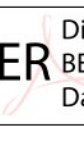


Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	02/28/2023	
Media Program:	Water	
Regulatory Program(s)	CWA – NPDES	
Company Name:	City of Las Cruces/ Las Cruces Utilities	
Facility Name:	Jacob A. Hands Wastewater Treatment Facility	
Facility Physical Location:	2851 West Amador	
(city, state, zip code)	Las Cruces, NM 88005	
Mailing address:	680 N Motel Blvd.	
(city, state, zip code)	Las Cruces, NM 88005	
County/Parish:	Doña Ana County	
Facility Phone Number	575-541-2000	
Facility Contact:	Laura Montoya	Deputy Director Wastewater
	lamontoya@las-cruces.org	
FRS Number:	110039926774	
Identification/Permit Number:	NM0023311	
Media Identifier Number:		
NAICS:	221320	
SIC:	4952	
Personnel participating in inspection:		
<i>Name</i>	<i>Affiliation/mailcode</i>	<i>Title</i>
Amy Andrews, P.E.	USEPA/6EN-WMH	Inspector / Environmental Engineer
Jason Martinez	NMED/SWQB	Inspector / Environmental Specialist
Laura Montoya	Deputy Director Wastewater	City of Las Cruces
Joaquin Murillo	Acting Plant Manager	City of Las Cruces
Jordan Kirkham	Wastewater Treatment Plant Crew Leader	City of Las Cruces
Steven Perez	Regulatory Compliance Analyst	City of Las Cruces
Luis Guerra	Laboratory Manager	City of Las Cruces
Jay Lent	WWTF Crew Leader	City of Las Cruces
EPA Lead Inspector Signature/Date	 AMY ANDREWS Digitally signed by AMY ANDREWS DN: c=US, o=U.S. Government, ou=Environmental Protection Agency, cn=AMY ANDREWS, 0.9.2342.19200300.100.1.1=68001003655888 Date: 2023.04.28 11:44:09 -06'00'	
	Amy Andrews	Date
Supervisor Signature/Date	 ROBERTO BERNIER Digitally signed by ROBERTO BERNIER Date: 2023.04.28 12:55:08 -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) Surface Water Quality (SWQB) inspector, Jason Martinez, arrived at the City of Las Cruces, Jacob A. Hands Wastewater Treatment Facility (Jacob Hands WWTF) at 9:10 AM on February 28, 2023 for an unannounced inspection. We met with the personnel listed in the table on Page 1. I presented my credentials to Ms. Montoya and informed her 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. This report is based on information supplied by City of Las Cruces representatives (the permittee), observations made by the EPA inspector, and records and reports maintained by the permittee and the EPA.

FACILITY DESCRIPTION

The Jacob Hands WWTF is classified as a major industrial discharger under the CWA, Section 402, of the NPDES permit program and is authorized to discharge up to 13.5 million gallons per day (MGD) based on design flow, with an actual average discharge around 9.5 MGD. Discharge is to receiving waters of the Rio Grande River in waterbody segment 20.6.4.101 (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, marginal warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

Raw influent arrives at the plant from 17 lift stations around the city, with three submersible pumps in the primary lift station. There are three wastewater plants within the city (the others are the East Mesa Water Reclamation Facility and the West Mesa Industrial Park Wastewater Treatment Facility). The three wastewater facilities do not share wastewater flow, but solids from the East Mesa Facility are brought to the Jacob Hands WWTF and added into the headworks for re-processing.

Influent enters the Jacob Hands WWTF's headworks where large debris is removed by new fully automated bar screens. It then flows to the grit washer and the aerated grit remover where further debris is removed from the influent. Biofilters manage odor control. It then flows to the equalization basin and then enters the two primary clarifiers, then the flow enters the roughing filters. There are two aeration basins after the roughing filters, the east and west basins. Final clarifiers are used prior to chlorination with chlorine gas and dechlorination. Effluent is then released through a 24" Parshall flume to an unnamed ditch, thence the Rio Grande.

