

SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

NPDES Permit No. CA0109045
SDRWQCB Order No. R9-2013-0006

DECEMBER 2019

REVISED MARCH 2021

Environmental Monitoring and Technical Services
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April 1, 2021

Mr. David W. Gibson, Executive Officer
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the revised December 2019 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045. This revised report is being submitted to address data integrity issues identified to the Board in the letter dated October 22, 2020, subject: "San Diego NPDES Shoreline Sampling Program Report."

This report includes raw ocean monitoring data and summaries of water quality parameters and ocean conditions measured during the month for the South Bay outfall region. Also included are summaries of compliance with the bacterial water-contact standards specified in the California Ocean Plan. These data are also presented in the monthly report submitted by the International Boundary and Water Commission, U.S. Section for discharge from the South Bay International Wastewater Treatment Plant (Order No. R9-2014-0009 as amended by Order Nos. R9-2014-0094, R9-2017-0024, R9-2019-0012, NPDES Permit No. CA0108928).

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 those 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.

Sincerely,



Peter S. Vroom, Ph.D.
Deputy Public Utilities Director

PV/rk

cc: U.S. Environmental Protection Agency, Region 9

INTRODUCTION

Monthly reports of water quality and ocean conditions from Playa Blanco, Mexico to Coronado, USA are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the SBWRP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality monitoring was conducted at 11 stations located along the shore from Playa Blanca, Mexico to Coronado, USA (see station locations map). Three sites are located south of the international border (stations S0, S2, S3), while eight sites are in the United States (stations S4–S6 and S8–S12).

Seawater samples were collected from the surf zone at each station on a weekly basis. These samples were subsequently transported to the City's Marine Microbiology Laboratory and analyzed for the presence of total coliform, fecal coliform, and *Enterococcus* bacteria. Visual observations of water color and clarity, surf height, human or animal activity, and weather conditions were recorded at the time of sample collection. Wind speed and direction were measured using a hand-held anemometer with a compass.

Kelp Bed Stations

Seven kelp bed and other nearshore stations (I19, I24, I25, I26, I32, I39, I40; collectively referred to as “kelp” stations herein) were sampled four times during the month according to NPDES permit specifications. Six stations (I19, I24, I25, I26, I32, I40) are located along the 9- m depth contour, and one (I39) is located along the 18-m depth contour. Three of these stations, I25, I26, and I39, were selected based on their proximity to suitable substrates for the Imperial Beach kelp bed (see station locations map); however, this kelp bed has been historically transient and variable in terms of size and density. Thus, these three stations are only occasionally located within an area where kelp is actually found.

The seven kelp stations are sampled on a weekly basis during the month. Routine monitoring at each kelp site consists of collecting seawater samples at three discrete depths for bacteriological analyses (total coliforms, fecal coliforms, and *Enterococcus* bacteria) and generating water column profiles of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, and transmissivity. Visual observations of weather and water conditions are also recorded at all stations.

Seawater samples at the kelp bed stations are primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses were drawn from these bottles into sterile sample bottles for processing at the City's Marine Microbiology Laboratory. Water column profiles of the various physical/chemical parameters were taken using a CTD. The CTD collected these physical/chemical data at a rate ≥ 4 scans per second. The data were then internally averaged using the CTD proprietary software, Seasoftware, to create water column profiles equivalent

to one reading per meter. Additionally, CTD profile data for each water sample depth are presented with the bacteriological data.

Offshore Stations

Quarterly offshore water quality sampling is typically conducted over three days during February, May, August, and November for a total of 40 stations during each month (see station locations map). These offshore stations (I1–I40) are arranged in a grid surrounding the discharge site, and are generally located along the 9, 19, 28, 38, and 55-m depth contours. The seven offshore sites designated as kelp bed stations (described above) are included as part of the monthly offshore water quality sampling, however the data from these seven stations are reported within the kelp bed station section of the report with the other four days of kelp bed water quality sampling. Monitoring at all sites included measurements of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, transmissivity, and chromomorphpic dissolved organic matter (CDOM). Visual observations of weather and water conditions were also recorded at all stations. Seawater samples for the analysis of indicator bacteria, suspended solids, and oil and grease concentrations were collected at 28 of the stations.

At these offshore stations, water samples for bacteriological analyses were collected using a rosette sampler with Niskin bottles. Measurements of the physical/chemical parameters listed above were taken using a Sea-Bird CTD. Additionally, CTD profile data for depths closest to those at which bacteriological samples were collected were extracted from the CTD profiles and are presented with the bacteriological data.

Bacteriological Reporting and Quality Assurance

Estimated values for bacteriological analyses are denoted by greater than (>), less than (<), or estimated (e) qualifiers and result from plates with colony counts above or below the permissible counting limits established in Bordner et al. (1978)¹. This document defines membrane filtration limits of 20–80 colonies per plate for total coliforms and 20–60 colonies per plate for fecal coliforms and *Enterococcus*. No Data (ND) is reported if plate counts from all dilutions have a total colony count of >200 per plate.

Results of the bacteriological analysis of seawater samples collected from each of the shore, kelp bed, and offshore stations located within State waters are assessed relative to the geometric mean and single sample maximum water-contact standards specified in the California Ocean Plan (Ocean Plan). The seven standards are defined as follows:

30-day Geometric Mean: The following standards are based on the geometric mean of the five most recent samples from each site.

- (1) Total coliform density shall not exceed 1000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 200 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 35 CFU/100 mL.

¹ Bordner, R., J. Winter, and P. Scarpino (eds.). (1978). Microbiological Methods for Monitoring the Environment: Water and Wastes, EPA Research and Development, EPA-600/8-78-017. 337 p.

Single Sample Maximums:

- (1) Total coliform density shall not exceed 10,000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 400 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 104 CFU/100 mL;
- (4) Total coliform density shall not exceed 1,000 CFU/100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

Compliance with the seven Ocean Plan standards are summarized below for the stations located in USA waters. In contrast, no such compliance summaries are presented for the three shore stations located in Mexican waters south of the International Border (i.e., S0, S2, and S3) since this region is not subject to the Ocean Plan standards.

Quality controls of bacteriological data include laboratory and field duplicate analyses. Laboratory duplicates are performed on approximately 10% of the water quality samples, while field duplicates are performed six times a month (see Appendix A). Laboratory duplicates represent two aliquots of the original sample that are split in the laboratory and analyzed by the same analyst using identical procedures within the same analytical run. The results of these analyses provide a measure of intra-analyst precision. In contrast, field duplicates represent two separate samples collected at the same time from the same site, which are handled under identical circumstances and treated exactly the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987²) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2019 Quality Assurance Report, which will be completed in March 2020.

SUMMARY OF RESULTS

➤ Shoreline Water Quality Sampling

- Due to site access restrictions in Mexico, the South Bay shoreline sampling is typically carried out on the same day each week (i.e., Tuesday) to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the USIBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
- The 11 shore stations (S0, S2, S3, S4, S5, S6, S8, S9, S10, S11, S12) were sampled on December 3, 9, 10, 17, 23, 26, and 30. Stations S4 and S10 were inaccessible on December 23, 24, and 25 and station S5 was inaccessible on December 23 due to flooding or other unsafe conditions. Subsequent to initial reporting, samples (or resamples) collected at station S10 on December 26, stations S4 and S10 on December 27, and stations S4, S5, S10, and S11 on December 29, were determined to be problematic. The results from these samples (or resamples) have been removed from this report.

² Gilbert, R.O. (1987). Statistical Methods for Environmental Pollution Monitoring. Van Nostrand Reinhold Co., New York.

- During December, six of the eight shore stations located north of the border were out of compliance with California Ocean Plan (Ocean Plan) water contact standards on one or more days as follows:
 - The 30-day geometric mean standards for total coliform, fecal coliform, and *Enterococcus* were exceeded at stations S4, S5, S6, S10, S11, and S12.
 - The single sample maximum (SSM) standards for total coliform, fecal coliform, and *Enterococcus* were exceeded at stations S4, S5, S6, S10, S11, and S12.
 - The SSM standard that states total coliform densities shall not exceed 1000 CFU/100 mL when the fecal:total ratio exceeds 0.1 was exceeded at stations S4, S5, S6, S10, S11, and S12.
 - Per permit requirements, resamples were collected in response to these SSM exceedances (see Table 2.8 for details).
- Although the Ocean Plan standards do not apply to these stations, bacteria densities exceeded one or more benchmark levels (i.e., total coliforms >10,000 CFU/100mL; fecal coliforms >400 CFU/100 mL; *Enterococcus* >104 CFU/100 mL; total >1000 CFU/100 mL & F:T ratio >0.1) in the seawater samples collected stations S0, S2, and S3 on one or more days during December.
- Notable observations included a sewage-like odor at stations S4, S5, S6, S10, and S11 on one or more days during December.
- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shore and kelp monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (<https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports>).

