Part 136. Analytical results obtained from unapproved or improperly followed methods cannot be validated. Incomplete bench sheets prevent the methods from being verified that they were followed properly.

Requirement 8

NPDES Permit NM0029351 Part III.C.5.b. Monitoring Procedures. *The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.*

Concern 8

Laboratory analytical instruments had not been calibrated within the last year as of the date of the in-person inspection (see items 8 and 9 of the Laboratory Observations).

Requirement 9

NPDES Permit NM0029351 Part III. C.6. Flow Measurements: *Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.*

Concern 9

At the time of the inspection the Parshall Flume had not been calibrated in over a year, and there was excess algae growing on the bottom of the Flume that could cause turbulence and/or inaccurate readings by the ultrasonic secondary flow meter.

Requirement 10

NPDES Permit NM0029351 Part III. C.4. Record Contents. *Records of monitoring information shall include:*

- a. The date, exact place, and time of sampling or measurements;*
- b. The individual(s) who performed the sampling or measurements;*
- c. The date(s) and time(s) analyses were performed;*
- d. The individual(s) who performed the analyses;*
- e. The analytical techniques or methods used; and*
- f. The results of such analyses.*

Concern 10

Several bench sheets were missing information as required per either the permit or the EPA methods cited or assumed used in the analysis of regulated pollutants.

Requirement 11

NPDES Permit NM0029351 Part III. C.5.a. Monitoring Procedures. *Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.*

Concern 11A

Several SOPs and observed methods used for the analysis of regulated pollutants deviated from the EPA approved methods that were either cited or assumed used. The facility does not have approval for the use of alternate methods or deviations from methods listed in 40 CFR Part 136 from the Regional Administrator.

Concern 11B

The pH buffer bottles had a written 'received-on' date, but not an 'opened-on' date, see Appendix 1, Photo 8. The manufacturer of these buffers (Hach) states that the pH 4 and pH 7 buffers should be used within six months and the pH 10 buffer should be used within three months of opening. Several other laboratory reagents were also expired. It is impossible to confirm proper calibration of laboratory equipment, and therefore impossible to confirm proper analysis of a pollutant, if the buffers and reagents are expired.

Requirement 12

NPDES Permit NM0029351 Part III. C.5.b. Monitoring Procedures. *The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.*

Concern 12

Several NIST certified calibrations for instrumentation used in the analysis of regulated pollutants were expired, and the facility failed to perform adequate temperature monitoring on temperature-controlled instrumentation and equipment used in the analysis of regulated pollutants.

Requirement 13

NPDES Permit NM0029351 Part III. D.5. Additional Monitoring by The Permittee. *If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased monitoring frequency shall also be indicated on the DMR.*

Concern 13

Facility personnel stated that they collect plant process control grab samples on Monday, and compliance samples on Thursday, but never report on their DMRs any of the results from the samples collected on Monday. Any sampling that is conducted according to the requirements of the permit (i.e., grab samples) must be reported on the DMRs in addition to the compliance samples.

Section IV – CLOSING CONFERENCE

EPA Region 6 inspector, Amy Andrews conducted a closing conference at the Española WWTP at 3:05 PM on July 13, 2023, for the on-site portion of the inspection and inspectors were offsite at 3:25 PM. An additional closing conference was conducted by EPA Region 6 inspector, Magda Vargas via Microsoft Teams at 3:30 PM on August 16, 2023, and the meeting was ended at 4:09 PM. During the closing conferences, the Inspectors reviewed the Areas of Concern that were noted during each portion of the inspection. Additional AOCs have been noted in this report that were not covered in the closing conferences because they were determined afterward.

