

Environmental Laboratory and Ocean Monitoring Program (Division 630)

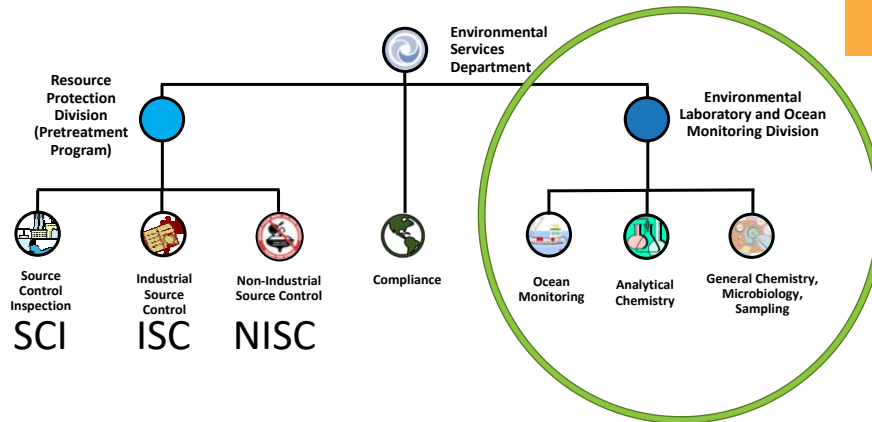


Presented by:
Samuel Choi
Environmental
Services
Department
Administration
Committee
June 14, 2023



1

Environmental Services Department



2

2

Environmental Monitoring



EPA United States Environmental Protection Agency

Code of Federal Regulations



CALIFORNIA WATER BOARDS
State Water Resources Control Board

STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

California Ocean Plan
Santa Ana RWQCB Basin Plan



NPDES Permit OC San Ocean Monitoring and Reporting Program

- Core Compliance Monitoring
- Regional Monitoring
- Strategic Process Studies

3

3

Accreditations (Quality Assurance)

National

State

Regional

State of Utah
Department of Health and Human Services
Environmental Laboratory Certification Program
Accreditation is hereby granted to
Orange County Sanitation District
10844 Ellis Ave
Fountain Valley, CA 92708
Has conformed with the 2016 TNI Standard
Scope of accreditation is limited to the State of Utah accredited fields that accompany this Certificate
EPA Number: CA00307
Expiration Date: 9/30/2023
Certificate Number: CA003072023-8
Kristin Brown
Kristin Brown
Program Manager
Continued accredited status depends on successful ongoing participation in the program.

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION
is hereby granted to
Orange County Sanitation District
Laboratory, Monitoring, and Compliance
10844 Ellis Avenue
Fountain Valley, CA 92708
Scope of the certificate is limited to the "Fields of Accreditation" which accompany this Certificate.
Continued accredited status depends on compliance with applicable laws and regulations, proficiency testing studies, and payment of applicable fees.
This Certificate is granted in accordance with provisions of Section 100920, et seq. of the Health and Safety Code.
Certificate No: 1601
Effective Date: 9/1/2021
Expiration Date: 8/31/2023
Sacramento, California
subject to further amendment
Christine Sarker
Christine Sarker
Environmental Laboratory Accreditation Program

South Coast Air Quality Management District
1000 Gateway Drive, Fountain Valley, CA 92708-6178
909-396-2000 • www.aqmd.gov

September 8, 2022

Dr. Samuel Choi
Orange County Sanitation District
Environmental Laboratory & Ocean Monitoring Division
10844 Ellis Avenue
Fountain Valley, CA 92708-7018
Subject: LAP Renewal Notice
Reference # 05LA0519

Dear Dr. Choi:

We completed our review of the renewal application you submitted for approval under the South Coast Air Quality Management District's Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2022, and ending September 30, 2023 for the following method:

South Coast AQMD Method 307.01

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions.

You may direct any questions or information to LAP Coordinator, Colita Eckler. He may be reached by telephone at (909) 396-2476, or via e-mail at cecker@aqmd.gov.

Sincerely,
D. Sarker
Doris Sarker
Program Supervisor
Source Test Engineering

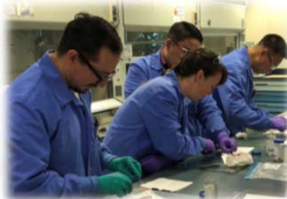
4

4

Laboratory and Ocean Monitoring Division

Mission Statement

To ensure safe recreational and environmental protection; perform sampling, analysis and reporting to document OC San's exemplary regulatory compliance, inclusive of air, biosolids, water recycling and ocean discharge



5

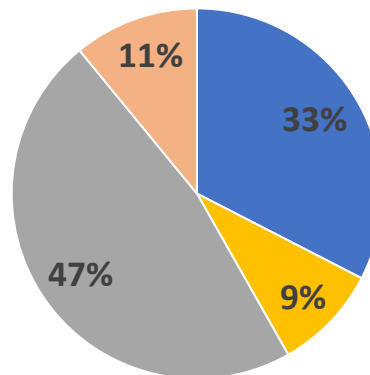
5

Laboratory Tests

Sample Type	No. of Laboratory Tests		
	2020	2021	2022
General Chemistry	67668	67604	67752
Metals	10101	9989	9799
Microbiology	23188	22066	20432
Analytical Chemistry	6160	5635	5407
Toxicology	60	70	61
Total	107,177	105,364	103,451