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled on December 2, 9, 16, and 22.
- Seven of these stations were out of compliance with various Ocean Plan water contact standards on one or more days as follows:
 - The 30-day geometric mean standards for total coliform, fecal coliform, and *Enterococcus* were exceeded at stations I19, I24, and I40.
 - The 30-day geometric mean standard for *Enterococcus* was also exceeded at station I25.
 - The SSM standard for total coliform was exceeded at stations I24 and I40.
 - The SSM standard for fecal coliform was exceeded at stations I19, I24, I25, I39, and I40.
 - The SSM standard for *Enterococcus* was exceeded at stations I19, I24, I25, I26, I32, I39, and I40.
 - The SSM standard that states total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1 was exceeded at stations I19, I24, I25, I39, and I40.

- Water column temperatures ranged from 14.30 to 16.91°C. The difference between surface and bottom waters ranged from 0.02 to 1.10°C.
- Concentrations of chlorophyll *a* ranged from 0.66 to 15.61 µg/L at the kelp bed stations.
- Notable observations included a sewage-like odor at station I40 on December 22.

➤ **Offshore Water Quality Sampling**

- Quarterly sampling was not conducted during December at the offshore stations. The next quarterly sampling is scheduled for February 2020.



TABLES AND FIGURES

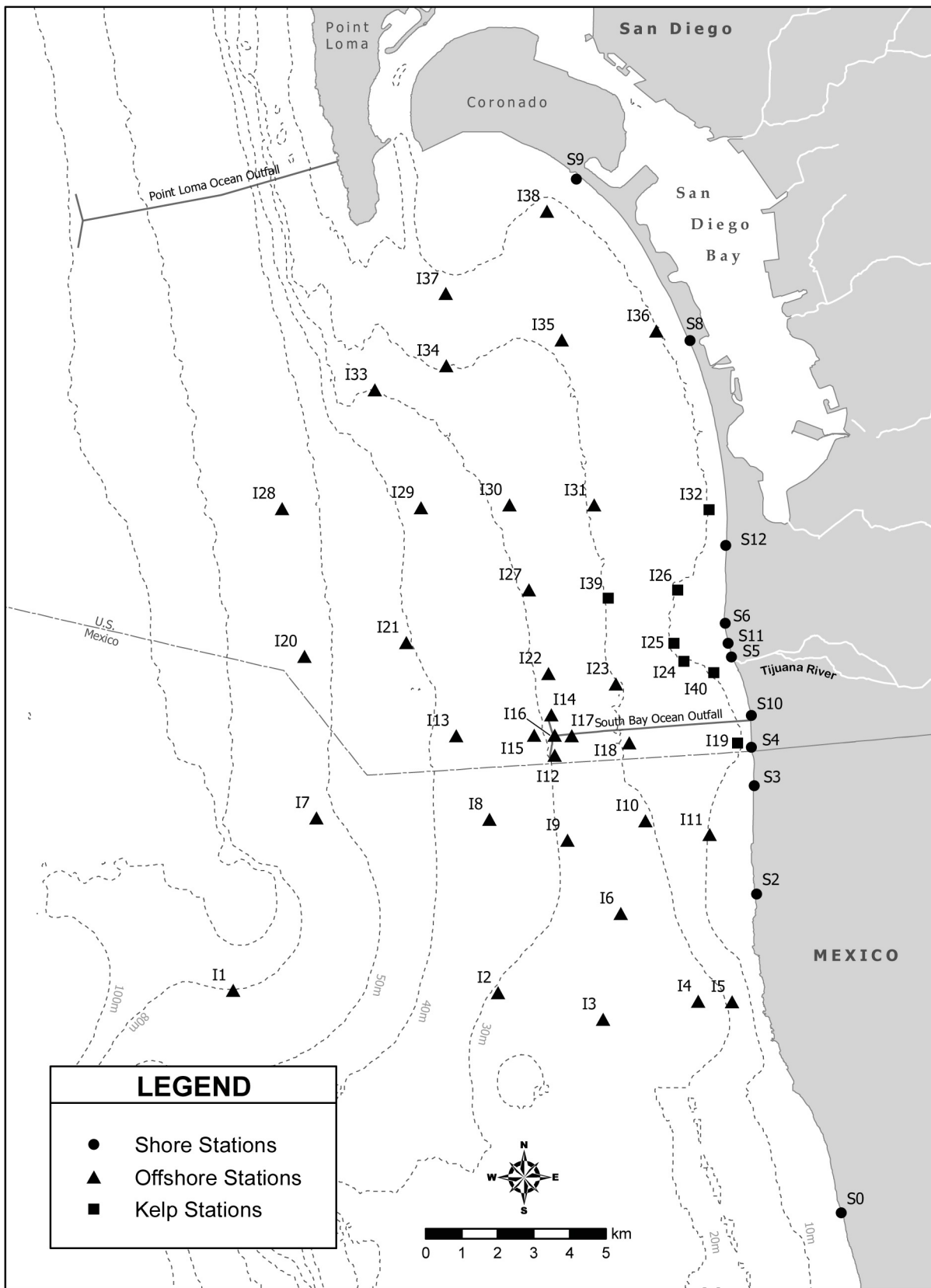


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >1,000 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Dec 2019	500	804	62	36	63	711	725	201
02 Dec 2019	500	804	62	36	63	711	725	201
03 Dec 2019	772	1168	93	32	32	1050	698	179
04 Dec 2019	772	1168	93	32	32	1050	698	179
05 Dec 2019	1756	3591	243	63	36	2358	1612	340
06 Dec 2019	1756	3591	243	63	36	2358	1612	340
07 Dec 2019	1609	4240	243	63	36	2358	1612	340
08 Dec 2019	1609	4240	243	63	36	2358	1612	340
09 Dec 2019	2025	4842	480	58	58	2917	1857	386
10 Dec 2019	2025	4842	480	58	58	2917	1857	386
11 Dec 2019	1813	5398	480	58	58	2836	1857	386
12 Dec 2019	2845	8465	503	42	42	4353	3214	534
13 Dec 2019	2845	7088	503	42	42	4221	3214	534
14 Dec 2019	2845	7088	503	42	42	4221	3214	534
15 Dec 2019	2845	5770	503	42	42	3451	3214	534
16 Dec 2019	2845	5770	503	42	42	3451	3214	534
17 Dec 2019	3146	6241	167	36	36	3921	1703	354
18 Dec 2019	3146	6241	167	36	36	3921	1703	354
19 Dec 2019	5896	8742	503	42	42	6845	3214	534
20 Dec 2019	6407	9128	503	42	42	7307	3214	534
21 Dec 2019	6407	9128	503	42	42	7307	3214	534
22 Dec 2019	6266	9476	503	42	42	6787	3214	534
23 Dec 2019	6266	9791	796	36	36	6787	2945	621
24 Dec 2019	6266	10078	1313	36	36	6787	3555	891
25 Dec 2019	6266	10340	1350	36	36	6787	4132	1025
26 Dec 2019	6044	11326	977	24	24	6354	3555	755
27 Dec 2019	5573	11326	1457	24	24	6139	3555	892
28 Dec 2019	5573	11326	1457	24	24	6139	3555	892
29 Dec 2019	5063	11084	1516	24	24	5627	2945	590
30 Dec 2019	4686	11326	1525	23	23	5117	3012	396
31 Dec 2019	5649	11084	1525	23	23	5442	2444	450

* Geometric mean calculated using $n < 5$

Table 2.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Dec 2019	81	142	175	3	3	150	10	80
02 Dec 2019	81	142	175	3	3	150	10	80
03 Dec 2019	130	247	143	3	3	235	16	67
04 Dec 2019	130	247	143	3	3	235	16	67
05 Dec 2019	280	733	263	3	3	491	26	111
06 Dec 2019	280	733	263	3	3	491	26	111
07 Dec 2019	263	759	263	3	3	468	26	111
08 Dec 2019	263	759	263	3	3	468	26	111
09 Dec 2019	359	1000	282	4	6	653	47	110
10 Dec 2019	359	1000	282	4	6	653	47	110
11 Dec 2019	337	1254	232	4	6	619	95	110
12 Dec 2019	563	2388	319	3	7	1098	207	160
13 Dec 2019	563	2020	319	3	7	1002	157	160
14 Dec 2019	563	2020	319	3	7	1002	157	160
15 Dec 2019	563	1692	319	3	7	860	157	160
16 Dec 2019	563	1692	319	3	7	860	157	160
17 Dec 2019	676	1967	181	3	9	998	84	92
18 Dec 2019	676	1967	181	3	9	998	84	92
19 Dec 2019	1492	3840	319	4	13	1791	131	145
20 Dec 2019	1775	4166	319	4	13	2052	131	145
21 Dec 2019	1775	4166	319	4	13	2052	131	145
22 Dec 2019	1669	4470	319	4	13	1914	131	145
23 Dec 2019	1669	4755	353	3	9	1914	177	182
24 Dec 2019	1669	5021	440	3	9	1914	306	245
25 Dec 2019	1669	5245	425	3	9	1914	356	255
26 Dec 2019	1669	6231	395	4	8	1689	351	205
27 Dec 2019	1552	6568	434	4	8	1713	496	205
28 Dec 2019	1552	6568	434	4	8	1713	496	178
29 Dec 2019	1289	6325	302	4	8	1457	496	97
30 Dec 2019	1008	5736	261	3	6	1186	468	71
31 Dec 2019	1440	5477	209	3	6	1303	468	83