Section V – FOLLOW UP

The following information was requested by EPA on July 13, 2023:

- For the dates January 2022 to June 2023, provide the following documentation for the analysis of regulated pollutants per an NPDES permit; pH, CBOD5 5-day, BOD, TSS, E. coli, Total Residual Chlorine, Total Ammonia, Dissolved Oxygen, Whole Effluent Toxicity Testing, and any additional pollutants not listed.
 - Chain of Custody documents for all incoming samples to the laboratory
 - Bench sheets and all recorded data (records of monitoring)
 - All calibration reports for instrumentation used in analysis
 - Meters, mass balances, etc
 - Temperature records for all equipment and instrumentation used in analysis
 - Incubators, refrigerators used for storage, ovens, etc
 - Submitted and signed DMRs

- Provide all National Institute of Standards and Technology (NIST) calibration certificates for laboratory instrumentation used in the analysis of regulated pollutants
- Influent and effluent flow measurements from January 2022 to June 2023
- Laboratory Quality Control and Quality Assurance records from January 2022 to June 2023
 - Preliminary batch testing for disposable sampling and analysis equipment. For example, pre-weighed filters for TSS analysis, Colilert trays for E. coli testing.
 - Blank testing of glassware or other equipment and instrumentation to ensure proper preparation, for example cleaning or sterilization.
- Certifications and/or training documents for all technicians who perform analysis or sample preparation for regulated pollutants
- All standard operating procedures for the analysis, sample gathering, sample preparation, sample disposal, equipment and instrument preparation, and calibration of equipment for the analysis of regulated pollutants

Documents were received from City of Española representatives via GoAnywhere Managed File Transfer on August 8, 2023, and September 7, 10 and 11, 2023, except for those listed as not-received previously in this report (see item 13 of the Laboratory Observations).

Section VI – LIST OF APPENDICES

Appendix 1 – Photograph Log – Eight (8) photos taken July 13, 2023

Appendix 2 – Selected Bench Sheets Submitted by City of Espanola Representatives

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: City of Española Wastewater Treatment Plant		
City: Española	County: Rio Arriba	State: New Mexico



Photo File Name: DSCN2019.JPG

Date of Photo: 07/13/2023

Time of Photo: 1:56 PM

Photographer: Amy Andrews

Description: View of grit floating in the anoxic zone of the treatment basin.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: City of Española Wastewater Treatment Plant		
City: Española	County: Rio Arriba	State: New Mexico



Photo File Name: DSCN2025.JPG

Date of Photo: 07/13/2023

Time of Photo: 2:10 PM

Photographer: Amy Andrews

Description: View of denitrification occurring in the clarifiers, causing floating solids that have the potential to go over the clarifier weirs. Grit is present with the floating solids, and clarifier weirs are not level.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: City of Española Wastewater Treatment Plant		
City: Española	County: Rio Arriba	State: New Mexico



Photo File Name: DSCN2037.JPG

Date of Photo: 07/13/2023

Time of Photo: 2:36 PM

Photographer: Amy Andrews

Description: View of effluent Parshall Flume with algae buildup on the bottom and turbulence.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: City of Española Wastewater Treatment Plant		
City: Española	County: Rio Arriba	State: New Mexico



Photo File Name: DSCN2035.JPG

Date of Photo: 07/13/2023

Time of Photo: 2:30 PM

Photographer: Amy Andrews

Description: View of sump pump that was present in the UV building, plugged in, and plumbed such that pumped water would go into the UV trough after the UV disinfection.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: City of Española Wastewater Treatment Plant		
City: Española	County: Rio Arriba	State: New Mexico