The plant underwent an expansion in 2009 which included the installation of biofilters for odor control.

Waste Activated Sludge (WAS) is removed to the gravity thickener then to the centrifuge thickener, to the primary and secondary digesters. Sludge from the East Mesa Plant is sent to the digester at this facility. The digester-produced methane is sent through a gas purification process to remove moisture,

harmful gases, and particulates, then, the cleaned methane is sent to the co-generator facility (including two 334 kilowatt engines), which creates both electrical power and usable heat, which in turn heats the digesters. Sludge is sent offsite to be composted after the belt press.

Section II – 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:

- The rehabilitation of the headworks had not started due to funding.
- The primary clarifier rehabilitation was completed. The clarifier weirs looked clean and level.
- The secondary clarifiers and return activated sludge (RAS) arm seals were replaced and short circuiting was corrected.
- The SCADA system is currently being upgraded to include viewing plant operations electronically. The basin levels and blowers have been tied in, and there are plans to add DO meters and the new electric blowers.
- The trickling filters are currently down.
- There are plans to add ultraviolet (UV) disinfection, currently chlorine gas is trucked in weekly.
- The flow meter calibration is verified and documented monthly.
- Facility personnel have been increasing the stock of spare parts stored on-site to compensate for supply chain issues.
- Facility personnel stated that the plant has historically had some difficulty maintaining compliance with their NPDES permit, but they have hired an outside consultant (Brown and Caldwell) to assist.
- The plant is getting away from the nitrification process and is going back to activated sludge. They are also getting the ball rolling on an ammonia side-treatment.
- There was an in-plant bypass at the roughing filters in December 2022.
- On the day of the inspection, the plant was having a filamentous issue and a foaming issue that started at the secondary clarifiers and peaked at the wet-well where the effluent auto-samplers were located, but dissipated prior to arrival at the outfall (see Photo Log. Facility personnel stated that they are trialing a SulFeLox addition at the primary clarifier that may have had some unintended consequences. SulFeLox turns the mixed liquor to a dark grey color.

A tour of the Jacob Hands Laboratory (lab) was conducted after the plant tour. Laboratory personnel collect WWTF samples themselves and transport the samples to the laboratory. Samples are also run at

this lab for the City of Las Cruces East Mesa Water Reclamation Facility. In-house sample analysis is conducted for pH, biochemical oxygen demand (BOD), total suspended solids (TSS), Escherichia coli bacteria (E. coli), and total dissolved solids (TDS). DMR Reports, including Excursion Notifications from the facility were reviewed for the months of August 2022, November 2022, and January 2023.

Section III – AREAS OF CONCERN

Requirement 1

NPDES Permit NM0023311, Part I.A.1 LIMITATIONS AND MONITORING REQUIREMENTS

POLLUTANT	30-DAY AVG, lbs/day, unless noted	7-DAY AVG lbs/day, unless noted	30-DAY AVG mg/l, unless noted (*1)	7-DAY AVG mg/l, unless noted (*1)	DAILY MAX mg/l, unless noted (*1)	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	Report MGD	Report MGD	N/A	N/A	N/A	Daily	Totalized meter
BOD ₅	3,379	5,069	30	45	N/A	Daily	12-hr Composite
TSS	3,379	5,069	30	45	N/A	Daily	12-hr Composite
BOD ₅ % removal, minimum	≥85 (*2)	N/A	N/A	N/A	N/A	Monthly	Calculation
TSS % removal, minimum	≥85 (*2)	N/A	N/A	N/A	N/A	Monthly	Calculation
TRC	N/A	N/A	N/A	N/A	11 ug/l (*4)	Daily	Instantaneous Grab (*3)
E. coli bacteria	4.25 x 10 ¹⁰ cfu (or MPN)/day (*6)	N/A	126 cfu (or MPN)/100 ml (*5)	N/A	410 cfu (or MPN)/100 ml	Daily	Grab
PCBs, interim (*7, *8)	1.1490E-04	1.2390E-04; daily max	0.00102 ug/l	N/A	0.0011 ug/l	Quarterly	12-hr Composite
PCBs, final (*8, *9)	7.20576E-05	7.55666E-05; daily max	0.00064 ug/l	N/A	0.0006711 ug/l	Once/two weeks	12-hr Composite

Concern 1

See Appendix 2 for the NPDES effluent limit excursions that have been recorded from March 2022 to March 2023.