* Geometric mean calculated using $n < 5$

Table 2.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >35 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Dec 2019	98	6	76	6	12	115	91	44
02 Dec 2019	98	6	76	6	12	115	91	44
03 Dec 2019	131	27	82	5	9	154	101	46
04 Dec 2019	131	27	82	5	9	154	101	46
05 Dec 2019	287	156	249	7	9	348	300	71
06 Dec 2019	287	156	249	7	9	348	300	71
07 Dec 2019	269	219	284	7	9	347	324	71
08 Dec 2019	269	219	284	7	9	347	324	71
09 Dec 2019	310	388	322	7	9	418	356	79
10 Dec 2019	310	388	322	7	9	418	356	79
11 Dec 2019	257	596	269	7	9	370	340	59
12 Dec 2019	375	1103	409	6	8	624	569	83
13 Dec 2019	375	1031	409	6	8	614	517	83
14 Dec 2019	375	1031	409	6	8	614	517	83
15 Dec 2019	375	877	409	6	8	536	517	83
16 Dec 2019	375	877	409	6	8	536	395	83
17 Dec 2019	379	1094	269	5	6	562	286	55
18 Dec 2019	379	1094	269	5	6	562	286	55
19 Dec 2019	671	2610	438	6	7	956	372	83
20 Dec 2019	788	2998	438	6	7	1145	372	83
21 Dec 2019	788	2998	438	6	7	1145	372	83
22 Dec 2019	714	3366	438	6	7	1047	372	83
23 Dec 2019	714	3712	444	6	5	1047	371	107
24 Dec 2019	714	4036	537	6	5	1047	476	143
25 Dec 2019	714	3974	489	6	5	1047	530	147
26 Dec 2019	857	5519	494	4	3	976	590	130
27 Dec 2019	868	5779	701	4	3	1028	780	193
28 Dec 2019	868	5779	701	4	3	1028	780	193
29 Dec 2019	683	5779	557	4	3	838	632	119
30 Dec 2019	622	5082	536	5	3	707	634	97
31 Dec 2019	722	5082	509	5	3	755	562	113

* Geometric mean calculated using n<5

Table 2.4

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Dec 2019	IC	E	ns	ns	ns	IC	E	IC
03 Dec 2019	E	E	IC	IC	IC	E	IC	IC
05 Dec 2019	IC	E	ns	ns	ns	IC	ns	ns
07 Dec 2019	IC	E	ns	ns	ns	ns	ns	ns
09 Dec 2019	E	E	IC	IC	IC	E	IC	IC
11 Dec 2019	IC	E	ns	ns	ns	IC	ns	ns
13 Dec 2019	ns	IC	ns	ns	ns	IC	ns	ns
15 Dec 2019	ns	IC	ns	ns	ns	IC	ns	ns
17 Dec 2019	IC	E	IC	IC	IC	E	IC	IC
19 Dec 2019	E	E	ns	ns	ns	E	ns	ns
20 Dec 2019	E	E	ns	ns	ns	E	ns	ns
22 Dec 2019	IC	E	ns	ns	ns	IC	ns	ns
23 Dec 2019	ns	E	IC	IC	IC	ns	IC	IC
24 Dec 2019	ns	E	E	ns	ns	ns	E	E
25 Dec 2019	ns	E	IC	ns	ns	ns	E	IC
26 Dec 2019	IC	ns	ns	ns	ns	ns	ns	ns
27 Dec 2019	ns	E	E	ns	ns	ns	E	ns
29 Dec 2019	ns	ns	IC	ns	ns	ns	ns	ns
30 Dec 2019	IC	E	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Dec 2019	IC	E	E	ns	ns	IC	ns	IC
03 Dec 2019	E	E	IC	IC	IC	E	IC	IC
05 Dec 2019	E	E	ns	ns	ns	E	ns	ns
07 Dec 2019	IC	E	ns	ns	ns	IC	ns	ns
09 Dec 2019	E	E	E	IC	IC	E	E	IC
11 Dec 2019	IC	E	IC	ns	ns	IC	E	ns
13 Dec 2019	ns	IC	ns	ns	ns	IC	IC	ns
15 Dec 2019	ns	IC	ns	ns	ns	IC	ns	ns
17 Dec 2019	E	E	IC	IC	IC	E	IC	IC
19 Dec 2019	E	E	ns	ns	ns	E	ns	ns
20 Dec 2019	E	E	ns	ns	ns	E	ns	ns
22 Dec 2019	E	E	ns	ns	ns	E	ns	ns
23 Dec 2019	ns	E	E	IC	IC	ns	E	E
24 Dec 2019	ns	E	E	ns	ns	ns	E	E
25 Dec 2019	ns	E	IC	ns	ns	ns	E	IC
26 Dec 2019	E	ns	ns	ns	ns	ns	ns	ns
27 Dec 2019	ns	E	E	ns	ns	ns	E	ns
29 Dec 2019	ns	ns	IC	ns	ns	ns	ns	ns
30 Dec 2019	IC	E	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.6

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Dec 2019	E	ns	E	ns	ns	E	E	IC
03 Dec 2019	E	E	E	IC	IC	E	E	IC
05 Dec 2019	E	E	E	ns	ns	E	E	ns
07 Dec 2019	E	E	E	ns	ns	E	E	ns
09 Dec 2019	E	E	E	IC	IC	E	E	E
11 Dec 2019	IC	E	IC	ns	ns	E	E	IC
13 Dec 2019	ns	E	ns	ns	ns	E	E	ns
15 Dec 2019	ns	E	ns	ns	ns	E	ns	ns
16 Dec 2019	ns	ns	ns	ns	ns	ns	IC	ns
17 Dec 2019	E	E	IC	IC	IC	E	IC	IC
19 Dec 2019	E	E	ns	ns	ns	E	ns	ns
20 Dec 2019	E	E	ns	ns	ns	E	ns	ns
22 Dec 2019	E	E	ns	ns	ns	E	ns	ns
23 Dec 2019	ns	E	E	IC	IC	ns	E	E
24 Dec 2019	ns	E	E	ns	ns	ns	E	E
25 Dec 2019	ns	E	E	ns	ns	ns	E	E
26 Dec 2019	E	ns	ns	ns	ns	ns	ns	ns
27 Dec 2019	ns	E	E	ns	ns	ns	E	E
29 Dec 2019	ns	ns	E	ns	ns	ns	ns	IC
30 Dec 2019	E	E	E	IC	IC	IC	E	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Dec 2019	IC	E	ND	ns	ns	E	ND	IC
03 Dec 2019	E	E	IC	IC	IC	E	IC	IC
05 Dec 2019	E	E	ns	ns	ns	IC	ns	ns
07 Dec 2019	IC	IC	ns	ns	ns	ND	ns	ns
09 Dec 2019	E	E	IC	IC	IC	E	IC	IC
11 Dec 2019	IC	E	ND	ns	ns	E	ND	ns
13 Dec 2019	ns	E	ns	ns	ns	E	ND	ns
15 Dec 2019	ns	IC	ns	ns	ns	IC	ns	ns
17 Dec 2019	E	E	IC	IC	IC	E	IC	IC
19 Dec 2019	E	E	ns	ns	ns	E	ns	ns
20 Dec 2019	E	E	ns	ns	ns	E	ns	ns
22 Dec 2019	E	E	ns	ns	ns	E	ns	ns
23 Dec 2019	ns	E	E	IC	IC	ns	E	E
24 Dec 2019	ns	E	E	ns	ns	ns	E	E
25 Dec 2019	ns	E	E	ns	ns	ns	IC	IC
26 Dec 2019	E	ns	ns	ns	ns	ns	ns	ns
27 Dec 2019	ns	E	E	ns	ns	ns	E	ns
29 Dec 2019	ns	ns	E	ns	ns	ns	ns	ns
30 Dec 2019	IC	IC	IC	IC	IC	IC	IC	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.8

Summary of water quality parameters at the SBOO shore stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Entero) are reported as CFU/100 mL. The fecal:total coliform ratio (F:T) is unitless. Comments follow the data summary.