2020 - 2022

- Compliance (NPDES)
- Ocean Monitoring
- Operations
- Pretreatment



6

6

Laboratory Instruments

Sample Preparation

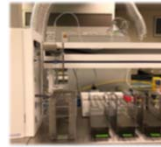
ASE



AutoTrace



GPC



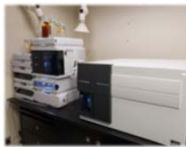
Concentrator



Analytical Instruments

Andor (LC-MS)

PFAS, PPCPs, IEDCs, DA, Hormones



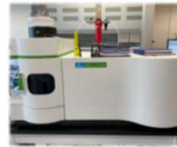
Annikan (TQ GC-MS)

PCBs, Pesticides



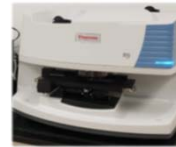
ICP-MS

Metals



FTIR

Microplastics



7

7

Ocean Monitoring

R/V Nerissa



Water Quality



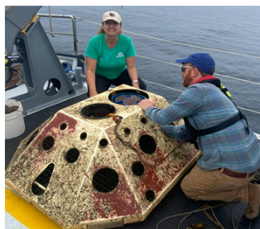
Ocean Bottom Health



Fish Health



Oceanography




Toxicology



8

8

2021-2022 OC Beach Report Card



2021-2022	Summer Dry ☀️		Winter Dry ❄️		Wet Weather ☁️	
GRADE	#	%	#	%	#	%
A	121	96%	101	86%	73	53%
B	4	3%	10	9%	17	12%
C	0	0%	4	3%	19	14%
D	0	0%	1	1%	9	7%
F	1	1%	1	1%	19	14%
A+B	125	99%	111	95%	90	66%
C,D,F	1	1%	6	5%	47	34%

HONOR ROLL 2021-2022

BEACH NAME	COUNTY
Venice City Beach, at Brooks Ave. drain	Los Angeles
Rancho Palos Verdes, Long Point	Los Angeles
Royal Palms State Beach	Los Angeles
Palos Verdes Estates, at Malaga Cove trail outlet	Los Angeles
Las Tunas County Beach, at Pena Creek	Los Angeles
Nevada Beach, at San Nicolas Canyon Causeway	Los Angeles
Dana Point Harbor Youth Dock	Orange
Dana Point Harbor Guest Dock	Orange
Poche Beach	Orange
Doheny Beach	Orange
Doheny State Beach, End of the Flank	Orange
Doheny State Beach, at Last Campground	Orange
Corona Del Mar	Orange
Crystal Cove	Orange
Marine Science Institute Beach	Orange
Dana Point, Capistrano County Beach	Orange
Doheny State Beach, Pedestrian Bridge	Orange
Dana Strands Beach	Orange
Huntington City Beach, at 17th Street	Orange
Boisa Chica Reserve, at Flood Gates	Orange
Surfside Beach, at Sea Way	Orange
San Clemente, at Avenida Calafia	Orange
Salt Creek Beach	Orange
Laguna Lido	Orange
Treasure Island Beach	Orange
Del Mar, at 15th Street	San Diego

9

Team in Action



From Left to Right

Staff

Dr. Jeff Armstrong (Retired)

Laura Terriquez

Former Directors

Keith Curry

Bob Kiley

Upcoming events for our Board

- Rig fishing – 9/20/2023
- Day at the Dock – 10/4/2023

10

10

Looking Forward (Research and Innovation)

Strategic Process Studies (SPS)

- Plume modeling
- Changes in discharge footprint using LABs
- Meiofauna baseline assessment
- Use of cell bioassays for biological response
- Microplastics characterization

Regional Monitoring

- Leverage resources to address regional issues such as:
 - Ocean Acidification and Hypoxia (OAH)
 - Persistent contaminants

Innovation and Research

- Method development – PFAS, Microplastics, Domoic Acid
- Explore cutting edge technologies

COVID-19 Wastewater Surveillance

11

11

OC San Partners











12

12

Serving the Community

Protect Public Health and the Environment

Water Quality: **Safe to Swim**
Sediment Quality: **Health Ecosystem**
Fish Health: **Safe to Eat**

Public Outreach

Laboratory Tours (including virtual)
Open House
Science Fairs
Children's Water Festival



Technical/Professional Organizations

SCAMIT	TNI	SCAS
SETAC	Standard Methods	SCAITE
ELTAC	CSEA	SCUM
ASM	CWEA	

13

13

Questions

Contact Info

Samuel Choi
schoi@ocsan.gov
714-593-7497



Where's Kevin?



14

14

Questions

Contact Info

Samuel Choi
schoi@ocsan.gov
714-593-7497



Where's Kevin?



14