Requirement 2

NPDES Permit NM0023311, Part III: Standard Conditions B.3. Proper Operation and Maintenance a. *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 2

Facility personnel are working on bringing the Jacob Hands WWTF back into compliance with their NPDES permit, however the operational issues listed in the Section II Observations and the effluent limit excursions in Appendix 2 (including in March 2023) show that there is still more work to be done.

Section IV – CLOSING CONFERENCE

EPA Region 6 inspector, Amy Andrews, conducted a closing conference at the City of Las Cruces East Mesa WRF at 1:30 PM on 02/28/2023 for the inspection. During the closing conference, inspectors discussed observations made during the inspection and reviewed the Areas of Concern noted above during the inspection.

Section V – FOLLOW UP

Documents requested by the inspector during the inspection were received by EPA via email on 03/03/2023 through 03/07/2023, after exiting the Facility on 02/28/2023.

Section VI – LIST OF APPENDICES

Appendix 1 – Photograph Log – 5 photos taken 02/28/2023

Appendix 2 – Effluent Limit Excursions; NM0023311 – Query Dates 3/1/2022 to 3/31/2023

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: City of Las Cruces Jacob A. Hands Wastewater Treatment Facility		
City: Las Cruces	County: Doña Ana	State: New Mexico



Photo File Name: DSCN1618.JPG

Date of Photo: 02/28/2023

Time of Photo: 10:57 AM

Photographer: Amy Andrews

Description: View of primary clarifiers, showing newly leveled weirs, but some foaming issue is present after the weirs.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: City of Las Cruces Jacob A. Hands Wastewater Treatment Facility		
City: Las Cruces	County: Doña Ana	State: New Mexico



Photo File Name: DSCN1624.JPG

Date of Photo: 02/28/2023

Time of Photo: 11:07 AM

Photographer: Amy Andrews

Description: View of aeration basins showing the dark grey color of the mixed liquor caused by the SulFeLox.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: City of Las Cruces Jacob A. Hands Wastewater Treatment Facility		
City: Las Cruces	County: Doña Ana	State: New Mexico



Photo File Name: DSCN1635.JPG

Date of Photo: 02/28/2023

Time of Photo: 11:37 AM

Photographer: Amy Andrews

Description: View of foaming issue at the effluent sampling well.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: City of Las Cruces Jacob A. Hands Wastewater Treatment Facility		
City: Las Cruces	County: Doña Ana	State: New Mexico



Photo File Name: DSCN1638.JPG

Date of Photo: 02/28/2023

Time of Photo: 11:42 AM

Photographer: Amy Andrews

Description: View of foaming issue at the effluent sampling well.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: City of Las Cruces Jacob A. Hands Wastewater Treatment Facility		
City: Las Cruces	County: Doña Ana	State: New Mexico



Photo File Name: DSCN1635.JPG

Date of Photo: 02/28/2023

Time of Photo: 11:37 AM

Photographer: Amy Andrews

Description: View of foaming issue at the effluent sampling well. It is clear that the foam has been as high as half-way up the sides of the auto-samplers.