Station	Date	Time	Total	Fecal	Entero	F:T
S0	03 Dec 2019	1040	2800e	800	600	0.29
S0	10 Dec 2019	1045	4600	720	340e	0.16
S0	17 Dec 2019	1105	2800e	520	320e	0.19
S0	23 Dec 2019	1120	740	140e	420	0.19
S0	30 Dec 2019	1035	>16000	>12000	11000	0.75
S2	03 Dec 2019	1210	4000	500	100e	0.12
S2	10 Dec 2019	1138	4000	280e	260e	0.07
S2	17 Dec 2019	1230	16000	1600e	520	0.10
S2	23 Dec 2019	1250	9600	1600e	2200e	0.17
S2	30 Dec 2019	1225	540	24e	120e	0.04
S3	03 Dec 2019	1120	12000	1000	520	0.08
S3	10 Dec 2019	1118	1200e	120	58	0.10
S3	17 Dec 2019	1145	5800	1600e	360e	0.28
S3	23 Dec 2019	1210	13000	3400e	7200	0.26
S3	30 Dec 2019	1145	1200e	120e	140e	0.10
S4	01 Dec 2019	755	600e	20e	120e	0.03
S4	03 Dec 2019	1016	>16000	3600e	1000	0.22
S4	05 Dec 2019	944	7200	900	1100	0.12
S4	07 Dec 2019	727	800e	160e	160e	0.20
S4	09 Dec 2019	1058	>16000	6000	1100	0.38
S4	11 Dec 2019	844	600e	180e	40	0.30
S4	17 Dec 2019	1047	8600	4200	420	0.49
S4	19 Dec 2019	824	>16000	>12000	>12000	0.75
S4	20 Dec 2019	1429	>16000	>12000	4600	0.75
S4	22 Dec 2019	857	4800	800	220e	0.17
S4	23 Dec 2019	930	ns	ns	ns	ns
S4	26 Dec 2019	1110	10000	3000e	3200e	0.30
S4	27 Dec 2019		ns	ns	ns	ns
S4	29 Dec 2019		ns	ns	ns	ns
S4	30 Dec 2019	1043	2000e	68	220e	0.03
S5	01 Dec 2019	855	>16000	>12000	ns	0.75
S5	03 Dec 2019	827	>16000	>12000	>12000	0.75
S5	05 Dec 2019	1030	>16000	>12000	>12000	0.75
S5	07 Dec 2019	830	>16000	1000e	1200e	0.06
S5	09 Dec 2019	1006	>16000	>12000	>12000	0.75
S5	11 Dec 2019	950	>16000	>12000	>12000	0.75
S5	13 Dec 2019	1019	1200e	380e	640	0.32
S5	15 Dec 2019	853	600	240e	240e	0.40
S5	17 Dec 2019	849	>16000	>12000	8000	0.75
S5	19 Dec 2019	948	>16000	>12000	>12000	0.75
S5	20 Dec 2019	1324	>16000	>12000	>12000	0.75
S5	22 Dec 2019	958	>16000	>12000	>12000	0.75
S5	23 Dec 2019	856	>16000	>12000	>12000	0.75
S5	24 Dec 2019	843	>16000	>12000	>12000	0.75
S5	25 Dec 2019	939	>16000	11000	3200e	0.69
S5	27 Dec 2019	911	>16000	8800	11000	0.55
S5	29 Dec 2019		ns	ns	ns	ns
S5	30 Dec 2019	843	>16000	1200	740	0.07
S6	01 Dec 2019	938	ns	2400e	1000	ns

Station	Date	Time	Total	Fecal	Entero	F:T
S6	03 Dec 2019	848	460	34e	140e	0.07
S6	05 Dec 2019	1055	ns	ns	14000e	ns
S6	07 Dec 2019	857	ns	ns	800e	ns
S6	09 Dec 2019	1021	7400	460	1000	0.06
S6	11 Dec 2019	1018	ns	48	44	ns
S6	17 Dec 2019	923	<2	<2	4e	1.00
S6	23 Dec 2019	909	5000	800e	500	0.16
S6	24 Dec 2019	930	>16000	3200e	4400	0.20
S6	25 Dec 2019	1003	1600e	300e	160e	0.19
S6	27 Dec 2019	846	>16000	7200	>12000	0.45
S6	29 Dec 2019	745	2000e	320e	760	0.16
S6	30 Dec 2019	925	1600e	60e	340e	0.04
S8	03 Dec 2019	743	<20	2e	4e	0.10
S8	09 Dec 2019	936	40e	10e	10e	0.25
S8	17 Dec 2019	805	<20	4e	<2	0.20
S8	23 Dec 2019	825	<20	<2	4e	0.10
S8	30 Dec 2019	755	<20	<2	8e	0.10
S9	03 Dec 2019	725	2e	<2	2e	1.00
S9	09 Dec 2019	914	400e	40e	12e	0.10
S9	17 Dec 2019	744	<20	<20	<2	1.00
S9	23 Dec 2019	809	<20	<2	2e	0.10
S9	30 Dec 2019	732	20e	<2	<2	0.10
S10	01 Dec 2019	727	2600e	380e	320e	0.15
S10	03 Dec 2019	952	>16000	5600	1200e	0.35
S10	05 Dec 2019	933	7800	720	1400e	0.09
S10	07 Dec 2019	749	ns	320e	340e	ns
S10	09 Dec 2019	1106	>16000	13000e	2200e	0.81
S10	11 Dec 2019	818	2200e	360e	110	0.16
S10	13 Dec 2019	916	3200e	400	520	0.12
S10	15 Dec 2019	929	460	160e	120e	0.35
S10	17 Dec 2019	1021	>16000	6000	1000	0.38
S10	19 Dec 2019	857	>16000	>12000	>12000	0.75
S10	20 Dec 2019	1413	>16000	>12000	>12000	0.75
S10	22 Dec 2019	911	2600e	720	300e	0.28
S10	23 Dec 2019	930	ns	ns	ns	ns
S10	26 Dec 2019		ns	ns	ns	ns
S10	27 Dec 2019		ns	ns	ns	ns
S10	29 Dec 2019		ns	ns	ns	ns
S10	30 Dec 2019	1051	1800e	100e	92	0.06
S11	01 Dec 2019	915	>16000	ns	3000e	ns
S11	03 Dec 2019	841	540	98	220e	0.18
S11	05 Dec 2019	1053	ns	ns	>12000	ns
S11	07 Dec 2019	845	ns	ns	600e	ns
S11	09 Dec 2019	1013	5000	500	820	0.10
S11	11 Dec 2019	1009	ns	3200e	220e	ns
S11	13 Dec 2019	1028	ns	40e	200e	ns
S11	16 Dec 2019	1249	ns	ns	<20	ns
S11	17 Dec 2019	913	20e	<2	6e	0.10
S11	23 Dec 2019	905	1600e	1100	360e	0.69
S11	24 Dec 2019	919	>16000	14000e	12000e	0.88
S11	25 Dec 2019	952	>16000	1200e	2400e	0.07
S11	27 Dec 2019	854	>16000	7800	>12000	0.49
S11	29 Dec 2019		ns	ns	ns	ns
S11	30 Dec 2019	918	3600e	280e	660	0.08
S12	01 Dec 2019	958	160e	24e	20e	0.15
S12	03 Dec 2019	810	80e	<20	58	0.25

Station	Date	Time	Total	Fecal	Entero	F:T
S12	09 Dec 2019	949	940	100e	160e	0.11
S12	11 Dec 2019	927	ns	ns	6e	ns
S12	17 Dec 2019	826	<20	<2	<2	0.10
S12	23 Dec 2019	844	1800e	920	800	0.51
S12	24 Dec 2019	816	>16000	2600e	2000e	0.16
S12	25 Dec 2019	904	3600e	360e	200e	0.10
S12	27 Dec 2019	952	ns	ns	8200	ns
S12	29 Dec 2019	806	ns	ns	100	ns
S12	30 Dec 2019	815	24e	8e	12e	0.33

ns = not sampled

ND = no data

Comments

Station	Date	Depth	Parameter	Comments
S4	01 Dec 2019			Resample for 11/28
S5	01 Dec 2019			Resample for 11/28
S6	01 Dec 2019			Resample for 11/28
S10	01 Dec 2019			Resample for 11/28
S11	01 Dec 2019			Resample for 11/28
S12	01 Dec 2019			Resample for 11/28
S4	05 Dec 2019			Resample
S5	05 Dec 2019			Resample
S6	05 Dec 2019			Resample
S10	05 Dec 2019			Resample
S11	05 Dec 2019			Resample
S4	07 Dec 2019			Resample
S5	07 Dec 2019			Resample
S6	07 Dec 2019			Resample
S10	07 Dec 2019			Resample
S11	07 Dec 2019			Resample
S0	10 Dec 2019			Three Mexico stations were sampled a day after the rest of stations were sampled
S2	10 Dec 2019			Three Mexico stations were sampled a day after the rest of stations were sampled
S3	10 Dec 2019			Three Mexico stations were sampled a day after the rest of stations were sampled
S5	11 Dec 2019			Resample
S6	11 Dec 2019			Resample
S10	11 Dec 2019			Resample
S11	11 Dec 2019			Resample
S12	11 Dec 2019			Resample
S11	13 Dec 2019			Resample; Enteric result for 12/13 revised on 12/16/2019; Resampled on 12/16
S5	13 Dec 2019			Resample
S10	13 Dec 2019			Resample
S5	15 Dec 2019			Resample
S10	15 Dec 2019			Resample
S11	16 Dec 2019			Resample for 12/13
S4	19 Dec 2019			Resample
S5	19 Dec 2019			Resample
S10	19 Dec 2019			Resample
S4	20 Dec 2019			Resample
S5	20 Dec 2019			Resample
S10	20 Dec 2019			Resample
S4	22 Dec 2019			Resample
S5	22 Dec 2019			Resample
S10	22 Dec 2019			Resample
S10	23 Dec 2019			Not sampled due to flooding
S4	23 Dec 2019			Not sampled due to flooding
S11	24 Dec 2019			Resample
S12	24 Dec 2019			Resample
S5	24 Dec 2019			Resample
S6	24 Dec 2019			Resample
S10	24 Dec 2019			Not sampled due to flooding
S4	24 Dec 2019			Not sampled due to flooding
S5	25 Dec 2019			Resample
S6	25 Dec 2019			Resample
S11	25 Dec 2019			Resample
S12	25 Dec 2019			Resample
S10	25 Dec 2019			Not sampled due to flooding
S4	25 Dec 2019			Not sampled due to flooding

