ORANGE COUNTY SANITATION DISTRICT

BIOSOLIDS MANAGEMENT COMPLIANCE REPORT

EPA 40 CFR Part 503

Year 2021

OCSAN
ORANGE COUNTY SANITATION DISTRICT

OC SAN
ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue
Fountain Valley, CA 92708
714.962.2411
www.ocsan.gov

February 14, 2022

Jayne Joy, Executive Officer
California Regional Water Quality Control Board, Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

SUBJECT: Orange County Sanitation District Annual Compliance Report

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Enclosed please find the Orange County Sanitation District (OC San) Biosolids Management Compliance Report as required under the 40 CFR Part 503 regulations, Arizona Administrative Code Article 10, and the National Pollution Discharge Elimination System (NPDES) Permit No. CA0110604, Order No. R8-2021-0010, Attachment G.

OC San has uploaded this report into the EPA biosolids electronic reporting database and submitted e-mail copies to state and local regulators. A copy of OC San's EPA electronic report is included as Appendix D.

Certification Statement
The following certifications satisfy procedural requirements as listed in section V.B.5 of the Orange County Sanitation District NPDES Permit No. CA0110604 and 40 CFR part 503, section 503.17 for the submittal of the attached compliance report for calendar year 2020.

> ***NPDES permit:*** *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

If you have any questions, comments, or require additional data, please contact Deirdre Bingman at (714) 593-7459. I can be reached at (714) 593-7450.

Lan C. Wiborg
Director of Environmental Services

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Yorba Linda Water District

OC SAN
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Fountain Valley, CA 92708
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February 14, 2022

Sondra Francis
Arizona Department of Environmental Quality
Water Permits Section
1110 West Washington Street, 5415-B-3
Phoenix, AZ 85007

SUBJECT: Orange County Sanitation District Annual Compliance Report

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OC San has uploaded this report to the EPA biosolids electronic reporting database and submitted e-mail copies to state and local regulators. A copy of OC San's Arizona biosolids annual reporting form is included as Appendix E, and the EPA electronic report is included as Appendix D.

Certification Statement
The following certifications satisfy procedural requirements as listed in Arizona Administrative Code Article 10 under section R18-9-1013 for the submittal of the attached EPA 40 CFR Part 503 Compliance Report for calendar year 2021.

> ***Arizona Class B:*** *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

If you have any questions, comments, or require additional data, please contact Deirdre Bingman at (714) 593-7459. I can be reached at (714) 593-7450.

Lan C. Wiborg
Director of Environmental Services

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BIOSOLIDS MANAGEMENT COMPLIANCE REPORT

2021 BIOSOLIDS MANAGEMENT COMPLIANCE REPORT

Introduction

The Orange County Sanitation District (OC San) manages biosolids, which consist of the nutrient-rich organic matter recovered through the treatment of wastewater onsite and used offsite (recycled), in accordance with all local, state, and federal regulations and best management practices.

OC San is a public agency that provides wastewater collection, treatment, and recycling services for approximately 2.6 million people in central and northwest Orange County, California. OC San is a special district that is governed by a Board of Directors consisting of twenty-five (25) board members appointed from twenty (20) cities, four (4) special districts, and one (1) representative from the Orange County Board of Supervisors. OC San has two (2) plants, Plant No.1 in the city of Fountain Valley and Plant No. 2 in the city of Huntington Beach, CA that treat wastewater from residential, commercial, and industrial sources. During fiscal year 2020-21 (July 1, 2020 to June 30, 2021) OC San treated an average daily sewage influent flow of 183 million gallons per day (MGD).

- This report summarizes OC San's activities and performances for the compliance-reporting period of January 1 to December 31, 2021.

- During this last calendar year (2021) OC San produced **198,349 wet tons of biosolids (45,257 dry metric tons)**, which equates to an average of **543 wet tons per day of biosolids** including digester cleanings managed in compliance with "Class B" biosolids management practices as defined in 40 CFR Part 503 (see Regulatory Requirements section).

Regulatory Requirements

OC San treats and manages its biosolids in accordance with OC San's NPDES Permit, Arizona Administrative Code Title 18, Ch. 9, Article 10 (R18-9), and United States Environmental Protection Agency (USEPA) Code of Federal Regulations Title 40 Part 503 (503).

OC San's NPDES permit requires the following annual reporting for biosolids:

Table 1 – OC San NPDES Permit Requirements	
Requirement	**Annual Report Related Section**
Biosolids Report. By February 19th of each year, the Discharger shall submit an annual biosolids report into USEPA's CDX electronic reporting system, with an electronic copy to the Santa Ana Water Board by email at santaana@waterboards.ca.gov, for the period covering the previous calendar year (January 1 through December 31). The annual reports shall contain, but not be limited to, the information required in the attached Biosolids Reporting Requirements (Attachment G), or an approved	Appendix E contains the submitted USEPA CDX electronic report plus this entire report is emailed to USEPA, Water Board, and Arizona regulators.

Table 1 – OC San NPDES Permit Requirements	
Requirement	**Annual Report Related Section**
revised version thereof. If the Discharger is not in compliance with any conditions or requirements of this Order/Permit, the Discharger shall include the reasons for noncompliance and shall state how and when the Discharger will comply with such conditions and requirements.	
The Discharger shall submit an annual biosolids report into USEPA's CDX electronic reporting system, with an electronic copy to the Santa Ana Water Board by email at santaana@waterboards.ca.gov, by February 19 of each year for the period covering the previous calendar year.	Appendix E contains the submitted USEPA CDX electronic report plus this entire report is emailed to USEPA, Water Board, and Arizona regulators.
The report shall include the tonnages of biosolids (reported in dry metric tons, 100% dry weight), that were land applied (without further treatment by another party), land applied after further treatment by another preparer, disposed in a sludge-only surface disposal site, sent to a landfill for alternative cover or fill, stored on site or off site, or used for another purpose.	Table 3 below, Appendix E
The report shall include the following attachments:	
1. Monitoring results from laboratories (results only, QA/QC pages not required). Copies of original lab reports must be available upon request and confirm the results are on a 100% dry weight basis. Lab reports for fecal coliforms must show the time the samples were collected and the time analysis was started.	Lab reports are available on OC San internal network.
2. If operational parameters were used to demonstrate compliance with pathogen reduction and vector attraction reduction, the minimum mean of these parameters for each sampling period (i.e., minimum mean cell residence times (MCRTs) and temperatures).	Appendix A
3. If biosolids are stored on-site or off-site for more than 2 years, the information required in 40 CFR § 503.20(b) to demonstrate that the storage is temporary	Not applicable (no biosolids stored).
If biosolids were land applied, the Discharger shall have the person applying the biosolids submit a pdf report to USEPA and State agency showing the name of each field; location, ownership, size in acres; the dates of applications, seedings, harvesting; the tonnage applied to field, in actual and dry weight; the calculated Plant Available	Tule Ranch/Ag-Tech is required to independently submit to USEPA and Arizona regulators.

Table 1 – OC San NPDES Permit Requirements	
Requirement	**Annual Report Related Section**
Nitrogen; and copies of applier's certifications of management practices and site restrictions.	

Accomplishments

Despite the global pandemic, OC San has continued without major operational or biosolids management interruptions. Highlights from the reporting period include:

- Beneficial Reuse: Recycled 99% of OC San's biosolids with about 1% digester cleaning materials that went to La Paz County (Arizona) and Holloway (California) landfills before the contract was amended to go to Liberty Compost (California).

- Digester Cleanings: As part of the newly-awarded, multi-year digester cleaning contract, American Processing Group (APG) cleaned nine digesters including the first working digesters to begin the 5-year cleaning cycle and one-year holding digesters cleaning cycle.