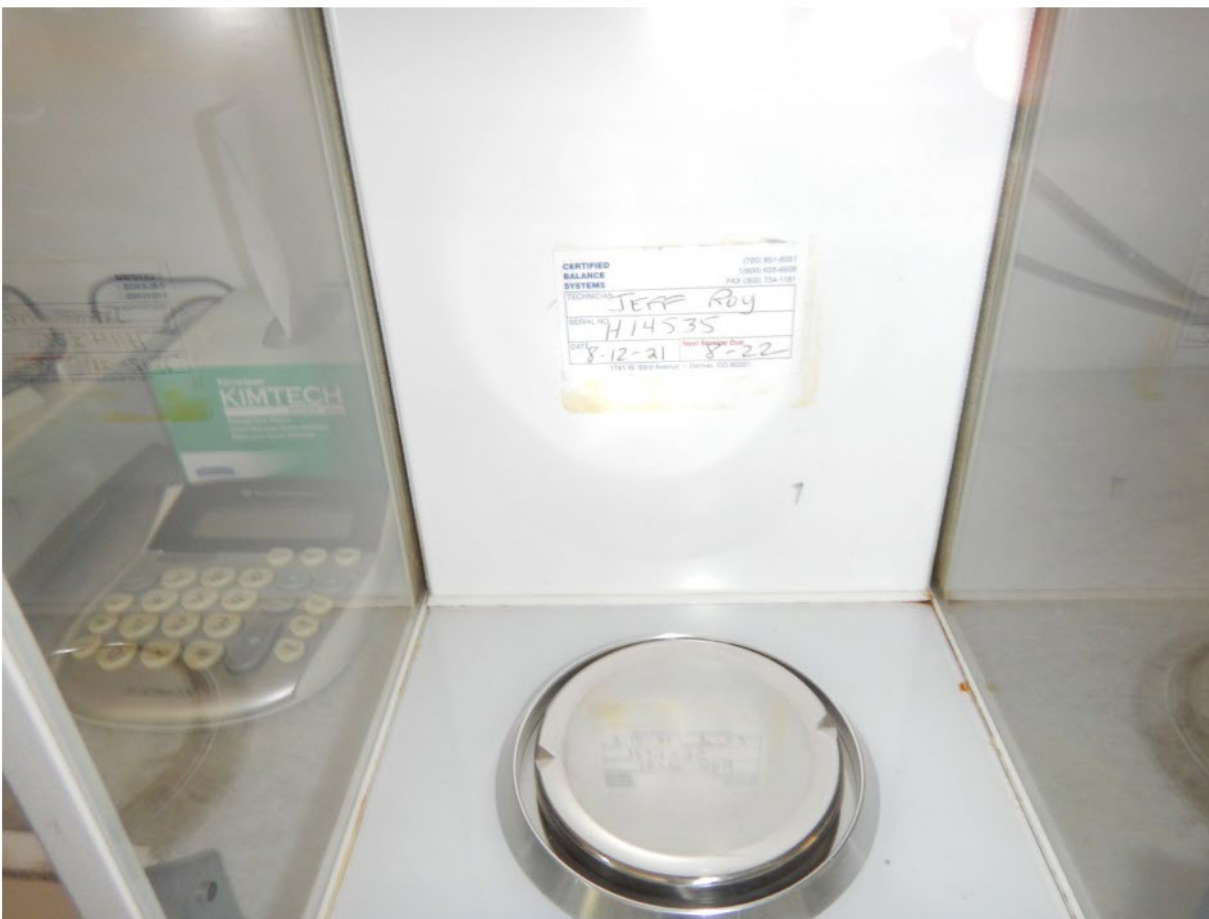


Photo File Name: DSCN2003.JPG

Date of Photo: 07/13/2023

Time of Photo: 12:42 PM

Photographer: Amy Andrews

Description: View of the mass balance used in TSS analysis with an expired National Institute of Standards and Technology (NIST) certification.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: City of Española Wastewater Treatment Plant		
City: Española	County: Rio Arriba	State: New Mexico