Station	Date	Depth	Parameter	Comments
S11	27 Dec 2019			Resample
S12	27 Dec 2019			Resample
S5	27 Dec 2019			Resample
S6	27 Dec 2019			Resample
S12	29 Dec 2019			Resample
S6	29 Dec 2019			Resample

Table 2.9

Summary of visual observations made during the month for each SBOO shore station by sample date.

Station	Date	Parameter	Value
S0	03 Dec 2019	Arrive Time	1040
S0	03 Dec 2019	Weather	Cloudy
S0	03 Dec 2019	Wind Speed (kts)	2.1
S0	03 Dec 2019	Wind Dir	NE
S0	03 Dec 2019	Animal Life	10 Shorebirds; 1 Dog
S0	03 Dec 2019	Floatables	None
S0	03 Dec 2019	Water Color	Green
S0	03 Dec 2019	Current Direction	N
S0	03 Dec 2019	Water Temp (C)	15
S0	03 Dec 2019	Wave Height Low (ft)	3
S0	03 Dec 2019	High Tide (ft)	3.8
S0	03 Dec 2019	High Tide Time	1340
S0	03 Dec 2019	Low Tide (ft)	3
S0	03 Dec 2019	Low Tide Time	838
S0	03 Dec 2019	Comments	Kelp; Algae; 1 Surfer; Water clear; 0.5L/sec water flowing from storm drain
S0	10 Dec 2019	Arrive Time	1045
S0	10 Dec 2019	Weather	Sunny
S0	10 Dec 2019	Wind Speed (kts)	2.9
S0	10 Dec 2019	Wind Dir	NW
S0	10 Dec 2019	Animal Life	3 Dogs; >20 Seagulls
S0	10 Dec 2019	Floatables	None
S0	10 Dec 2019	Water Color	Green
S0	10 Dec 2019	Current Direction	N
S0	10 Dec 2019	Water Temp (C)	16
S0	10 Dec 2019	Wave Height Low (ft)	2
S0	10 Dec 2019	High Tide (ft)	5.9
S0	10 Dec 2019	High Tide Time	711
S0	10 Dec 2019	Low Tide (ft)	-0.4
S0	10 Dec 2019	Low Tide Time	1416
S0	10 Dec 2019	Comments	Kelp; Algae; Water turbid; 1.0 L/sec water flowing from storm drain
S0	17 Dec 2019	Arrive Time	1105
S0	17 Dec 2019	Weather	Sunny
S0	17 Dec 2019	Wind Speed (kts)	6.3
S0	17 Dec 2019	Wind Dir	SW
S0	17 Dec 2019	Animal Life	15 Shorebirds
S0	17 Dec 2019	Floatables	None
S0	17 Dec 2019	Water Color	Green
S0	17 Dec 2019	Current Direction	N
S0	17 Dec 2019	Water Temp (C)	13
S0	17 Dec 2019	Wave Height Low (ft)	3
S0	17 Dec 2019	High Tide (ft)	4.8
S0	17 Dec 2019	High Tide Time	1210
S0	17 Dec 2019	Low Tide (ft)	2.6
S0	17 Dec 2019	Low Tide Time	627
S0	17 Dec 2019	Comments	Kelp; Algae; 1 Person; Water clear; 0.5L/sec water flowing from storm drain
S0	23 Dec 2019	Arrive Time	1120
S0	23 Dec 2019	Weather	Moderate Rain
S0	23 Dec 2019	Wind Speed (kts)	3.1
S0	23 Dec 2019	Wind Dir	NW
S0	23 Dec 2019	Animal Life	20 Shorebirds

Station	Date	Parameter	Value
S0	23 Dec 2019	Floatables	Floatables
S0	23 Dec 2019	Water Color	Brown
S0	23 Dec 2019	Current Direction	N
S0	23 Dec 2019	Water Temp (C)	15
S0	23 Dec 2019	Wave Height Low (ft)	3
S0	23 Dec 2019	High Tide (ft)	6.2
S0	23 Dec 2019	High Tide Time	629
S0	23 Dec 2019	Low Tide (ft)	-0.8
S0	23 Dec 2019	Low Tide Time	1338
S0	23 Dec 2019	Comments	Kelp; Algae; Water turbid; Garbage on the beach; 3.0 L/sec water flowing from storm drain
S0	30 Dec 2019	Arrive Time	1035
S0	30 Dec 2019	Weather	Cloudy
S0	30 Dec 2019	Wind Speed (kts)	3.1
S0	30 Dec 2019	Wind Dir	NW
S0	30 Dec 2019	Animal Life	20 Shorebirds
S0	30 Dec 2019	Floatables	None
S0	30 Dec 2019	Water Color	Green
S0	30 Dec 2019	Current Direction	N
S0	30 Dec 2019	Water Temp (C)	15
S0	30 Dec 2019	Wave Height Low (ft)	3
S0	30 Dec 2019	High Tide (ft)	4.8
S0	30 Dec 2019	High Tide Time	1051
S0	30 Dec 2019	Low Tide (ft)	2.5
S0	30 Dec 2019	Low Tide Time	500
S0	30 Dec 2019	Comments	Kelp; Algae; 1 Person; Water clear; 0.5L/s water flowing from storm drain
S2	03 Dec 2019	Arrive Time	1210
S2	03 Dec 2019	Weather	Cloudy
S2	03 Dec 2019	Wind Speed (kts)	2.1
S2	03 Dec 2019	Wind Dir	NE
S2	03 Dec 2019	Animal Life	20 Shorebirds; 2 Dogs
S2	03 Dec 2019	Floatables	None
S2	03 Dec 2019	Water Color	Green
S2	03 Dec 2019	Current Direction	N
S2	03 Dec 2019	Water Temp (C)	15
S2	03 Dec 2019	Wave Height Low (ft)	3
S2	03 Dec 2019	High Tide (ft)	3.8
S2	03 Dec 2019	High Tide Time	1340
S2	03 Dec 2019	Low Tide (ft)	3
S2	03 Dec 2019	Low Tide Time	838
S2	03 Dec 2019	Comments	Kelp; Algae; 4 Persons; Water clear; No flow from storm drain
S2	10 Dec 2019	Arrive Time	1138
S2	10 Dec 2019	Weather	Sunny
S2	10 Dec 2019	Wind Speed (kts)	2.3
S2	10 Dec 2019	Wind Dir	NW
S2	10 Dec 2019	Animal Life	2 Dogs; >20 Seagulls
S2	10 Dec 2019	Floatables	None
S2	10 Dec 2019	Water Color	Green
S2	10 Dec 2019	Current Direction	N
S2	10 Dec 2019	Water Temp (C)	16
S2	10 Dec 2019	Wave Height Low (ft)	2
S2	10 Dec 2019	High Tide (ft)	5.9
S2	10 Dec 2019	High Tide Time	711
S2	10 Dec 2019	Low Tide (ft)	-0.4
S2	10 Dec 2019	Low Tide Time	1416
S2	10 Dec 2019	Comments	Kelp; Algae; Water turbid; No flow from storm drain