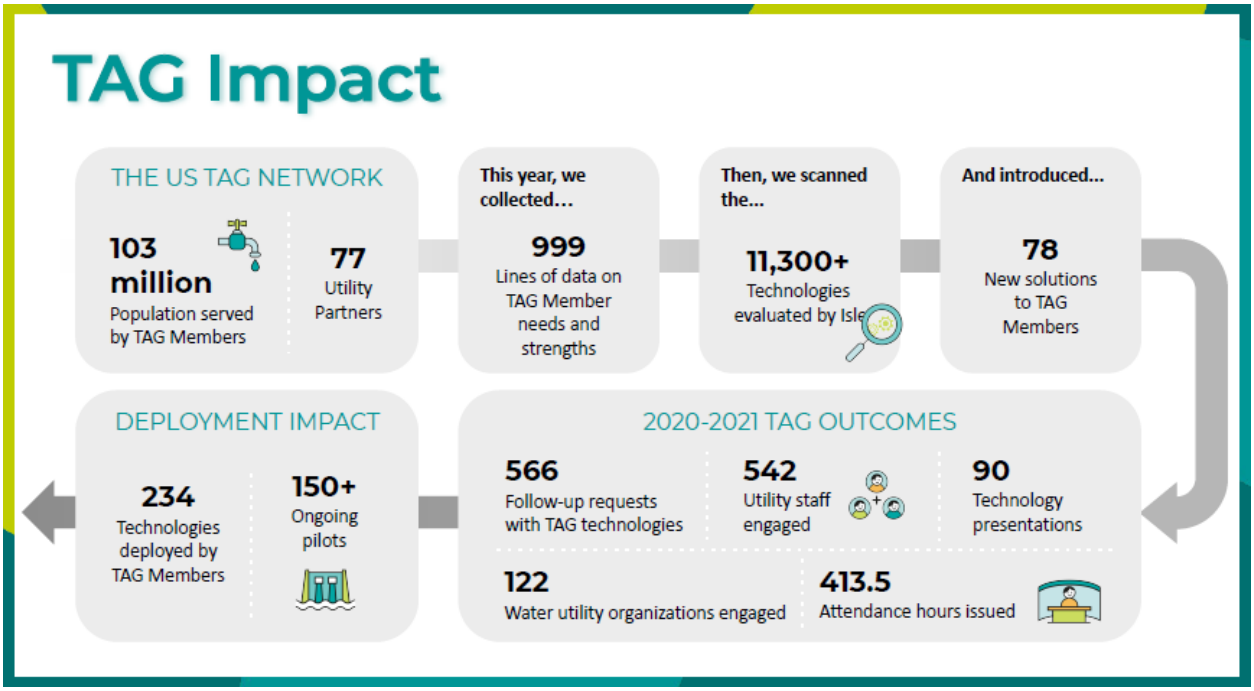
- Plant No. 2 Temperature-Phased Anaerobic Digester (TPAD) Facility: This project will build six new thermophilic digesters and Class A batch tanks. The project started the design phase in January 2022, construction is scheduled to begin in July 2025 and last 5 years.

- Food Waste Treatment Policy Initiative: As part of the implementation of the 2017 Biosolids Master Plan, 2021 Strategic Plan, and as part of the General Manager's Work Plan goal for Fiscal Year 2021-22, OC San had conducted a market assessment of available pre-processed food waste feedstock for co-digestion and is on standby to secure bids to construct P2-124 "Interim Food Waste Receiving Facility" at Plant No. 2. Three prospective municipal solid waste haulers expressed interest in providing food waste feedstock and each is engaged in feasibility assessment and business case evaluation. OC San continues to negotiate with Orange County solid waste haulers to secure a high-quality and reliable food waste feedstock for P2-124. As designed, the pilot project is capable of receiving between 150 to 250 wet tons of pre-processed food waste to be co-digested in OC San's anaerobic digesters at Plant No. 2. The added organic feedstock will account for about a 10% increase of biogas production that will be used to generate electricity.

- Biosolids Management Policy Initiative – Biosolids Thermal Conversion: As directed by the 2019 Strategic Plan, a request for information (RFI) was issued for biosolids thermal conversion technologies (BTC) in April 2020. This process continued into 2021 with contract negotiations resulting in a sole-source demonstration contract awarded to Anergia's Rialto Bioenergy Facility (RBF) in July 2021. RBF is currently running belt dryers to produce >90% total solids dry pellets and is scheduled to install a pyrolysis unit in 2022 to produce biochar. In additional to energy generation, the pyrolysis technology has the potential to destroy PFAS compounds.

- Supercritical Water Oxidation Research Demonstration Project: In December 2021, OC San's Board of Directors approved a contract with 374Water Systems, Inc. to install a small (6 tons per day of solids) supercritical water oxidation demonstration unit at Plant No. 1. Staff has been following this new technology for solids treatment for several years. This technology takes advantage of a unique property of water at high temperature and pressure to convert all complex organic material (including plastics and PFAS) to more basic and benign compounds like nitrogen, water, carbon dioxide, and mineral salts. The unit is expected to be installed in 2022 and begin operation by early 2023.

- Research: OC San's Research Program continues to stay abreast of advanced technologies. Isle Utilities facilitates the Technology Advisory Group (TAG) that OC San participates in as an integral part of its Research Program. The TAG screens and evaluates potential beneficial technologies for the wastewater industry. Quarterly, OC San hosts the Western Wastewater TAG meeting to learn of the most promising technologies screened by Isle (TAG research consultant) that members may choose to pilot. OC San continues to stay current in biosolids and energy recovery technologies through this process. Below is an infographic explaining the expansive TAG network, the general process, and some key outcomes from the Isle 2021 year-end summary report.



- Recognitions: OC San's Awards and Honors (www.ocsan.gov/about-us/awards-and-honors) webpage features this year's awards, including:
  - Excellence Award from the California Association of Sanitation Agencies for Asset Management Program
  - The National Association of Clean Water Agencies:
    - Platinum Peak Performance Award
    - Excellence in Management Recognition
  - Achievement of Excellence in Procurement from the National Procurement Institute

- Distinguished Budget Presentation Award from the Government Finance Officers Association for the FY 2020-21
- The California Water Environment Association
- Collections System of the Year: 2nd place
- The National Safety Council:
  - Occupational Excellence Achievement Award: Plant No. 1
  - Milestone Award: Plant No. 2
- Santa Ana River Basin Section (SARBS) of the California Water Environmental Agency (CWEA):
  - Operator of the Year – Gold - Michael Huls
  - Collection System Person of the Year – Steve Grande
  - Collection System of the Year, 200 – 500 miles category
  - Gimmicks and Gadgets – Alkaline Enhanced Iron Odor Control

Treatment Plants

Reclamation Plant No. 1, located in the city of Fountain Valley, treated an average of 119 MGD of wastewater. Treatment Plant No. 2, located in the city of Huntington Beach, treated an average of 64 MGD of wastewater during the most recent fiscal year.

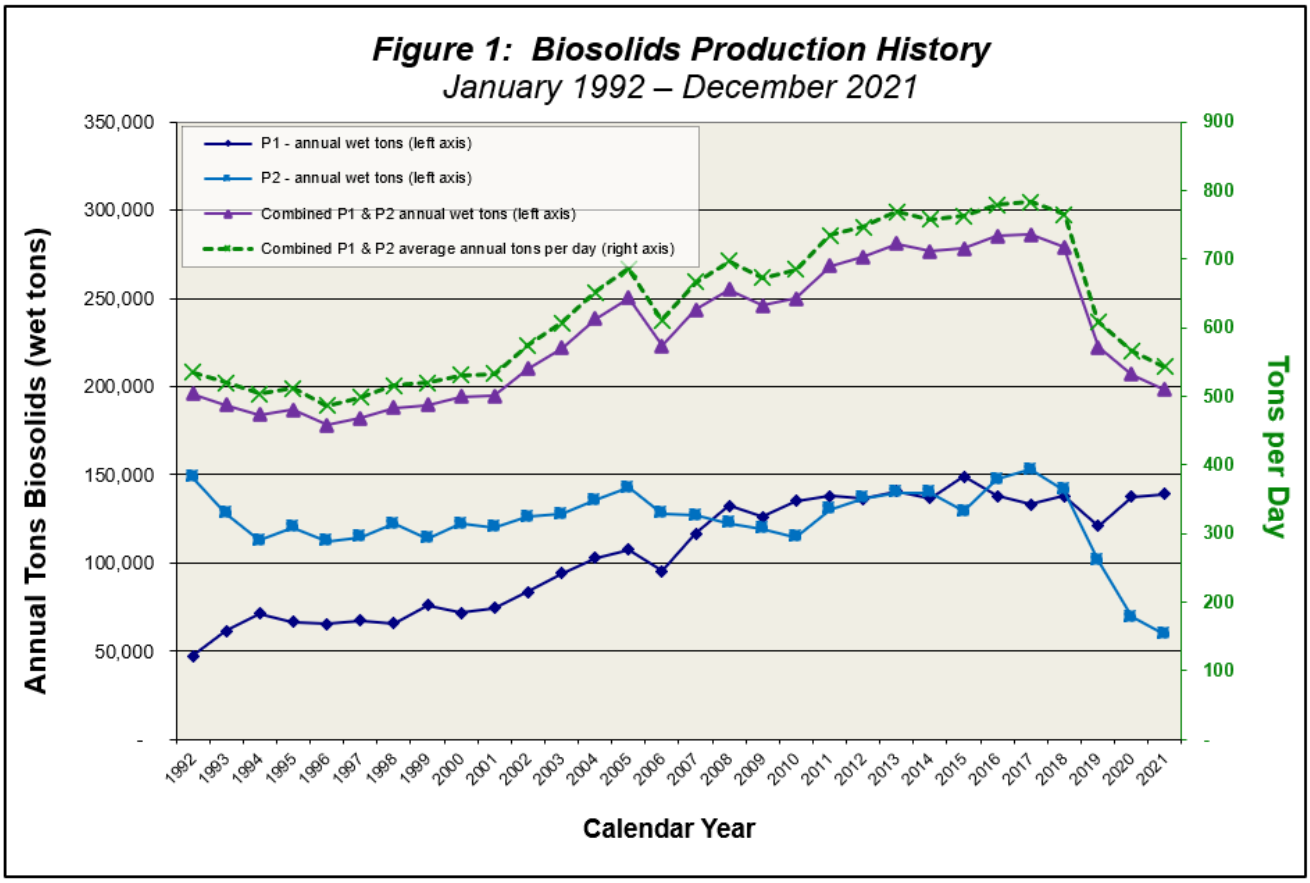
Dewatered biosolids averaged 24% total solids at Plant No. 1 and 27% total solids at Plant No. 2. Detailed data, including monthly averages, annual totals, and analytical results, can be viewed in Figure 1 and Table 2 below, as well as in Appendices A, B, C, and D.