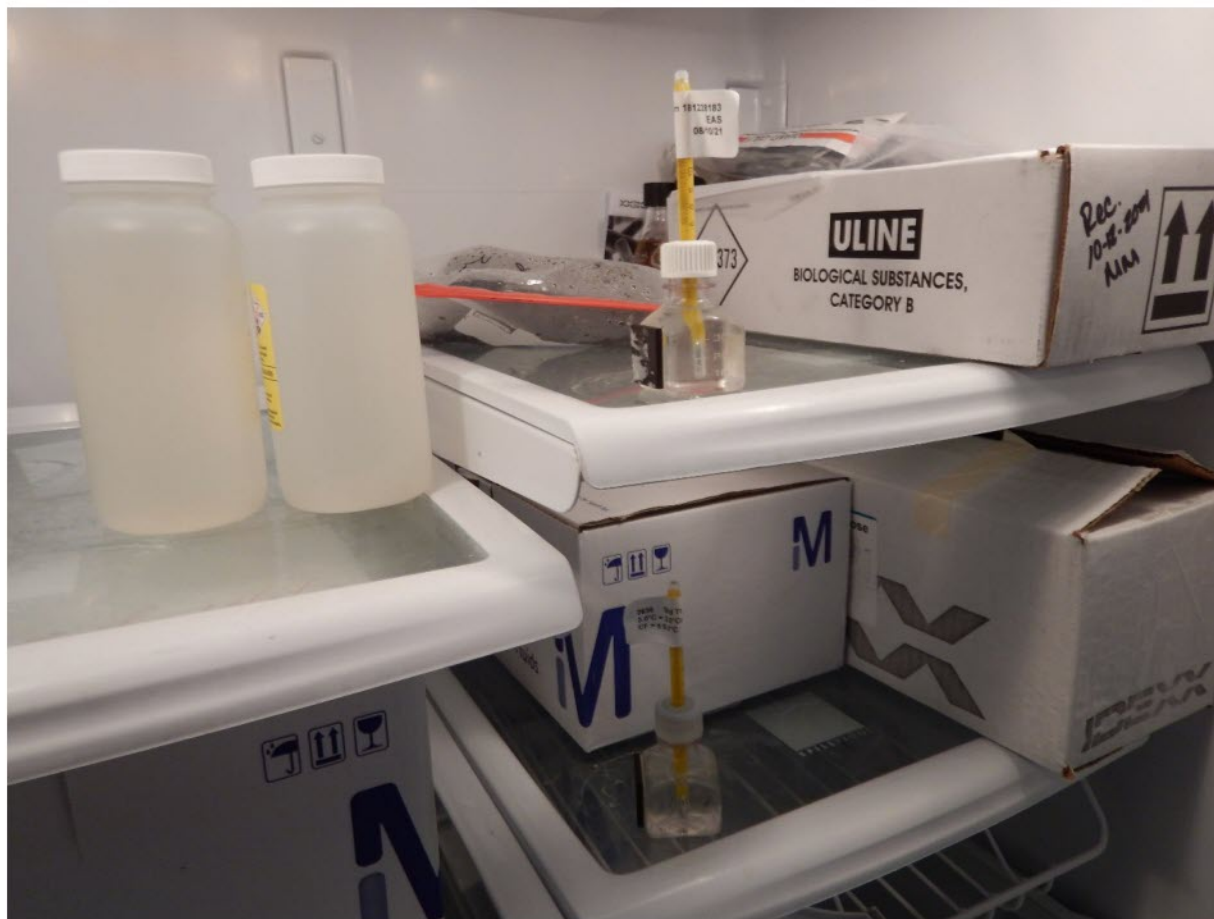


Photo File Name: DSCN1995.JPG

Date of Photo: 07/13/2023

Time of Photo: 12:15 PM

Photographer: Amy Andrews

Description: View of a thermometer with an expired NIST certification.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: City of Española Wastewater Treatment Plant

City: Española

County: Rio Arriba

State: New Mexico

City of Espanola WWTP
pH Value Electrode Method

Standard Methods 18th Edition
Pg. 4.65 - 4.69, 9.4, 9.15

Date	Time of Collection	Time of Analysis	Slope	Temp. Int / Eff	Temp. Buffer	Standard 7.00	Standard 10.01	Standard 4.01	Sample pH Int / Eff	Flow MGD	Analyst
7-3-23			49.7	22.24	20.0	7.00	10.01	4.01	7.64/7.16		FL
7-4-23			100.0	22.21	20.0	7.00	10.01	4.01	7.63/7.19		JM
7-5-23	9:30	9:45	100.0	24.23	20.0	7.00	10.01	4.01	7.60/7.24		GZ
7-6-23	10:00	10:15	100.0	25.24	20.0	7.00	10.01	4.01	7.57/7.42		GZ
7-7-23	10:00	10:15	99.8	25.24	20.0	7.00	10.01	4.01	7.55/7.23		GZ
7-11-23	11:00	11:15	100.1	22.22	20.0	7.00	10.01	4.01	7.50/7.07		FL
7-11-23	10:00	10:15	100.1	22.24	20.0	7.00	10.01	4.01	7.42/7.13		FL
7-12-23	10:00	10:15	99.9	21.26	20.0	7.00	10.01	4.01	7.55/7.31		MM
7-13-23	10:00	10:15	99.9	24.26	20.0	7.00	10.01	4.01	7.43/7.41		AR

Photo File Name: DSCN1990.JPG

Date of Photo: 07/13/2023

Time of Photo: 11:40 AM

Photographer: Amy Andrews

Description: Photo of pH benchsheet from 07/3/2023 to 07/13/2023.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: City of Española Wastewater Treatment Plant		
City: Española	County: Rio Arriba	State: New Mexico



Photo File Name: DSCN1984.JPG

Date of Photo: 07/13/2023

Time of Photo: 11:35 AM

Photographer: Amy Andrews

Description: View of pH buffer bottles with a written 'received-on' date, but not an 'opened-on' date.