Station	Date	Parameter	Value
S2	17 Dec 2019	Arrive Time	1230
S2	17 Dec 2019	Weather	Sunny
S2	17 Dec 2019	Wind Speed (kts)	8.5
S2	17 Dec 2019	Wind Dir	SW
S2	17 Dec 2019	Animal Life	10 Shorebirds; 5 Dogs; 5 Dolphins
S2	17 Dec 2019	Floatables	None
S2	17 Dec 2019	Water Color	Green
S2	17 Dec 2019	Current Direction	N
S2	17 Dec 2019	Water Temp (C)	13
S2	17 Dec 2019	Wave Height Low (ft)	4
S2	17 Dec 2019	High Tide (ft)	4.8
S2	17 Dec 2019	High Tide Time	1210
S2	17 Dec 2019	Low Tide (ft)	2.6
S2	17 Dec 2019	Low Tide Time	627
S2	17 Dec 2019	Comments	Kelp; Seagrass; Algae; 2 Persons; Water clear; No flow from storm drain
S2	23 Dec 2019	Arrive Time	1250
S2	23 Dec 2019	Weather	Moderate Rain
S2	23 Dec 2019	Wind Speed (kts)	4.2
S2	23 Dec 2019	Wind Dir	NW
S2	23 Dec 2019	Animal Life	20 Shorebirds
S2	23 Dec 2019	Floatables	Floatables
S2	23 Dec 2019	Water Color	Brown
S2	23 Dec 2019	Current Direction	N
S2	23 Dec 2019	Water Temp (C)	15
S2	23 Dec 2019	Wave Height Low (ft)	3
S2	23 Dec 2019	High Tide (ft)	6.2
S2	23 Dec 2019	High Tide Time	629
S2	23 Dec 2019	Low Tide (ft)	-0.8
S2	23 Dec 2019	Low Tide Time	1338
S2	23 Dec 2019	Comments	Kelp; Algae; 1 Person; Water turbid; 0.5 L/sec water flowing from storm drain
S2	30 Dec 2019	Arrive Time	1225
S2	30 Dec 2019	Weather	Cloudy
S2	30 Dec 2019	Wind Speed (kts)	3
S2	30 Dec 2019	Wind Dir	NW
S2	30 Dec 2019	Animal Life	20 Shorebirds; 1 Dog; 2 Dolphins
S2	30 Dec 2019	Floatables	None
S2	30 Dec 2019	Water Color	Green
S2	30 Dec 2019	Current Direction	N
S2	30 Dec 2019	Water Temp (C)	15
S2	30 Dec 2019	Wave Height Low (ft)	3
S2	30 Dec 2019	High Tide (ft)	4.8
S2	30 Dec 2019	High Tide Time	1051
S2	30 Dec 2019	Low Tide (ft)	0.1
S2	30 Dec 2019	Low Tide Time	1817
S2	30 Dec 2019	Comments	Kelp; Algae; 2 Persons; Water clear; No flow from storm drain
S3	03 Dec 2019	Arrive Time	1120
S3	03 Dec 2019	Weather	Cloudy
S3	03 Dec 2019	Wind Speed (kts)	2
S3	03 Dec 2019	Wind Dir	NE
S3	03 Dec 2019	Animal Life	10 Shorebirds; 1 Dog
S3	03 Dec 2019	Floatables	None
S3	03 Dec 2019	Water Color	Green
S3	03 Dec 2019	Current Direction	N
S3	03 Dec 2019	Water Temp (C)	15
S3	03 Dec 2019	Wave Height Low (ft)	3
S3	03 Dec 2019	High Tide (ft)	3.8

Station	Date	Parameter	Value
S3	03 Dec 2019	High Tide Time	1340
S3	03 Dec 2019	Low Tide (ft)	3
S3	03 Dec 2019	Low Tide Time	838
S3	03 Dec 2019	Comments	Kelp; Algae; 5 Persons; Water clear; No flow from storm drain
S3	10 Dec 2019	Arrive Time	1118
S3	10 Dec 2019	Weather	Sunny
S3	10 Dec 2019	Wind Speed (kts)	2.3
S3	10 Dec 2019	Wind Dir	NW
S3	10 Dec 2019	Animal Life	3 Dogs; >20 Seagulls
S3	10 Dec 2019	Floatables	None
S3	10 Dec 2019	Water Color	Green
S3	10 Dec 2019	Current Direction	N
S3	10 Dec 2019	Water Temp (C)	16
S3	10 Dec 2019	Wave Height Low (ft)	2
S3	10 Dec 2019	High Tide (ft)	5.9
S3	10 Dec 2019	High Tide Time	711
S3	10 Dec 2019	Low Tide (ft)	-0.4
S3	10 Dec 2019	Low Tide Time	1416
S3	10 Dec 2019	Comments	Kelp; Algae; Water turbid; 0.5 L/sec water flowing from storm drain
S3	17 Dec 2019	Arrive Time	1145
S3	17 Dec 2019	Weather	Sunny
S3	17 Dec 2019	Wind Speed (kts)	5.9
S3	17 Dec 2019	Wind Dir	SW
S3	17 Dec 2019	Animal Life	>20 Shorebirds
S3	17 Dec 2019	Floatables	None
S3	17 Dec 2019	Water Color	Green
S3	17 Dec 2019	Current Direction	N
S3	17 Dec 2019	Water Temp (C)	13
S3	17 Dec 2019	Wave Height Low (ft)	3
S3	17 Dec 2019	High Tide (ft)	4.8
S3	17 Dec 2019	High Tide Time	1210
S3	17 Dec 2019	Low Tide (ft)	2.6
S3	17 Dec 2019	Low Tide Time	627
S3	17 Dec 2019	Comments	Kelp; Algae; 3 Persons; Water clear; 0.5L/sec water flowing from storm drain
S3	23 Dec 2019	Arrive Time	1210
S3	23 Dec 2019	Weather	Moderate Rain
S3	23 Dec 2019	Wind Speed (kts)	4.1
S3	23 Dec 2019	Wind Dir	NW
S3	23 Dec 2019	Animal Life	20 Shorebirds
S3	23 Dec 2019	Floatables	Floatables
S3	23 Dec 2019	Water Color	Brown
S3	23 Dec 2019	Current Direction	N
S3	23 Dec 2019	Water Temp (C)	15
S3	23 Dec 2019	Wave Height Low (ft)	3
S3	23 Dec 2019	High Tide (ft)	6.2
S3	23 Dec 2019	High Tide Time	629
S3	23 Dec 2019	Low Tide (ft)	-0.8
S3	23 Dec 2019	Low Tide Time	1338
S3	23 Dec 2019	Comments	2 Persons; Water turbid; 0.5 L/sec water flowing from storm drain
S3	30 Dec 2019	Arrive Time	1145
S3	30 Dec 2019	Weather	Cloudy
S3	30 Dec 2019	Wind Speed (kts)	3.5
S3	30 Dec 2019	Wind Dir	NW
S3	30 Dec 2019	Animal Life	20 Shorebirds

Station	Date	Parameter	Value
S3	30 Dec 2019	Floatables	None
S3	30 Dec 2019	Water Color	Green
S3	30 Dec 2019	Current Direction	N
S3	30 Dec 2019	Water Temp (C)	15
S3	30 Dec 2019	Wave Height Low (ft)	3
S3	30 Dec 2019	High Tide (ft)	4.8
S3	30 Dec 2019	High Tide Time	1051
S3	30 Dec 2019	Low Tide (ft)	0.1
S3	30 Dec 2019	Low Tide Time	1817
S3	30 Dec 2019	Comments	Kelp; Algae; 2 Persons; Water clear; 0.5 L/s water flowing from storm drain
S4	01 Dec 2019	Arrive Time	755
S4	01 Dec 2019	Weather	Partly Cloudy
S4	01 Dec 2019	Wind Speed (kts)	2.8
S4	01 Dec 2019	Wind Dir	W
S4	01 Dec 2019	Animal Life	12 Cormorants; 10 Seagulls
S4	01 Dec 2019	Floatables	None
S4	01 Dec 2019	Water Color	Green
S4	01 Dec 2019	Current Direction	N
S4	01 Dec 2019	Water Temp (C)	15.4
S4	01 Dec 2019	Wave Height Low (ft)	3
S4	01 Dec 2019	High Tide (ft)	4.8
S4	01 Dec 2019	High Tide Time	1120
S4	01 Dec 2019	Low Tide (ft)	2.9
S4	01 Dec 2019	Low Tide Time	525
S4	01 Dec 2019	Comments	Resample;Kelp; Seagrass; Water clear
S4	03 Dec 2019	Arrive Time	1016
S4	03 Dec 2019	Weather	Hazy
S4	03 Dec 2019	Wind Speed (kts)	3.6
S4	03 Dec 2019	Wind Dir	N
S4	03 Dec 2019	Animal Life	200 Cormorants; 350 Godwits
S4	03 Dec 2019	Floatables	Foam
S4	03 Dec 2019	Water Color	Green
S4	03 Dec 2019	Current Direction	N
S4	03 Dec 2019	Water Temp (C)	16.4
S4	03 Dec 2019	Wave Height Low (ft)	4
S4	03 Dec 2019	High Tide (ft)	3.8
S4	03 Dec 2019	High Tide Time	1340
S4	03 Dec 2019	Low Tide (ft)	3
S4	03 Dec 2019	Low Tide Time	838
S4	03 Dec 2019	Comments	Kelp; Seagrass; Debris; Water clear
S4	05 Dec 2019	Arrive Time	944
S4	05 Dec 2019	Weather	Sunny
S4	05 Dec 2019	Wind Speed (kts)	1.9
S4	05 Dec 2019	Wind Dir	E
S4	05 Dec 2019	Animal Life	60 Cormorants; 300 Godwits
S4	05 Dec 2019	Floatables	Foam; Film
S4	05 Dec 2019	Water Color	Brown
S4	05 Dec 2019	Current Direction	S
S4	05 Dec 2019	Water Temp (C)	19
S4	05 Dec 2019	Wave Height Low (ft)	2
S4	05 Dec 2019	High Tide (ft)	4.4
S4	05 Dec 2019	High Tide Time	456
S4	05 Dec 2019	Low Tide (ft)	2.1
S4	05 Dec 2019	Low Tide Time	1116
S4	05 Dec 2019	Comments	Resample;Kelp; Seagrass; Debris; Water clear
S4	07 Dec 2019	Arrive Time	727