The Irvine Ranch Water District (IRWD) historically discharged its untreated solids (sludge) to OC San. In 2021, IRWD completed commissioning of its new solids treatment facility and effectively ceased its solids discharge to OC San. As a result, OC San saw a 24 ton-per-day (4%) reduction in biosolids production in 2021 over the prior year.

OC San's biosolids met the following regulatory standards and/or criteria:

- OC San's biosolids are digested for at least 15 days at a minimum of 95 degrees Fahrenheit, with a volatile solids destruction of at least 38%.
- OC San's anaerobically digested biosolids meet compliance with the "Class B Pathogen Reduction" and "Vector Attraction Reduction" definition for "Class B" biosolids as defined in 40 CFR Part 503.32(b)(3) (PSRP 3) and 503.33(b)(1).
- Tule Ranch-AgTech's standard operating procedure includes biosolids incorporation within six (6) hours which meets 40 CFR Part 503.33(b)(10) requirement for "Vector Attraction Reduction," which is a valuable redundancy in the case of rare events when OC San experiences challenges meeting the Vector Attraction Reduction standard at the plants.
- OC San's compost contractors' processes meet Class AEQ standards, and therefore OC San is not required to meet Class B standards at the plants in order to utilize for these biosolids management options.

See the Accomplishments section for an update on the new digester cleaning contract.



Biosolids Management

For this reporting period, biosolids produced at OC San's two treatment facilities were managed by the contractors listed below in Table 2.

Table 2- Biosolids Management Contractors	
Synagro - Nursery Products PO Box 1439 Helendale, CA 92342 Contact: Venny Vasquez, Manager Phone: (760) 265-5210 Email: vvasquez@SYNAGRO.com	**Synagro – South Kern Compost Manufacturing Facility** PO Box 265 Taft, CA 93268 Contact: Rob Rankin, Manager Phone: (661) 765-2200 Email: rrankin@SYNAGRO.com
Liberty Compost 12421 Holloway Rd. Lost Hills, CA 93249 Contact: Patrick McCarthy, Manager Phone: (661) 797-2914 Email: patrickmccarthy@mccarthyfarms.com	**Synagro – Arizona Soils** 5615 S. 91st Avenue Tolleson, AZ 85353 Contact: Craig Geyer, Manager Phone: (623) 936-6328 Email: CGeyer@SYNAGRO.com

Table 2- Biosolids Management Contractors	
Tule Ranch / Ag-Tech 4324 E. Ashlan Ave. Fresno, CA 93726 Contact: Kurt Wyrick, Manager Phone: (559) 970-9432 Email: kurt@westexp.com	**Inland Empire Regional Composting Authority** 12645 6th Street Rancho Cucamonga, CA 91739 Contact: Jeff Ziegenbein, Manager Phone: (909) 993-1981 Email: jziegenbein@ieua.org
Rialto Bioenergy Facility 503 East Santa Ana Avenue, Rialto, CA 92316 Contact: John Hutson, Facility Manager Phone: (224) 500-7712 Email: John.Hutson@anaergia.com	

These contractors provide OC San with biosolids management diversification and reliability, and are therefore important partners to OC San. The contractors submit their annual compliance reports directly to USEPA, in accordance with OC San's NPDES permit requirements. For this reporting period, OC San's biosolids were beneficially reused as illustrated in Table 3. More detailed breakdowns are available in Appendices A and D.

Table 3 - Biosolids Managed Tonnage Distribution

Quantity Generated	Plant No. 1	Plant No. 2	Total	Relative %
Tule Ranch AZ (land application) (wet tons)	26,212	45,614	71,826	36%
Tule Ranch AZ (land application) (dry metric tons)	5,637	11,232	16,869	
Liberty Compost CA (wet tons)	36,818	2,881	39,699	20%
Liberty Compost CA (dry metric tons)	8,197	744	8,941	
Rialto Bioenergy Facility CA - heat drying (wet tons)	2,570	100	2,670	1%
Rialto Bioenergy Facility CA - heat drying (dry metric tons)	584	25	610	
Synagro - Nusery Products CA - (compost) (wet tons)	48,809	0	48,809	25%
Synagro - Nusery Products CA - (compost) (dry metric tons	10,466	0	10,466	
Synagro - South Kern - compost (wet tons)	22,984	0	22,984	11.6%
Synagro - South Kern - compost (dry metric tons)	5,025	0	5,025	
Synagro - AZ Soils - compost (wet tons)	736	0	736	0.4%
Synagro - AZ Soils - compost (dry metric tons)	171	0	171	
Inland Empire Regional Composting (wet tons)	0	9,521	9,521	4.8%
Inland Empire Regional Composting (dry metric tons)	0	2,340	2,340	
La Paz Landfill, AZ (landfill) (wet tons)	0	49	49	0.0%
La Paz Landfill, AZ (landfill) (dry tons)	0	23	23	
Holloway, CA (landfill) (wet tons)	849	1,205	2,054	1.0%
Holloway, CA (landfill) (dry tons)	322	491	813	
Total Wet Tons	**138,978**	**59,371**	**198,349**	**100%**
Total Dry Metric Tons	**30,402**	**14,855**	**45,257**	

Summary of Pollutants

OC San's Biosolids Monthly Compliance Reports (Appendix A) compare the limits of the pollutants listed in 40 CFR 503 to OC San's average biosolids concentrations for each plant. The average concentrations of all pollutants in OC San's biosolids are typically an order of magnitude below the conservative "Table 1 Ceiling Limits" and "Table 3 Exceptional Quality Limits" found in 40 CFR Part 503, which were based on an extensive health risk assessment to ensure that biosolids are safe for recycle to build healthy soil.

Since 1976, OC San's Pretreatment Program has reduced the average mass of metals discharged to the marine environment by 99% and the total mass of metals in the influent sewage by 84%, thereby ensuring OC San's biosolids can be recycled to farm fields with low metals concentrations. Appendix B contains the biosolids chapter excerpt from the OC San Pretreatment Program Annual Report (ocsan.gov/PreTreatAnnual, Chapter 8) that includes graphs of metals in OC San's biosolids.

Determination of Hazardousness

OC San's biosolids' pollutant concentrations are significantly below the state and federal maximum contaminant concentrations for determining a hazardous waste. See OC San's biosolids monitoring data in Appendix C, Summary of Biosolids Monitoring Results.

Legal Definitions

To ensure OC San's biosolids program continues to meet the definition of biosolids per federal regulations (40 CFR 503, referenced in OC San NPDES permit), OC San annually verifies its biosolids are non-hazardous. Although OC San does not anticipate its sewage sludge to ever be classified as hazardous, should that highly unlikely scenario occur, the affected biosolids will be managed via 40 CFR 261 and disposed of in accordance with the Resource Conservation and Recovery Act. Relevant regulations regarding hazardous waste are found in the California Code of Regulations Title 22.

Determination Summary

OC San's biosolids are determined to be non-hazardous based on the following evaluation:

- OC San's biosolids are not ignitable, corrosive, reactive, nor toxic in accordance with the federal regulatory definitions in 40 CFR Part 261.
- OC San performs annual testing of an extensive list of organic and inorganic compounds to verify the continued non-hazardousness of our biosolids.
- When the results are non-detectable, OC San enters the method detection limit in the evaluation spreadsheet that compares the data to regulatory limits.

Biosolids Management System

The following sections highlight OC San's continued commitment to the biosolids management system.

Communications

OC San has continued transparent communications during this reporting period. OC San posts timely updates including biosolids news, biosolids videos (www.youtube.com/OrangeCountySanitationDistrict), and updated OC San resources such listed below:

- Monthly compliance reports and data (www.ocsan.gov/nani),
- Annual compliance reports (www.ocsan.gov/503),
- Biosolids Contractor Requirements document (www.ocsan.gov/bcr), and
- Biosolids allocation map (www.ocsan.gov/map).