Appendix 2
Selected Bench Sheets
Submitted by City of Espanola Representatives

5 Day CBOD Standard Methods 20th Edition-Section 5010 pg. 5-3 to 5-6

Date Collected: 10-22-23
 Date Analyzed: 10-23-23
 Time Analyzed: 11:00
 Analyst: MM

Type of Sample: Effluent 6hr comp Influent 24hr comp Seed Grab

Time Collected: 10am-3pm 11am-11am 10am

CL2 Residual: <0.0

Date Read:
 Time Read: 3:15
 Analyst:
 Initial pH: 7.04
 Final pH: 7.04
 H2SO4 used ml: 0.0
 Eff. Temp: 20°
 M.G.D.:

Sample Location	Bottle #	Vol./ml Seed	Initial D.O.	Final D.O.	D.O. Loss
Blank	1	0	7.75	7.62	
Blank	2	0	7.74	7.81	
Blank	3	0	7.74	7.49	
Blank	4	0	7.72	7.50	
Seed	5	4	7.18	3.37	
Seed	6	5	7.15	2.65	
Seed	7	6	7.08	1.97	

Seed Correction

	Bottle #	Vol./ml Seed	Vol. ml Sample	Initial D.O.	Final D.O.	Seed Correction	Correction Difference	Dec. Vol Fraction	5 Day mg/l
Influent	8	0	3	7.19	3.99				
Influent	9	0	6	7.11	1.80				
Effluent	10	2	150	8.40	3.86			2	
Effluent	11	2	150	8.43	3.95			2	
Effluent	12	4	200	8.77	2.13			1.5	
Effluent	13	4	200	8.85	2.29			1.5	
QC/G-GA	14	2	6					50	
QC/G-GA	15	2	6					50	
QC/G-GA	16	2	6					50	

Eff BOD Inf BOD Lbs/Day

KEY

Ave Eff BOD = Initial D.O. - Final D.O. - Seed Correction X Correction Difference for all Effluent Samples

Ave Inf BOD = Initial D.O. - Final D.O. for all Influent Samples / the amount of Samples Used

Lbs/Day = Ave Eff *MGD*8.34 * = Did Not Deplete 2 with 1 remaining. Range of G-GA =198 ±30.5