Station	Date	Parameter	Value
S4	07 Dec 2019	Weather	Moderate Rain
S4	07 Dec 2019	Wind Speed (kts)	4.2
S4	07 Dec 2019	Wind Dir	W
S4	07 Dec 2019	Animal Life	None
S4	07 Dec 2019	Floatables	None
S4	07 Dec 2019	Water Color	Green
S4	07 Dec 2019	Current Direction	N
S4	07 Dec 2019	Water Temp (C)	17.4
S4	07 Dec 2019	Wave Height Low (ft)	3
S4	07 Dec 2019	High Tide (ft)	5
S4	07 Dec 2019	High Tide Time	548
S4	07 Dec 2019	Low Tide (ft)	1
S4	07 Dec 2019	Low Tide Time	1235
S4	07 Dec 2019	Comments	Resample; Kelp; Seagrass; Sewage-like odor; Water clear
S4	09 Dec 2019	Arrive Time	1058
S4	09 Dec 2019	Weather	Partly Cloudy
S4	09 Dec 2019	Wind Speed (kts)	2.1
S4	09 Dec 2019	Wind Dir	W
S4	09 Dec 2019	Animal Life	3 Shorebirds; 5 Birds; 8 Cormorants; 8 Sand Pipers
S4	09 Dec 2019	Floatables	None
S4	09 Dec 2019	Water Color	Green
S4	09 Dec 2019	Current Direction	N
S4	09 Dec 2019	Water Temp (C)	17.4
S4	09 Dec 2019	Wave Height Low (ft)	3
S4	09 Dec 2019	High Tide (ft)	5.7
S4	09 Dec 2019	High Tide Time	642
S4	09 Dec 2019	Low Tide (ft)	0
S4	09 Dec 2019	Low Tide Time	1342
S4	09 Dec 2019	Comments	Kelp; Seagrass; Sewage-like odor; Water clear
S4	11 Dec 2019	Arrive Time	844
S4	11 Dec 2019	Weather	Sunny
S4	11 Dec 2019	Wind Speed (kts)	2.1
S4	11 Dec 2019	Wind Dir	E
S4	11 Dec 2019	Animal Life	31 Cormorants; 1 Godwit; 1 Plover; 1 Seal
S4	11 Dec 2019	Floatables	None
S4	11 Dec 2019	Water Color	Green
S4	11 Dec 2019	Current Direction	S
S4	11 Dec 2019	Water Temp (C)	13
S4	11 Dec 2019	Wave Height Low (ft)	4
S4	11 Dec 2019	High Tide (ft)	6.1
S4	11 Dec 2019	High Tide Time	741
S4	11 Dec 2019	Low Tide (ft)	-0.7
S4	11 Dec 2019	Low Tide Time	1453
S4	11 Dec 2019	Comments	Resample; Water clear
S4	17 Dec 2019	Arrive Time	1047
S4	17 Dec 2019	Weather	Sunny
S4	17 Dec 2019	Wind Speed (kts)	19.8
S4	17 Dec 2019	Wind Dir	E
S4	17 Dec 2019	Animal Life	None
S4	17 Dec 2019	Floatables	Foam
S4	17 Dec 2019	Water Color	Brown
S4	17 Dec 2019	Current Direction	N
S4	17 Dec 2019	Water Temp (C)	14.6
S4	17 Dec 2019	Wave Height Low (ft)	4
S4	17 Dec 2019	High Tide (ft)	4.8
S4	17 Dec 2019	High Tide Time	1210
S4	17 Dec 2019	Low Tide (ft)	2.6
S4	17 Dec 2019	Low Tide Time	627

Station	Date	Parameter	Value
S4	17 Dec 2019	Comments	Kelp; Seagrass; Water turbid
S4	19 Dec 2019	Arrive Time	824
S4	19 Dec 2019	Weather	Sunny
S4	19 Dec 2019	Wind Speed (kts)	1.7
S4	19 Dec 2019	Wind Dir	E
S4	19 Dec 2019	Animal Life	180 Godwits; 5 Plovers; 1 Seagull
S4	19 Dec 2019	Floatables	Foam; Dead Animals
S4	19 Dec 2019	Water Color	Green
S4	19 Dec 2019	Current Direction	S
S4	19 Dec 2019	Water Temp (C)	13
S4	19 Dec 2019	Wave Height Low (ft)	6
S4	19 Dec 2019	High Tide (ft)	4.5
S4	19 Dec 2019	High Tide Time	335
S4	19 Dec 2019	Low Tide (ft)	2
S4	19 Dec 2019	Low Tide Time	943
S4	19 Dec 2019	Comments	Resample ;Kelp; Debris; Water turbid
S4	20 Dec 2019	Arrive Time	1429
S4	20 Dec 2019	Weather	Overcast
S4	20 Dec 2019	Wind Speed (kts)	6.9
S4	20 Dec 2019	Wind Dir	N
S4	20 Dec 2019	Animal Life	100 Godwits; 200 Plovers; 2 Seagulls; 30 Terns
S4	20 Dec 2019	Floatables	Foam
S4	20 Dec 2019	Water Color	Green
S4	20 Dec 2019	Current Direction	S
S4	20 Dec 2019	Water Temp (C)	16.1
S4	20 Dec 2019	Wave Height Low (ft)	3
S4	20 Dec 2019	High Tide (ft)	3.7
S4	20 Dec 2019	High Tide Time	1632
S4	20 Dec 2019	Low Tide (ft)	1.2
S4	20 Dec 2019	Low Tide Time	1101
S4	20 Dec 2019	Comments	Resample; Water turbid
S4	22 Dec 2019	Arrive Time	857
S4	22 Dec 2019	Weather	Overcast
S4	22 Dec 2019	Wind Speed (kts)	0
S4	22 Dec 2019	Wind Dir	
S4	22 Dec 2019	Animal Life	30 Godwits; 12 Grebes; 10 Seagulls
S4	22 Dec 2019	Floatables	Foam; Film
S4	22 Dec 2019	Water Color	Green
S4	22 Dec 2019	Current Direction	N
S4	22 Dec 2019	Water Temp (C)	14.2
S4	22 Dec 2019	Wave Height Low (ft)	6
S4	22 Dec 2019	High Tide (ft)	5.9
S4	22 Dec 2019	High Tide Time	550
S4	22 Dec 2019	Low Tide (ft)	-0.2
S4	22 Dec 2019	Low Tide Time	1253
S4	22 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S4	26 Dec 2019	Arrive Time	1110
S4	26 Dec 2019	Weather	Partly Cloudy
S4	26 Dec 2019	Wind Speed (kts)	3.3
S4	26 Dec 2019	Wind Dir	SW
S4	26 Dec 2019	Animal Life	8 Plovers
S4	26 Dec 2019	Floatables	None
S4	26 Dec 2019	Water Color	Brown
S4	26 Dec 2019	Current Direction	N
S4	26 Dec 2019	Water Temp (C)	15.6
S4	26 Dec 2019	Wave Height Low (ft)	4
S4	26 Dec 2019	High Tide (ft)	6.4