Contractor Oversight Program

OC San has continued our strong contractor oversight program as demonstrated by the following accomplishments:

- Returned to performing in-person inspections when possible after COVID had reduced inspections in 2020,
- Performed six (6) contractor site inspections in 2021,
- Developed new inspection schedule and site inspection templates,
- One (1) new OC San contractor (Rialto Bioenergy Facility) was onboarded and inspected.
- The following Notice of Violations (NOVs) were issued for two (2) biosolids contractors by local enforcement agencies for this reporting period. OC San has closely monitored each open NOV:
    - Nursery Products:
        - The Mojave Desert Air Quality Management District (AQMD) issued an NOV for a fire that occurred onsite due to high winds. This NOV was closed out in 2021 with improvements to onsite pile monitoring procedures.
        - San Bernardino County Public Health is the Local Enforcement Agency (LEA) and performs inspections for the Nursery Products' compost facility permit. The LEA issued two NOVs, which both related to the receipt of non-permitted food waste contained in mixed green waste shipments. The LEA also issued an NOV for litter migrating offsite. Synagro continues to address these NOVs which are expected to be closed out in early 2022.
    - Tule Ranch:

    - The ADEQ issued an NOV prompted by a neighbor complaint and follow-up inspections in 2020. The NOV was closed out after Tule Ranch addressed ADEQ's questions.

- Outside of NOVs and Areas of Concern mentioned above, there were no additional inspection findings,
- No new odor complaints, and
- Performed 27 hauling inspections, which reached 27 out of 49 regular drivers this year. There are 21 active drivers who are currently on OC San's "Honor Roll" for successfully passing three consecutive hauler inspections by demonstrating their excellence in truck cleanliness and knowledge of biosolids and emergency protocols.

Goals and Targets

OC San's 2021 Strategic Plan is a guiding document that provides a framework that directs its operations and priorities. Every two years, the Strategic Plan is reviewed, updated, and submitted for approval by the Board of Directors. Two Strategic Plan initiatives are related to biosolids: Food Waste Treatment Policy and Biosolids Management Policy, and these initiatives' updates are provided in the Accomplishments section of this report. The Strategic plan is available on the OC San Strategic Planning website (www.ocsan.gov/services/strategic-planning).

Biosolids Program Policy

The Biosolids Program Policy, originally adopted in 1999 and amended several times over the years, is a policy committing the agency to support biosolids beneficial reuse (organics recycling). The most recent commitments, OC San Resolution 13-03 (www.ocsan.gov/bios-policy), and OC San's performance relative to these commitments are reported below.

Table 3 – Policy Performance

Policy Commitment	2021 Performance
1. **Commit to sustainable biosolids program** - Support the recycling of biosolids.	OC San has demonstrated effective pretreatment, water and solids treatment operations, compliance, capital improvements, technology research and planning, and biosolids contractor oversight programs. See the Accomplishments at the beginning of this report for more details.
2. Strive to balance financial, environmental, and societal considerations when making biosolids decisions.	OC San weighs these considerations and watches for issues that would alter the balance on a daily basis. See Ten Tenets reporting table below and the most current allocation map(www.ocsan.gov/map), which demonstrates how OC San balances these considerations.
3. Utilize a biosolids management system to maintain a sustainable and publicly supported biosolids program.	OC San continues to maintain our biosolids management system as outlined in this section.
4. Diversify portfolio of offsite biosolids management options with multiple biosolids	See Table 2 for breakdown of our active biosolids management options.

Table 3 – Policy Performance	
Policy Commitment	**2021 Performance**
contractors, markets, facilities, and maintaining fail-safe back-up capacity of at least 100% of its daily biosolids production.	See Table 4 for the Ten Tenets.
5. Research and implement ways to reduce the volume of biosolids at the treatment plants to minimize the need for offsite management.	OC San's production of biosolids has reduced by 31% since the 2017 peak in biosolids production prior to OC San's Plant No. 1 and No. 2 new centrifuges commissioning. OC San's Research Program actively seeks opportunities for process area improvements, including solids (see Accomplishments section). OC San contracted for a demonstration supercritical water oxidation technology (see Accomplishments section).
6. Support continuing research of biosolids benefits and potential safety concerns.	In July 2020, the California State Water Resource Control Board issued OC San and most other treatment plants an order to sample our wastewater and biosolids for a list of polyfluoroalkyl constituents (abbreviated as PFAS). OC San completed the required four quarters of sampling and submitted the final report. The State regulators will use this data to determine presence and absence of the constituents that will help in future policy or regulatory planning. In addition, OC San is supporting several PFAS research projects. OC San has access to the Northwest Biosolids' library (www.nwbiosolids.org). The library contains references to over 2,600 biosolids-related research articles references. Northwest Biosolids sends a monthly themed, relevant summary of research to its members, so staff can easily digest pertinent scientific information and better communicate with interested parties. Northwest Biosolids also has a free monthly e-Bulletin for non-members. OC San staff summarize the Northwest Biosolids monthly scientific article reviews in our internal quarterly biosolids report. OC San continues to participate in several regional, state and national biosolids associations and groups to stay informed of and participate in studies investigating the fate, transport, and characteristics of biosolids by helping to fund, providing in-kind services, and biosolids samples.
7. Demonstrate the benefits of biosolids compost by using it at OC San's facilities.	OC San maintains compost piles at each plant. This compost is available to our employees and our landscape contractor to demonstrate the benefits of compost. OC San encourages employees to share their compost use photos. In Fall of 2021, OC San launched a new Compost Outreach website (www.ocsan.gov/compost) and hosted a webinar for its member agencies to inform them of the opportunity to use biosolids

Table 3 – Policy Performance	
Policy Commitment	**2021 Performance**
	compost to meet SB1383 requirements. Copies of the webinar materials and recording are available on the website.

Ten Tenets of OC San's Biosolids Management Plan

Read more on OC San's Ten Tenets and the Biosolids Master Plan at ocsan.gov/bmp.

Table 4 – Ten Tenets of Biosolids Management Performance	
Tenet Commitment	**2021 Performance**
1. Allocate up to 50 percent of biosolids per biosolids contractor.	Each contractor received **less than 50%** of OC San's biosolids (maximum of 31% each to two contractors). See Table 2 for relative tonnage distribution this year. See OC San's current map of where OC San's biosolids are allocated at ocsan.gov/map.
2. Allocate up to 50 percent of biosolids to each geographic end use market.	**Sixty-three percent (63%)** of OC San's biosolids were turned into **compost at five (5) regional facilities**. Combined, these facilities distributed **262,328 tons** of composted biosolids in the following **16 geographic markets** (increasing counties by almost 80% since 2018): • 5% to San Bernardino County (24% decrease over last year), • 18% to Riverside County (7% decrease over last year), • 17% to Kern County (3% increase over last year), • 28% to Los Angeles County (16% increase over last year), • 8% to Kings County, (6% increase over last year), • 8% to Madera County, (4% increase over last year), • 5% to Fresno County, (3% increase over last year), • 5% to La Paz County, AZ (2.7% increase over last year), • 1.5% to Orange County, (3.8% decrease over last year), • 3% to San Diego County, (about the same as last year), Heat-dried pellets were produced with **1%** of OC San's biosolids at RBF. These pellets were used on farms in Arizona. The remaining **36%** of OC San's biosolids were used to raise crops, producing 7,960 tons of mostly alfalfa and sudan with some oats, wheat, and sorghum for distribution to regional markets such as Arizona and California.
3. Maintain at least three (3) different biosolids management facilities at any time.	With the addition RBF as a new management facility in 2021, OC San regularly utilized **six (6)** different biosolids management facilities. See Table 3 for relative tonnage distribution this year. See OC San's current map of where OC San's biosolids are allocated at ocsan.gov/map.
4. Maintain at least two (2) different biosolids management practices at any time.	With the addition RBF as a new management facility in 2021, OC San maintained **three (3)** different management practices, composting, land application (direct farming of feed crops with biosolids), and heat drying to produce pellets. See Table 3 for relative tonnage distribution this

Table 4 – Ten Tenets of Biosolids Management Performance	
Tenet Commitment	**2021 Performance**
	year. See OC San's current map of where OC San's biosolids are allocated at ocsan.gov/map.
5. Maintain at least two (2) different hauling companies within the biosolids management portfolio.	OC San and its biosolids management contractors utilized **three (3)** different hauling companies (GIC, Tule Ranch/Western Express, and Denali Water Solutions).
6. Maintain at least 200 percent (2 times daily production) contingency capacity at end use sites.	OC San maintained biosolids management site contingency capacity of at about **1,200% (12 times daily production)**.
7. Maintain 20 percent (1.2 times daily production) fail-safe hauling capacity.	**OC San's fail-safe hauling capacity decreased from its usual 36% to 11% by the end of the year.** The United States is experiencing a shortage of more than 80,000 truck drivers, according to an estimate from the American Trucking Associations. Biosolids haulers are similarly experienced difficulties this year hiring drivers as well as periodic issues with COVID and holiday coverage. Haulers are increasing wages in order to attract more drivers.
8. Track and encourage development of emerging markets and/or end uses for biosolids, especially for local end use options.	The 2021 Strategic Plan, developed by the Board of Directors and staff, defines the strategic initiatives to be pursued by OC San and provides a basis for long-term financial, capital, and operational planning. The Biosolids Management Policy initiative in the document includes commitments to educate and advocate with the local, state, and federal agencies to assure biosolids will continue to be safely and legally used as a soil amendment and monitor and research constituents of emerging concern such as PFAS and microplastics that may impact biosolids. See the Accomplishments section for an update on OC San's efforts this year on the Food Waste Treatment and Biosolids Management policies.
9. Allocate up to 10 percent of total biosolids production for participation in emerging markets, including participation in pilot or demonstration projects.	See the Accomplishments section for an update on OC San's efforts this year on the Biosolids Management Policy Initiative, which included awarding RBF contract for heat drying and pyrolysis as well as an onsite demonstration of supercritical water oxidation.
10. Explore partnerships with area soil blenders to allow incorporation of OC San's Class A product into local markets.	OC San is following the work being done by San Francisco Public Utilities Commission on their research and development of their temperature-phase anaerobically digested biosolids soil blend product. In particular, the blend and product distribution to local markets. OC San's efforts will follow suit at the appropriate time since OC San's new solids handling facilities are expected to be commissioned in about 2030.