City of Espanola Air Basin DO Readings

West

EAST

<u>Line 1 DO</u> 1 st A.M. ____ mg/l T: ____ °F 2 nd A.M. <u>1.58</u> mg/l T: <u>11:13</u> <u>59.3</u> °F	<u>Line 1 DO</u> 1 st P.M. <u>0.20</u> mg/l T: <u>1:26</u> <u>59.3</u> °F 2 nd P.M. <u>0.34</u> mg/l T: <u>4:18</u> <u>59.5</u> °F	<u>Line 1 DO</u> 1 st A.M. ____ mg/l T: ____ °F 2 nd A.M. <u>1.72</u> mg/l T: <u>11:14</u> <u>59.0</u> °F	<u>Line 1 DO</u> 1 st P.M. <u>0.92</u> mg/l T: <u>1:24</u> <u>59.3</u> °F 2 nd P.M. <u>0.49</u> mg/l T: <u>4:10</u> <u>59.2</u> °F
<u>Line 2 DO</u> 1 st A.M. ____ mg/l T: ____ °F 2 nd A.M. <u>3.35</u> mg/l T: <u>11:17</u> <u>59.1</u> °F	<u>Line 2 DO</u> 1 st P.M. <u>2.95</u> mg/l T: <u>1:22</u> <u>59.3</u> °F 2 nd P.M. <u>2.25</u> mg/l T: <u>4:12</u> <u>59.3</u> °F	<u>Line 2 DO</u> 1 st A.M. ____ mg/l T: ____ °F 2 nd A.M. <u>4.34</u> mg/l T: <u>11:16</u> <u>58.9</u> °F	<u>Line 2 DO</u> 1 st P.M. <u>3.96</u> mg/l T: <u>1:21</u> <u>59.1</u> °F 2 nd P.M. <u>2.69</u> mg/l T: <u>4:12</u> <u>59.3</u> °F
<u>Line 3 DO</u> 1 st A.M. ____ mg/l T: ____ °F 2 nd A.M. <u>3.89</u> mg/l T: <u>11:17</u> <u>59.2</u> °F	<u>Line 3 DO</u> 1 st P.M. <u>3.48</u> mg/l T: <u>1:20</u> <u>59.2</u> °F 2 nd P.M. <u>2.60</u> mg/l T: <u>4:13</u> <u>59.3</u> °F	<u>Line 3 DO</u> 1 st A.M. ____ mg/l T: ____ °F 2 nd A.M. <u>4.70</u> mg/l T: <u>11:19</u> <u>59.0</u> °F	<u>Line 3 DO</u> 1 st P.M. <u>4.56</u> mg/l T: <u>1:19</u> <u>58.8</u> °F 2 nd P.M. <u>3.46</u> mg/l T: <u>4:14</u> <u>59.3</u> °F
<u>Line 4 DO</u> 1 st A.M. ____ mg/l T: ____ °F 2 nd A.M. <u>3.11</u> mg/l T: <u>11:22</u> <u>59.0</u> °F	<u>Line 4 DO</u> 1 st P.M. <u>2.86</u> mg/l T: <u>1:19</u> <u>58.6</u> °F 2 nd P.M. <u>1.93</u> mg/l T: <u>4:15</u> <u>59.3</u> °F	<u>Line 4 DO</u> 1 st A.M. ____ mg/l T: ____ °F 2 nd A.M. <u>4.02</u> mg/l T: <u>11:20</u> <u>58.9</u> °F	<u>Line 4 DO</u> 1 st P.M. <u>3.57</u> mg/l T: <u>1:17</u> <u>58.2</u> °F 2 nd P.M. <u>2.19</u> mg/l T: <u>4:16</u> <u>59.2</u> °F
West AB Effluent A.M. ____ mg/l T: ____ °F	West AB Effluent P.M. ____ mg/l T: ____ °F	East AB Effluent A.M. ____ mg/l T: ____ °F	East AB Effluent P.M. ____ mg/l T: ____ °F