Appendix 2
Effluent Limit Excursions
NM0023311 – Query Dates 3/1/2022 to 3/31/2023

Permit NM0023311 - Query Dates 3/1/2022 to 3/31/2023

Permit Name	Major Minor Status	Issue Date	Effective Date	Expiration Date
LAS CRUCES, CITY OF / JACOB HANDS	Major	5/27/2021	7/1/2021	6/30/2026

Outfall 001A

00310 BOD, 5-day, 20 deg. C / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2021	6/30/2026	12 Hour Composite	Daily

Limit			
Limit Unit Desc	Pounds per Day	Milligrams per Liter	Milligrams per Liter
Statistical Base	30DA AVG	30DA AVG	7 DA AVG
Limit Value	3379.	30.	45.
DMR Values			
3/31/22		37.3	48.2
4/30/22	3641.3	49.3	65.8
5/31/22		38.1	
6/30/22		30.7	
7/31/22	3835.8	48.2	63.1
8/31/22		35.9	
10/31/22		41.6	47.9
11/30/22	3700.1	47.1	55.1
12/31/22			51.2
3/31/23		31.9	

00530 Solids, total suspended / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2021	6/30/2026	12 Hour Composite	Daily

Limit				
Limit Unit Desc	Pounds per Day	Pounds per Day	Milligrams per Liter	Milligrams per Liter
Statistical Base	30DA AVG	7 DA AVG	30DA AVG	7 DA AVG
Limit Value	3379.	5069.	30.	45.
DMR Values				
3/31/22	5901.8	6991.2	77	91
4/30/22	6911.3	8976.4	93	120.9
5/31/22	5804.9	6414.3	77.8	88.3
6/30/22	5039.7	5849	63.9	74.2
7/31/22	6792.7	7350.6	85	94.9
8/31/22	5590.6	5879.2	68.2	70.2
9/30/22	3995.2	5120.4	49	62.6
10/31/22	6366.6	6841.1	77.8	82.8
11/30/22	5885.5	7385.2	75.1	98.2
12/31/22				49.8
2/28/23			32.2	53.8

51040 E. coli / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2021	6/30/2026	Grab	Daily

Limit			
Limit Unit Desc	Billion Colony Forming Units per Day	Colony Forming Units per 100ml	Colony Forming Units per 100ml
Statistical Base	30DAVGEO	30DAVGEO	DAILY MX
Limit Value	42.5	126.	410.
DMR Values			
3/31/22	97.31	279.55	5419.6
4/30/22	64.96	192.74	853.7
5/31/22	68.12	200.43	1161.6
6/30/22	59.58	166.41	2419.6
7/31/22	129.58	355.59	1643
8/31/22	118.31	316.96	>2419.6
10/31/22	51.33	138.77	>2419.6
11/30/22	62.87	176.26	>2419.6
12/31/22			2084.3
2/28/23			796.7
3/31/23			796.7

81010 BOD, 5-day, percent removal / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2021	6/30/2026	Calculated	Monthly

Limit	
Limit Unit Desc	Percent
Statistical Base	MO AV MN
Limit Value	85.
DMR Values	
3/31/22	83
4/30/22	71
5/31/22	76
6/30/22	80
7/31/22	62
8/31/22	78
9/30/22	82
10/31/22	83
1/31/23	84

81011 Solids, suspended percent removal / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2021	6/30/2026	Calculated	Monthly

Limit	
Limit Unit Desc	Percent
Statistical Base	MO AV MN
Limit Value	85.
DMR Values	
3/31/22	66
4/30/22	59
5/31/22	66
6/30/22	67
7/31/22	56
8/31/22	68
9/30/22	79
10/31/22	75
11/30/22	76

39516 Polychlorinated biphenyls [PCBs] / Location 1 / Season 0 / Base

Limit Start Date	Limit End Date	Sample Type	Frequency of Analysis
7/1/2021	6/30/2024	12 Hour Composite	Quarterly

Limit				
Limit Unit Desc	Pounds per Day	Pounds per Day	Micrograms per Liter	Micrograms per Liter
Statistical Base	30DA AVG	DAILY MX	30DA AVG	DAILY MX
Limit Value	.0001149	.0001239	.00102	.0011
DMR Values				
3/31/22	.0002123	.0002123	.00268	.00268
6/30/22	.000127	.000127	.00157	.00157