APPENDIX A

Table 1: OC San Biosolids Wet and Dry Tonnage Distribution, Plant No. 1
Table 2: OC San Biosolids Wet and Dry Tonnage Distribution, Plant No. 2
Biosolids Monthly Compliance Reports, January – December 2021

Table 1: OC San Biosolids Wet and Dry Tonnage Distribution

Reclamation Plant No. 1, Fountain Valley, CA

Biosolids Generated	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual Average
Biosolids Total Solids (%)	23	22	23	24	22	23	24	25	26	25	26	25	**24**
Management Locations	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Tule Ranch AZ - land application (wet tons)	2,734	2,312	2,678	2,503	2,103	2,156	1,965	2,214	1,672	1,865	2,019	1,988	**26,212**
Tule Ranch AZ - land application (dry metric tons)	561	455	564	545	414	450	422	492	394	423	476	442	**5,637**
Liberty Compost CA (wet tons)	2,573	2,502	3,125	3,030	3,054	2,977	2,753	2,852	2,349	1,947	2,961	2,781	**32,904**
Liberty Compost CA (dry metric tons)	527	492	658	660	601	621	592	634	554	441	698	618	**7,096**
Rialto Bioenergy Facility CA - heat drying (wet tons)	0	0	0	0	0	0	0	94	584	1,154	0	738	**2,570**
Rialto Bioenergy Facility CA - heat drying (dry metric tons)	0	0	0	0	0	0	0	21	138	262	0	164	**584**
Synagro - Nusery Products CA - compost (wet tons)	4,819	4,522	4,600	4,574	4,515	4,561	4,636	3,341	3,236	3,063	3,289	3,653	**48,809**
Synagro - Nusery Products CA - compost (dry metric tons)	988	890	968	996	889	951	997	742	763	695	776	812	**10,466**
Synagro - South Kern - compost (wet tons)	1,081	1,281	1,813	1,711	1,811	1,708	1,557	2,608	2,566	2,416	2,396	2,035	**22,984**
Synagro - South Kern - compost (dry metric tons)	222	252	381	372	357	356	335	580	605	548	565	452	**5,025**
Synagro - AZ Soils - compost (wet tons)	0	0	0	0	0	0	0	0	0	25	514	197	**736**
Synagro - AZ Soils - compost (dry metric tons)	0	0	0	0	0	0	0	0	0	6	121	44	**171**
Inland Empire Regional Composting (wet tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inland Empire Regional Composting (dry metric tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Wet Tons	**11,207**	**10,618**	**12,216**	**11,818**	**11,484**	**11,401**	**10,912**	**11,110**	**10,406**	**10,470**	**11,179**	**11,393**	**134,215**
Total Dry Metric Tons	**2,297**	**2,090**	**2,571**	**2,573**	**2,260**	**2,378**	**2,346**	**2,469**	**2,454**	**2,374**	**2,636**	**2,532**	**28,979**

Digester Cleanings	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Digester(s)			**9, 5**	**10**						**15**	**15, 16**	**16, 6**	
Digester Cleaning Total Solids Percents			**55, 23**	**22**						**30**	**30, 32**	**32, 54**	
La Paz Landfill, AZ (landfill) (wet tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
La Paz Landfill, AZ (landfill) (dry tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Holloway, CA (landfill) (wet tons)	0	0	849	0	0	0	0	0	0	0	0	0	**849**
Holloway, CA (landfill) (dry tons)	0	0	322	0	0	0	0	0	0	0	0	0	**322**
Liberty Compost (compost) (wet tons)	0	0	0	1353	0	0	0	0	0	767	706	1088	**3,914**
Liberty Compost (compost) (dry metric tons)	0	0	0	270	0	0	0	0	0	211	200	420	**1,101**
Digester Cleaning Total Wet Tons	**0**	**0**	**849**	**1,353**	**0**	**0**	**0**	**0**	**0**	**767**	**706**	**1,088**	**4,763**
Total Dry Metric Tons	**0**	**0**	**322**	**270**	**0**	**0**	**0**	**0**	**0**	**211**	**200**	**420**	**1,423**
Total Wet Tons (Biosolids plus Digester Cleanings)	**11,207**	**10,618**	**13,065**	**13,171**	**11,484**	**11,401**	**10,912**	**11,110**	**10,406**	**11,237**	**11,885**	**12,481**	**138,978**
Total Dry Metric Tons (Biosolids plus Digester Cleanings)	**2,297**	**2,090**	**2,893**	**2,843**	**2,260**	**2,378**	**2,346**	**2,469**	**2,454**	**2,585**	**2,836**	**2,952**	**30,402**

Wet Tons

138,978

Dry Tons

30,402

Table 2: OC San Biosolids Wet and Dry Tonnage Distribution

Wastewater Treatment Plant No. 2, Huntington Beach, CA

Biosolids Generated	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual Average
Biosolids Total Solids (%)	27	26	29	28	26	25	27	28	26	28	29	28	**27**
Management Locations	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Tule Ranch AZ - land application (wet tons)	3,762	3,414	3,635	3,854	4,116	3,944	4,038	4,137	3,931	3,545	3,520	3,720	**45,614**
Tule Ranch AZ - land application (dry metric tons)	925	793	956	989	971	894	989	1,032	913	900	926	945	**11,232**
Liberty Compost CA (wet tons)	230	0	0	0	126	102	228	381	506	482	227	352	**2,635**
Liberty Compost CA (dry metric tons)	56	0	0	0	31	25	56	94	124	118	56	87	**648**
Rialto Bioenergy Facility CA - heat drying (wet tons)	0	0	0	0	0	0	0	0	0	0	0	100	**100**
Rialto Bioenergy Facility CA - heat drying (dry metric tons)	0	0	0	0	0	0	0	0	0	0	0	25	**25**
Inland Empire Regional Composting (wet tons)	787	714	764	642	847	1,061	811	592	693	767	1,019	824	**9,521**
Inland Empire Regional Composting (dry metric tons)	193	175	188	158	208	261	199	145	170	189	251	202	**2,340**
Synagro - Nusery Products CA - compost (wet tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Synagro - Nusery Products CA - compost (dry metric tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Synagro - South Kern - compost (wet tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Synagro - South Kern - (dry metric tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Synagro- AZ Soils-compost (wet tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Synagro - AZ Soils-compost (dry metric tons)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Biosolids Total Wet Tons	**4,779**	**4,128**	**4,399**	**4,496**	**5,089**	**5,107**	**5,078**	**5,110**	**5,129**	**4,794**	**4,767**	**4,995**	**57,870**
Total Dry Metric Tons	**1,175**	**968**	**1,144**	**1,147**	**1,210**	**1,180**	**1,244**	**1,271**	**1,207**	**1,207**	**1,232**	**1,259**	**14,245**

Digester Cleanings	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Digester(s)	**D**	**D, J, K**	**K**										
Digester Cleaning Total Solids Percent (average)	**51**	**51, 22, 45**	**45**										
La Paz Landfill, AZ (landfill) (wet tons)	24	25	0	0	0	0	0	0	0	0	0	0	**49**
La Paz Landfill, AZ (landfill) (dry tons)	11	12	0	0	0	0	0	0	0	0	0	0	**23**
Holloway, CA (landfill) (wet tons)	0	1205	0	0	0	0	0	0	0	0	0	0	**1,205**
Holloway, CA (landfill) (dry tons)	0	491	0	0	0	0	0	0	0	0	0	0	**491**
Liberty Compost (compost) (wet tons)	0	23	223	0	0	0	0	0	0	0	0	0	**246**
Liberty Compost (compost) (dry metric tons)	0	5	91	0	0	0	0	0	0	0	0	0	**96**
Digester Cleaning Total Wet Tons	**24**	**1,253**	**223**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,500**
Total Dry Metric Tons	**11**	**508**	**91**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**610**
Total Wet Tons (Biosolids plus Digester Cleanings)	**4,803**	**4,176**	**4,622**	**4,496**	**5,089**	**5,107**	**5,078**	**5,110**	**5,129**	**4,794**	**4,767**	**4,995**	**58,166**
Total Dry Metric Tons (Biosolids plus Digester Cleanings)	**1,186**	**985**	**1,235**	**1,147**	**1,210**	**1,180**	**1,244**	**1,271**	**1,207**	**1,207**	**1,232**	**1,259**	**14,364**