Analyst: FL

Analyst: MM

Analyst: AP

Analyst: ____

Digester DO: 9.82 mg/l 43.8 °F T: 1:09

Effluent 6.80 mg/l 56.9 °F T: 1:13

Date: 11-13-11



CHLORINE RESIDUAL LOG SHEET

Date of Analysis	Flow MGD	Time of Sample	Time of Analysis	Standard 0.10	Standard 1.00	Standard 10.0	Slope 26-30	C.B.O.D Conc.	Chlorine Contact	Effluent Conc.	Blank Factor	Analyst Initials
4-1-23		10:00	10:15	0.10	1.00	10.0	27.5			0.0010	0.0029	MM
4-2-23		10:00	10:15	0.10	1.00	10.0	28.2			0.0048	0.0099	MM
4-5-23		10:00	10:15	0.10	1.00	10.0	27.7			0.0013	0.0066	FL
4-10-23		10:05	10:15	0.10	1.00	10.0	20.6			0.0007	0.0048	FL
4-11-23		10:05	10:15	0.10	1.00	10.0	35.5			0.0125	0.0363	PL
4-18-23		10:05	10:15	0.10	1.00	10.0	27.1			0.0013	0.0142	FL
4-19-23		10:00	10:15	0.10	1.00	10.0	26.3			0.0004	0.0059	FL
4-12-23		10:00	10:15	0.10	1.00	10.0	29.4			0.0025	0.0104	JM
4-13-23		10:00	10:15	0.10	1.00	10.0	28.7			0.0018	0.0090	JM
4-14-23		10:00	10:15	0.10	1.00	10.0	28.1			0.0016	0.0057	MM
4-15-23		10:00	10:15	0.10	1.00	10.0	26.0			0.0011	0.0066	FL
4-16-23		10:00	10:15	0.10	1.00	10.0	29.4			0.0008	0.0085	MM
4-17-23		9:30	9:45	0.10	1.00	10.0	26.4			0.0010	0.0090	JM
4-20-23		10:15	10:30	0.10	1.00	10.0	26.3			0.0009	0.0070	AR
4-21-23		9:30	9:45	0.10	1.00	10.0	25.3			0.0009	0.0068	FL
4-22-23		10:15	10:30	0.10	1.00	10.0	28.4			0.0022	0.0079	FL
4-24-23		10:30	10:45	0.10	1.00	10.0	20.5			0.0040	0.0092	MM
4-25-23				0.10	1.00	10.0	25.6					
4-26-23				0.10	1.00	10.0	27.8			0.0012	0.0062	PL
4-27-23		10:00	10:15	0.10	1.00	10.0	26.1			0.0006	0.0030	FL
4-28-23		10:00	10:15	0.10	1.00	10.0	28.6			0.0009	0.0034	FL
4-29-23		10:00	10:15	0.10	1.00	10.0	27.7			0.0012	0.0037	FL
4-30-23		10:00	10:15	0.10	1.00	10.0	30.5			0.0035	0.0101	

Date Reagent and Standard Replaced

Manufacture

Lot #

Date Received

Date Opened

Iodine:

Chlorine:

Acid:

Month: June

Year: 2023

ESPANOLA WASTEWATER TREATMENT FACILITY ESHERIA COLI (E-COLI) REPORT 2020

METHOD: STANDARDS METHODS 20TH EDITION

9223 B, 9-69 TO 9-70

Colilert Lot. No. KT234

Expiration Date: 15 DEC 2022

Type of Sample: GRAB

Sampled By: M. Mares

Analyzed by: M. Mares

[illegible]
$$13/2 = 6.5$$

(7)

[illegible]

CITY OF ESPAÑOLA
ENVIRONMENTAL SECTION
P.O. DRAWER 37
ESPAÑOLA, NEW MEXICO 87532
(505) 753-4740

NMED LAB # 9408

MICROBIOLOGICAL WATER REPORT

Date Received

8/8/22

Date Analysis Began

8/9/22

Sample No.

Time Received

9:41 am

Time Analysis Began

9:51 am

SAMPLE INDINTIFICATION

Water Supply System Name

Posaque Terrace

I.D. Code No.

County

Santa Fe

WSS Code No.

COLLECTION INFORMATION

Date Collected

Time Collected

☐ AM

Collected By

Mo Day Year

11.15

☐ PM

K-2

Collection Location

TYPE OF SYSTEM

Check One:

☐ Community

☐ Non-Community

☐ Private Well

☐ Sample Iced?

☐ Yes

☐ No

Temp. 4-10°C

☐ Other - Specify
(999)

Disinfected ?

☐ Yes

☐ No

Residual:

mg/L

TESTING REQUIRED

☐ Total Coliform & E. Coli
Method: Colilert

☐ Fecal Coliform
By Membrane Filtration

REASON FOR SAMPLING

Check One:

☐ Routine Sample

☐ Special Sample

☐ Repeat Sample

☐ Monitoring Sample

Send Report to the following:

NAME

ADDRESS

CITY

PHONE

STATE

ZIP CODE

LABORATORY TEST RESULTS

Drinking Water:

Total Coliforms per 100 ml:

Present ☐

Absent ☐

E. coli per 100 ml:

Present ☐

Absent ☐

Other Water Source

BE 12
SE 2
TOTAL = 15.2 @ 100/100

Fecal Coliforms: _____ Per 100 ml MF

REJECTED SAMPLE

If one of the following is checked, please resample.

☐ Sample too old. Not received within _____ hours of collection.

☐ Temperature violation (above 10 C)

☐ Form incomplete. See circled item.

☐ Date or time discrepancy.

☐ Leaking sample.

☐ Quantity too great to permit agitation

☐ Turbid Culture

☐ Other

Analyst

Date reported