Wet Tons

59,371

Dry Tons

14,855

OCSAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach, CA

Monitoring Period: January 1- 31, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 01/12/21, 01/19/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.75	16	1.2	49	530	5.0	18	37	7.6	840	8,400	46,000	53,000	8.1	23	60
Plant 1 Avg	0.69	14	1.2	48	520	4.7	17	37	6.9	820	8,000	44,000	52,000		23	
Plant 2 Max/Min*	0.54	19	2.2	48	440	6.5	20	28	9.4	760	6,800	43,000	48,000	8.0	27	66
Plant 2 Avg	0.48	18	2.2	48	440	5.5	19	28	8.4	730	6,000	40,000	46,000		27	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	27	28	27	Out of Service	26	27	26	26	26	26	26
Minimum Temperature (Min 95 °F)	97	99	99	Out of Service	99	97	98	98	98	97	98

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	31	32	Out of Service	32	Out of Service	31	31	Out of Service	Out of Service	32	32	31	Out of Service	31	31	31	Out of Service	31
Minimum Temperature (Min 95 °F)	98	99	Out of Service	99	Out of Service	100	99	Out of Service	Out of Service	99	98	98	Out of Service	98	99	100	Out of Service	100

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL). * Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

** MCRT based on a 15-Day Rolling Average.

OCSAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach, CA

Monitoring Period: January 1- 31, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

503 Class B: *I certify, under penalty of law, that the Class B pathogen requirements in 503.32(b) and the vector attraction reduction requirement in 503.33(b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Arizona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Jim Spears
Jim Spears (Apr 14, 2021 15:00 PDT)

Jim Spears
Operations Manager
jspears@ocsan.gov
(714) 593-7081

Lan Wiborg
Lan Wiborg (Apr 14, 2021 15:02 PDT)

Lan C.Wiborg
Environmental Services Director
lwiborg@ocsan.gov
(714) 593-7540

Cindy Vellucci
Cindy Vellucci (Apr 13, 2021 14:59 PDT)

Cindy Vellucci

Deirdre Bingman
Deirdre Bingman (Apr 13, 2021 08:48 PDT)

Deirdre Bingman

Rachel Van Exel

Reza Sobhani
Reza Sobhani (Apr 14, 2021 14:00 PDT)

Reza Sobhani

OCSAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach, CA

Monitoring Period: February 1- 28, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 02/02/21, 02/09/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.78	14	1.9	52	550	3.6	18	29	11	730	11,000	44,000	52,000	8.2	22	63
Plant 1 Avg	0.76	13 DNQ	1.6	44	540	3.4	16	28	9.0	710	9,400	40,000	49,000		22	
Plant 2 Max/Min*	0.48	16	1.9	48	470	3.4	17	29	9.6	700	7,800	51,000	59,000	8.2	26	74
Plant 2 Avg	0.48	16	1.9	42	440	2.7	17	26	9.1	680	6,700	45,000	52,000		26	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	26	26	26	Out of Service	25	26	26	26	26	26	26
Minimum Temperature (Min 95 °F)	98	98	99	Out of Service	99	99	99	99	99	98	98

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	31	31	Out of Service	32	Out of Service	31	31	Out of Service	Out of Service	32	32	31	Out of Service	31	31	31	Out of Service	31
Minimum Temperature (Min 95 °F)	98	98	Out of Service	100	Out of Service	99	98	Out of Service	Out of Service	99	98	100	Out of Service	98	101	102	Out of Service	100

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).
* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).
** MCRT based on a 15-Day Rolling Average.

ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach, CA

Monitoring Period: February 1- 28, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

503 Class B: *I certify, under penalty of law, that the Class B pathogen requirements in 503.32(b) and the vector attraction reduction requirement in 503.33(b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Arizona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Jim Spears
Operations Manager
jspears@ocsan.gov
(714) 593-7081

Lan Wiborg
Lan Wiborg (Apr 21, 2021 15:2[illegible] PDT)

Lan C.Wiborg
Environmental Services Director
lwiborg@ocsan.gov
(714) 593-7540

Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani
Cindy Vellucci (Apr 19, 2021 10:16 PDT)	Deirdre Bingman (Apr 20, 2021 06:55 PDT)		Reza Sobhani (Apr 20, 2021 08:41 PDT)
Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani

ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: March 1- 31, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 03/02/21, 3/09/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.65	12	2.2	47	520	5.6	15	34	7.8	820	9,000	44,000	52,000	8.0	23	61
Plant 1 Avg	0.61	11	1.6	47	500	5.4	15	34	6.9	800	8,600	44,000	52,000		23	
Plant 2 Max/Min*	0.55	16	1.8	42	420	5.2	17	27	6.5	700	7,200	41,000	48,000	8.0	28	77
Plant 2 Avg	0.45	16	1.8	42	420	4.4	17	27	6.4	700	7,100	40,000	47,000		29	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	22	22	22	Out of Service	26	22	22	22	22	22	22
Minimum Temperature (Min 95 °F)	99	99	99	Out of Service	99	99	99	99	99	99	99

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	32	32	Out of Service	33	Out of Service	32	32	Out of Service	Out of Service	32	33	32	Out of Service	32	32	32	Out of Service	32
Minimum Temperature (Min 95 °F)	98	99	Out of Service	100	Out of Service	99	98	Out of Service	Out of Service	99	99	99	Out of Service	98	99	102	Out of Service	99

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).

* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

** MCRT based on a 15-Day Rolling Average.

ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: March 1- 31, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

503 Class B: *I certify, under penalty of law, that the Class B pathogen requirements in 503.32(b) and the vector attraction reduction requirement in 503.33(b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Arizona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Jim Spears
Jim Spears (May 25, 2021 09:15 PDT)

Jim Spears
Operations Manager
jspears@ocsan.gov
(714) 593-7081

Lan C. Wiborg
Lan C. Wiborg (May 25, 2021 09:45 PDT)

Lan C.Wiborg
Environmental Services Director
lwiborg@ocsan.gov
(714) 593-7540

Cindy Vellucci			Reza Sobhani
Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani

ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: April 1- 30, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 04/06/21, 04/13/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	1.0	11	0.94	66	540	12	18	54	19	860	13,000	48,000	60,000	7.8	23	65
Plant 1 Avg	0.80	11 DNQ	0.93	54	510	8.6	18	46	12	830	12,000	48,000	59,000		24	
Plant 2 Max/Min*	1.2	15	1.6	64	450	7.7	21	31	14	780	8,800	43,000	49,000	7.8	28	72
Plant 2 Avg	0.86	15	1.6	64	440	7.4	21	30	10	760	7,600	42,000	49,000		28	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OC San Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	22	22	22	Out of Service	Out of Service	22	22	21	22	21	21
Minimum Temperature (Min 95 °F)	99	99	99	Out of Service	Out of Service	99	99	99	99	99	99

OC San Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	32	32	Out of Service	33	Out of Service	32	32	Out of Service	Out of Service	33	33	32	Out of Service	32	32	32	Out of Service	32
Minimum Temperature (Min 95 °F)	99	100	Out of Service	101	Out of Service	100	100	Out of Service	Out of Service	99	100	99	Out of Service	100	103	102	Out of Service	100

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).

* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

** MCRT based on a 15-Day Rolling Average.

OCSAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,
Monitoring Period: April 1- 30, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

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Arizona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Lan C. Wiborg
Lan C. Wiborg (Jul 16, 2021 07:54 PDT)

Jim Spears Operations Manager	jspears@ocsan.gov (714) 593-7081	Lan C.Wiborg Environmental Services Director	lwiborg@ocsan.gov (714) 593-7540

Cindy Vellucci	Tom Meregillano	Rachel Van Exel	Reza Sobhani

ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: May 1- 31, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 05/04/21, 05/11/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.73	12	1.1	51	510	6.9	19	38	7.8	830	8,200	48,000	56,000	8.1	22	58
Plant 1 Avg	0.71	12	0.92	49	490	6.5	19	36	7.2	830	7,600	48,000	56,000		22	
Plant 2 Max/Min*	0.72	16	1.9	52	440	8.0	22	31	9.8	800	6,200	45,000	51,000	8.2	25	74
Plant 2 Avg	0.63	16	1.8	52	440	6.2	22	31	8.9	780	5,900	42,000	48,000		26	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OC San Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	23	25	23	Out of Service	Out of Service	23	22	22	23	22	22
Minimum Temperature (Min 95 °F)	99	99	99	Out of Service	Out of Service	99	99	99	99	99	99

OC San Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	31	32	Out of Service	32	Out of Service	31	31	Out of Service	Out of Service	32	32	31	Out of Service	31	30	31	Out of Service	31
Minimum Temperature (Min 95 °F)	100	100	Out of Service	102	Out of Service	101	100	Out of Service	Out of Service	100	101	101	Out of Service	104	102	104	Out of Service	100

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).

* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

** MCRT based on a 15-Day Rolling Average.

OC SAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,
Monitoring Period: May 1- 31, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

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Lan C. Wiborg (Jul 21, 2021 07:50 PDT)

Jim Spears Operations Manager	jspears@ocsan.gov (714) 593-7081	Lan C.Wiborg Environmental Services Director	lwiborg@ocsan.gov (714) 593-7540

Cindy Vellucci			Reza Sobhani
Cindy Vellucci	Tom Meregillano	Rachel Van Exel	Reza Sobhani

ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: June 1- 30, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 06/01/21, 06/08/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.56	13	1.2	51	560	6.5	18	36	8.4	830	9,300	50,000	59,000	8.0	22	60
Plant 1 Avg	0.56	13	1.0	46	540	5.4	18	35	8.4	800	8,600	47,000	55,000		23	
Plant 2 Max/Min*	0.61	20	1.9	56	520	7.5	26	34	9.9	900	6,600	45,000	52,000	7.9	21	71
Plant 2 Avg	0.51	17	1.7	49	470	5.6	23	29	9.1	780	6,200	44,000	50,000		25	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	23	23	23	Out of Service	Out of Service	22	22	23	23	22	22
Minimum Temperature (Min 95 °F)	99	99	99	Out of Service	Out of Service	99	99	99	99	99	99

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	29	29	Out of Service	29	Out of Service	29	29	Out of Service	Out of Service	29	29	28	Out of Service	28	28	29	Out of Service	29
Minimum Temperature (Min 95 °F)	99	101	Out of Service	103	Out of Service	102	100	Out of Service	Out of Service	99	101	102	Out of Service	102	102	103	Out of Service	100

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).

* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

** MCRT based on a 15-Day Rolling Average.

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: June 1- 30, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

503 Class B: *I certify, under penalty of law, that the Class B pathogen requirements in 503.32(b) and the vector attraction reduction requirement in 503.33(b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Arizona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Jim Spears
Jim Spears (Aug 4, 2021 12:51 PDT)

Jim Spears — jspears@ocsan.gov
Operations Manager — (714) 593-7081

Lan Wiborg
Lan Wiborg (Aug 4, 2021 14:33 PDT)

Lan C.Wiborg — lwiborg@ocsan.gov
Environmental Services Director — (714) 593-7540

Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani
Cindy Vellucci (Aug 2, 2021 10:08 PDT)	Deirdre Bingman (Aug 3, 2021 13:08 PDT)	Rachel Van Exel	Reza Sobhani (Aug 4, 2021 10:07 PDT)

ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: July 1- 31, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 07/13/21, 07/20/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min[2]	0.75	9.3 DNQ	1.1	46	540	6.3	17	33	9.2	830	7,500	48,000	55,000	8.0	24	58
Plant 1 Avg	0.61	8.8 DNQ	0.97	42	530	5.5	17	33	8.8	820	7,400	48,000	55,000		24	
Plant 2 Max/Min[2]	0.48	12	1.4	44	440	5.7	20	28	11	800	5,600	42,000	48,000	8.0	25	67
Plant 2 Avg	0.45	12	1.3	43	400	5.7	19	26	9.8	740	5,300	40,000	45,000		27	
Table 1 (Max/Min)[2]	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1

	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)[3]	24	24	24	70[1]	Out of Service	23	23	23	24	23	23
Minimum Temperature (Min 95 °F)	98	99	99	98	Out of Service	99	99	99	99	99	99

OCSD Plant 2

	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)[3]	30	30	Out of Service	28	Out of Service	29	29	Out of Service	Out of Service	28	28	29	Out of Service	29	29	29	Out of Service	29
Minimum Temperature (Min 95 °F)	98	100	Out of Service	100	Out of Service	100	100	Out of Service	Out of Service	99	99	98	Out of Service	100	100	99	Out of Service	100

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).

[1] Digester 9's elevated detention time was due to bringing it back in service on 7/13/21 and the feed was ramped up through the end of the month.

[2] Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

[3] MCRT based on a 15-Day Rolling Average.

OC SAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,
Monitoring Period: July 1- 31, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

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Jim Spears
Jim Spears (Dec 16, 2021 11:56 PST)

Jim Spears — jspears@ocsan.gov
Operations Manager — (714) 593-7081

Lan Wiborg
Lan Wiborg (Dec 16, 2021 13:27 PST)

Lan C.Wiborg — lwiborg@ocsan.gov
Environmental Services Director — (714) 593-7540

Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani
Cindy Vellucci (Dec 15, 2021 09:38 PST)	Deirdre Bingman (Dec 15, 2021 10:06 PST)		Reza Sobhani (Dec 16, 2021 08:46 PST)

OC SAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,
Monitoring Period: July 1- 31, 2021

rtifications:

DES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to sure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly sponsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant nalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

3 Class B: *I certify, under penalty of law, that the Class B pathogen requirements in 503.32(b) and the vector attraction reduction requirement in 503.33(b)(1) have been met. This termination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the ormation used to determine that the pathogen requirements and vector attraction requirements have been met. I am aware that there are significant penalties for false certification luding the possibility of fine and imprisonment.*

izona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable solids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Jim Spears
Jim Spears (Dec 16, 2021 11:56 PST)

Jim Spears
Operations Manager
jspears@ocsan.gov
(714) 593-7081

Lan Wiborg
Lan Wiborg (Dec 16, 2021 13:27 PST)

Lan C.Wiborg
Environmental Services Director
lwiborg@ocsan.gov
(714) 593-7540

Cindy Vellucci (Dec 15, 2021 09:38 PST)	Deirdre Bingman (Dec 15, 2021 10:06 PST)		Reza Sobhani (Dec 16, 2021 06:46 PST)
Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani

OCSAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2,

Monitoring Period: August 1- 31, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 08/03/21, 08/10/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.73	9.0 DNQ	0.65	49	570	7.8	21	31	8.2	850	19,000	47,000	53,000	8.0	25	55
Plant 1 Avg	0.65	8.8 DNQ	0.63	49	550	7.2	20	31	7.8	840	13,000	37,000	49,000		25	
Plant 2 Max/Min*	0.58	11	1.2	43	430	5.8	20	27	8.0	720	10,000	42,000	51,000	7.9	28	67
Plant 2 Avg	0.51	10	1.1	42	400	4.7	19	25	7.5	690	7,400	42,000	49,000		28	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	24	22	24	25	26	24	24	24	24	25	24
Minimum Temperature (Min 95 °F)	98	99	98	99	99	99	99	99	99	99	99

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	27	Out of Service	Out of Service	26	Out of Service	28	28	Out of Service	Out of Service	26	26	28	Out of Service	27	27	28	Out of Service	28
Minimum Temperature (Min 95 °F)	97	Out of Service	Out of Service	100	Out of Service	100	100	Out of Service	Out of Service	100	97	98	Out of Service	100	99	100	Out of Service	100

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).

* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

** MCRT based on a 15-Day Rolling Average.

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2,

Monitoring Period: August 1- 31, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

503 Class B: *I certify, under penalty of law, that the Class B pathogen requirements in 503.32(b) and the vector attraction reduction requirement in 503.33(b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Arizona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Jim Spears
Jim Spears (Nov 30, 2021 14:44 PST)

Jim Spears
Operations Manager
jspears@ocsan.gov
(714) 593-7081

Lan Wiborg
Lan Wiborg (Nov 30, 2021 15:1[illegible] PST)

Lan C.Wiborg
Environmental Services Director
lwiborg@ocsan.gov
(714) 593-7540

Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani
Cindy Vellucci (Nov 26, 2021 16:07 PST)	Deirdre Bingman (Nov 30, 2021 09:28 PST)		Reza Sobhani (Nov 30, 2021 11:12 PST)

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach, CA

Monitoring Period: September 1- 30, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 09/07/21, 09/14/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.78	11	1.2	43	550	8.7	19	31	8.3	810	9,300	53,000	59,000	7.7	25	60
Plant 1 Avg	0.71	9.1 DNQ	0.98	43	550	5.8	19	31	7.7	800	7,800	49,000	57,000		26	
Plant 2 Max/Min*	0.55	15	1.5	51	470	9.0	21	29	11	750	7,800	47,000	51,000	7.6	26	69
Plant 2 Avg	0.54	12	1.4	50	440	6.4	20	28	10	750	6,100	44,000	50,000		26	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	24	22	24	25	24	23	23	23	23	Out of Service	Out of Service
Minimum Temperature (Min 95 °F)	98	98	99	100	98	99	99	99	98	Out of Service	Out of Service

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	28	Out of Service	Out of Service	27	Out of Service	28	28	Out of Service	Out of Service	26	27	29	Out of Service	27	27	28	Out of Service	28
Minimum Temperature (Min 95 °F)	100	Out of Service	Out of Service	101	Out of Service	102	102	Out of Service	Out of Service	101	100	100	Out of Service	102	100	102	Out of Service	101

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).

* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

** MCRT based on a 15-Day Rolling Average.

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach, CA

Monitoring Period: September 1- 30, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

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Arizona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Jim Spears
Operations Manager
jspears@ocsan.gov
(714) 593-7081

Lan Wiborg (Dec 21, 2021 11:2[illegible] PST)
Lan C. Wiborg
Environmental Services Director
lwiborg@ocsan.gov
(714) 593-7540

Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani
Cindy Vellucci (Dec 16, 2021 14:42 PST)	Deirdre Bingman (Dec 13, 2021 08:06 PST)		Reza Sobhani (Dec 16, 2021 06:47 PST)

OCSAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: October 1- 31, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 10/05/21,10/12/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.50	9.3 DNQ	0.81	44	560	8.4	17	30	10	850	7,200	57,000	64,000	8.1	25	61
Plant 1 Avg	0.45	8.7 DNQ	0.79	44	550	8.1	17	29	9.2	830	7,100	52,000	59,000		25	
Plant 2 Max/Min*	0.40	12	1.3	47	400	5.2	17	26	10	720	5,200	47,000	52,000	8.0	28	69
Plant 2 Avg	0.38	12	1.2	45	390	4.6	17	25	9.2	690	5,100	45,000	50,000		28	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	24	24	24	25	25	24	23	24	24	Out of Service	Out of Service
Minimum Temperature (Min 95 °F)	99	99	99	100	99	99	99	99	99	Out of Service	Out of Service

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	28	Out of Service	Out of Service	28	Out of Service	28	28	Out of Service	Out of Service	28	28	28	Out of Service	28	28	28	Out of Service	28
Minimum Temperature (Min 95 °F)	99	Out of Service	Out of Service	100	Out of Service	101	100	Out of Service	Out of Service	100	102	99	Out of Service	100	100	100	Out of Service	101

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).
* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).
** MCRT based on a 15-Day Rolling Average.

OC SAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,
Monitoring Period: October 1- 31, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

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Jim Spears
Operations Manager
jspears@ocsan.gov
(714) 593-7081

Lan Wiborg
Lan Wiborg (Dec 21, 2021 11:36 PST)

Lan C. Wiborg
Environmental Services Director
lwiborg@ocsan.gov
(714) 593-7540

Cindy Vellucci

Deirdre Bingman

Rachel Van Exel

Reza Sobhani

OCSAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: November 1- 30, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 11/02/21,11/09/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.61	8.4 DNQ	1.1	50	500	7.6	19	31	8.0	810	8,500	50,000	58,000	7.5	26	60
Plant 1 Avg	0.58	8.3 DNQ	1.0	46	500	7.1	17	29	7.7	790	8,500	48,000	56,000		26	
Plant 2 Max/Min*	0.38	12	1.2	47	360	5.0	18	27	10	680	6,500	42,000	48,000	7.8	28	70
Plant 2 Avg	0.36	12	1.2	46	350	4.4	18	26	9.1	670	6,400	42,000	48,000		29	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	24	25	25	25	26	24	24	24	24	Out of Service	Out of Service
Minimum Temperature (Min 95 °F)	98	98	99	99	99	99	99	99	99	Out of Service	Out of Service

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	29	Out of Service	Out of Service	28	Out of Service	29	28	Out of Service	Out of Service	28	29	28	Out of Service	29	29	29	Out of Service	28
Minimum Temperature (Min 95 °F)	100	Out of Service	Out of Service	101	Out of Service	102	100	Out of Service	Out of Service	102	101	100	Out of Service	100	102	102	Out of Service	101

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).

* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).

** MCRT based on a 15-Day Rolling Average.

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,
Monitoring Period: November 1- 30, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

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Jim Spears
Jim Spears (Jan 20, 2022 08:39 PST)

Jim Spears
Operations Manager
jspears@ocsan.gov
(714) 593-7081

Lan Wiborg
Lan Wiborg (Jan 20, 2022 08:46 PST)

Lan C. Wiborg
Environmental Services Director
lwiborg@ocsan.gov
(714) 593-7540

Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani
Cindy Vellucci	Deirdre Bingman	Rachel Van Exel	Reza Sobhani

OCSAN
ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: December 1- 31, 2021

This notice and necessary information demonstrates compliance with requirements of the Code of Federal Regulations Title 40 Part 503 and the Arizona Administrative Code Title 18, Chapter 9, Article 10 for land application pollutant concentrations, Class B pathogen reduction via anaerobic digestion (40CFR 503.32(b)(3)(A)(3), AAC R18-9-1006(E)(5)), and vector attraction reduction via volatile solids reduction (40CFR 503.33(b)(1), AAC R18-9-1010(A)(1)).

Sampling date(s): 12/07/21,12/14/21

	Mercury (mg/kg dry)	Arsenic (mg/kg dry)	Cadmium (mg/kg dry)	Chromium (mg/kg dry)	Copper (mg/kg dry)	Lead (mg/kg dry)	Molybdenum (mg/kg dry)	Nickel (mg/kg dry)	Selenium (mg/kg dry)	Zinc (mg/kg dry)	Ammonia Nitrogen (mg/kg dry)	Organic Nitrogen (mg/kg dry)	Total Nitrogen (mg/kg dry)	pH	Total Solids (%)	VSR (%)
Plant 1 Max/Min*	0.76	8.9 DNQ	0.97	42	460	5.2	14	29	8.4	810	6,900	55,000	62,000	8.3	25	65
Plant 1 Avg	0.61	8.5 DNQ	0.93	41	450	5.1	13	29	7.9	810	6,900	55,000	57,000		25	
Plant 2 Max/Min*	0.71	12	1.5	46	370	5.0	16	25	9.6	700	5,400	49,000	54,000	8.4	27	71
Plant 2 Avg	0.71	11	1.4	45	360	4.3	16	25	9.5	690	5,400	49,000	45,000		28	
Table 1 (Max/Min)*	57	75	85	3000	4300	840	75	420	100	7500	N/A	N/A	N/A	6.5	15	38
Table 3 (Avg)	17	41	39	N/A	1500	300	N/A	420	100	2800	N/A	N/A	N/A	N/A	N/A	N/A

OCSD Plant 1	System Summary	Dig. 7	Dig. 8	Dig. 9	Dig. 10	Dig. 11	Dig. 12	Dig. 13	Dig. 14	Dig. 15	Dig. 16
Minimum Mean Cell Residence Time (Min 15 days)**	23	23	23	24	24	23	23	23	23	Out of Service	Out of Service
Minimum Temperature (Min 95 °F)	98	99	98	99	98	100	99	99	98	Out of Service	Out of Service

OCSD Plant 2	System Summary	Dig. C	Dig. D	Dig. E	Dig. F	Dig. G	Dig. H	Dig. I	Dig. J	Dig. L	Dig. M	Dig. N	Dig. O	Dig. P	Dig. Q	Dig. R	Dig. S	Dig. T
Minimum Mean Cell Residence Time (Min 15 days)**	28	Out of Service	Out of Service	28	Out of Service	28	28	Out of Service	Out of Service	28	28	28	Out of Service	28	28	28	Out of Service	28
Minimum Temperature (Min 95 °F)	97	Out of Service	Out of Service	98	Out of Service	100	97	Out of Service	Out of Service	98	98	98	Out of Service	98	100	100	Out of Service	98

DNQ (Detected, Not Quantified) represents estimated values above the method detection limit (MDL), but below the reporting limit (RL).
* Maximum values are reported for metals and nitrogen parameters; minimum values are reported for pH, volatile solids reduction (VSR) and total solids. Analysis of pH is conducted to comply with AAC R18-9-1007(A)(1). The limit for total solids applies only if biosolids are sent to a California landfill, per CCR Title 27 Section 20220(c)(3).
** MCRT based on a 15-Day Rolling Average.

ORANGE COUNTY SANITATION DISTRICT

Biosolids Monthly Compliance Report

Facility Name: Orange County Sanitation District Reclamation Plant #1, Fountain Valley, CA and Treatment Plant #2, Huntington Beach,

Monitoring Period: December 1- 31, 2021

Certifications:

NPDES permit: *I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

503 Class B: *I certify, under penalty of law, that the Class B pathogen requirements in 503.32(b) and the vector attraction reduction requirement in 503.33(b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Arizona Class B: *I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.*

Jim Spears
Jim Spears (Jan 27, 2022 09:11 PST)

Jim Spears, Operations Manager, jspears@ocsan.gov, (714) 593-7081

Lan Wiborg
Lan Wiborg (Jan 27, 2022 09:14 PST)

Lan C. Wiborg, Environmental Services Director, lwiborg@ocsan.gov, (714) 593-7540

Cindy Vellucci | Deirdre Bingman | Rachel Van Exel | Reza Sobhani

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Environmental Services Department
10844 Ellis Avenue
Fountain Valley, California 92708-7018
714.962.2411

www.ocsan.gov

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