Station	Date	Parameter	Value
S4	26 Dec 2019	High Tide Time	823
S4	26 Dec 2019	Low Tide (ft)	-1.2
S4	26 Dec 2019	Low Tide Time	1540
S4	26 Dec 2019	Comments	Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S4	30 Dec 2019	Arrive Time	1043
S4	30 Dec 2019	Weather	Overcast
S4	30 Dec 2019	Wind Speed (kts)	9.1
S4	30 Dec 2019	Wind Dir	SE
S4	30 Dec 2019	Animal Life	4 Horses; 1 Pelican; 1 Seagull
S4	30 Dec 2019	Floatables	None
S4	30 Dec 2019	Water Color	Green
S4	30 Dec 2019	Current Direction	N
S4	30 Dec 2019	Water Temp (C)	15
S4	30 Dec 2019	Wave Height Low (ft)	4
S4	30 Dec 2019	High Tide (ft)	4.8
S4	30 Dec 2019	High Tide Time	1051
S4	30 Dec 2019	Low Tide (ft)	2.5
S4	30 Dec 2019	Low Tide Time	500
S4	30 Dec 2019	Comments	Debris; 4 Persons; Water clear
S5	01 Dec 2019	Arrive Time	855
S5	01 Dec 2019	Weather	Partly Cloudy
S5	01 Dec 2019	Wind Speed (kts)	1.3
S5	01 Dec 2019	Wind Dir	W
S5	01 Dec 2019	Animal Life	30 Shorebirds; 10 Cormorants; 7 Pelicans; 9 Sand Pipers; 7 Seagulls
S5	01 Dec 2019	Floatables	None
S5	01 Dec 2019	Water Color	Green
S5	01 Dec 2019	Current Direction	N
S5	01 Dec 2019	Water Temp (C)	16.1
S5	01 Dec 2019	Wave Height Low (ft)	3
S5	01 Dec 2019	High Tide (ft)	4.8
S5	01 Dec 2019	High Tide Time	1120
S5	01 Dec 2019	Low Tide (ft)	2.9
S5	01 Dec 2019	Low Tide Time	525
S5	01 Dec 2019	Comments	Resample;Kelp; Seagrass; Algae; 3 Persons; Water clear
S5	03 Dec 2019	Arrive Time	827
S5	03 Dec 2019	Weather	Overcast
S5	03 Dec 2019	Wind Speed (kts)	2.7
S5	03 Dec 2019	Wind Dir	NE
S5	03 Dec 2019	Animal Life	20 Cormorants; 2 Pelicans; 1 Plover
S5	03 Dec 2019	Floatables	Foam; Film
S5	03 Dec 2019	Water Color	Green
S5	03 Dec 2019	Current Direction	N
S5	03 Dec 2019	Water Temp (C)	16.3
S5	03 Dec 2019	Wave Height Low (ft)	4
S5	03 Dec 2019	High Tide (ft)	3.8
S5	03 Dec 2019	High Tide Time	340
S5	03 Dec 2019	Low Tide (ft)	3
S5	03 Dec 2019	Low Tide Time	838
S5	03 Dec 2019	Comments	1 Person; Water clear
S5	05 Dec 2019	Arrive Time	1030
S5	05 Dec 2019	Weather	Sunny
S5	05 Dec 2019	Wind Speed (kts)	3.9
S5	05 Dec 2019	Wind Dir	N
S5	05 Dec 2019	Animal Life	25 Cormorants; 13 Seagulls
S5	05 Dec 2019	Floatables	Foam; Fecal Matter; Film
S5	05 Dec 2019	Water Color	Brown

Station	Date	Parameter	Value
S5	05 Dec 2019	Current Direction	S
S5	05 Dec 2019	Water Temp (C)	21.2
S5	05 Dec 2019	Wave Height Low (ft)	2
S5	05 Dec 2019	High Tide (ft)	4.4
S5	05 Dec 2019	High Tide Time	456
S5	05 Dec 2019	Low Tide (ft)	2.1
S5	05 Dec 2019	Low Tide Time	1116
S5	05 Dec 2019	Comments	Resample;Kelp; Seagrass; Debris; Sewage-like odor; 1 Person; Water turbid
S5	07 Dec 2019	Arrive Time	830
S5	07 Dec 2019	Weather	Moderate Rain
S5	07 Dec 2019	Wind Speed (kts)	17.8
S5	07 Dec 2019	Wind Dir	SW
S5	07 Dec 2019	Animal Life	10 Birds; 100 Cormorants; 30 Plovers
S5	07 Dec 2019	Floatables	None
S5	07 Dec 2019	Water Color	Green
S5	07 Dec 2019	Current Direction	N
S5	07 Dec 2019	Water Temp (C)	17.8
S5	07 Dec 2019	Wave Height Low (ft)	3
S5	07 Dec 2019	High Tide (ft)	5
S5	07 Dec 2019	High Tide Time	548
S5	07 Dec 2019	Low Tide (ft)	1
S5	07 Dec 2019	Low Tide Time	1235
S5	07 Dec 2019	Comments	Resample; Kelp; Seagrass; Sewage-like odor; Water clear
S5	09 Dec 2019	Arrive Time	1006
S5	09 Dec 2019	Weather	Partly Cloudy
S5	09 Dec 2019	Wind Speed (kts)	1.3
S5	09 Dec 2019	Wind Dir	W
S5	09 Dec 2019	Animal Life	None
S5	09 Dec 2019	Floatables	None
S5	09 Dec 2019	Water Color	Brown
S5	09 Dec 2019	Current Direction	N
S5	09 Dec 2019	Water Temp (C)	17.5
S5	09 Dec 2019	Wave Height Low (ft)	3
S5	09 Dec 2019	High Tide (ft)	5.7
S5	09 Dec 2019	High Tide Time	642
S5	09 Dec 2019	Low Tide (ft)	0
S5	09 Dec 2019	Low Tide Time	1342
S5	09 Dec 2019	Comments	Kelp; Seagrass; Sewage-like odor; Water turbid
S5	11 Dec 2019	Arrive Time	950
S5	11 Dec 2019	Weather	Sunny
S5	11 Dec 2019	Wind Speed (kts)	6.4
S5	11 Dec 2019	Wind Dir	NE
S5	11 Dec 2019	Animal Life	4 Pelicans
S5	11 Dec 2019	Floatables	Foam
S5	11 Dec 2019	Water Color	Green
S5	11 Dec 2019	Current Direction	N
S5	11 Dec 2019	Water Temp (C)	15
S5	11 Dec 2019	Wave Height Low (ft)	3
S5	11 Dec 2019	High Tide (ft)	6.1
S5	11 Dec 2019	High Tide Time	741
S5	11 Dec 2019	Low Tide (ft)	-0.7
S5	11 Dec 2019	Low Tide Time	1453
S5	11 Dec 2019	Comments	Resample; Water clear
S5	13 Dec 2019	Arrive Time	1019
S5	13 Dec 2019	Weather	Sunny
S5	13 Dec 2019	Wind Speed (kts)	2.1

Station	Date	Parameter	Value
S5	13 Dec 2019	Wind Dir	W
S5	13 Dec 2019	Animal Life	25 Cormorants; 12 Godwits; 3 Seagulls
S5	13 Dec 2019	Floatables	Foam; Film
S5	13 Dec 2019	Water Color	Brown
S5	13 Dec 2019	Current Direction	S
S5	13 Dec 2019	Water Temp (C)	17.2
S5	13 Dec 2019	Wave Height Low (ft)	5
S5	13 Dec 2019	High Tide (ft)	6.3
S5	13 Dec 2019	High Tide Time	850
S5	13 Dec 2019	Low Tide (ft)	-1
S5	13 Dec 2019	Low Tide Time	1613
S5	13 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S5	15 Dec 2019	Arrive Time	853
S5	15 Dec 2019	Weather	Sunny
S5	15 Dec 2019	Wind Speed (kts)	7.7
S5	15 Dec 2019	Wind Dir	W
S5	15 Dec 2019	Animal Life	10 Pelicans; 15 Seagulls
S5	15 Dec 2019	Floatables	Foam; Film
S5	15 Dec 2019	Water Color	Green
S5	15 Dec 2019	Current Direction	S
S5	15 Dec 2019	Water Temp (C)	15.8
S5	15 Dec 2019	Wave Height Low (ft)	8
S5	15 Dec 2019	High Tide (ft)	5.8
S5	15 Dec 2019	High Tide Time	1013
S5	15 Dec 2019	Low Tide (ft)	2.3
S5	15 Dec 2019	Low Tide Time	405
S5	15 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; 1 Person; Water clear
S5	17 Dec 2019	Arrive Time	849
S5	17 Dec 2019	Weather	Sunny
S5	17 Dec 2019	Wind Speed (kts)	24.3
S5	17 Dec 2019	Wind Dir	SE
S5	17 Dec 2019	Animal Life	7 Seagulls
S5	17 Dec 2019	Floatables	Foam
S5	17 Dec 2019	Water Color	Green
S5	17 Dec 2019	Current Direction	N
S5	17 Dec 2019	Water Temp (C)	14.7
S5	17 Dec 2019	Wave Height Low (ft)	4
S5	17 Dec 2019	High Tide (ft)	4.8
S5	17 Dec 2019	High Tide Time	1210
S5	17 Dec 2019	Low Tide (ft)	2.6
S5	17 Dec 2019	Low Tide Time	627
S5	17 Dec 2019	Comments	Kelp; Seagrass; Debris; 1 Jogger; Water clear
S5	19 Dec 2019	Arrive Time	948
S5	19 Dec 2019	Weather	Sunny
S5	19 Dec 2019	Wind Speed (kts)	4.4
S5	19 Dec 2019	Wind Dir	E
S5	19 Dec 2019	Animal Life	None
S5	19 Dec 2019	Floatables	Foam; Condoms; Film
S5	19 Dec 2019	Water Color	Brown
S5	19 Dec 2019	Current Direction	S
S5	19 Dec 2019	Water Temp (C)	13.7
S5	19 Dec 2019	Wave Height Low (ft)	4
S5	19 Dec 2019	High Tide (ft)	3.9
S5	19 Dec 2019	High Tide Time	1504
S5	19 Dec 2019	Low Tide (ft)	2
S5	19 Dec 2019	Low Tide Time	943

Station	Date	Parameter	Value
S5	19 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Water turbid
S5	20 Dec 2019	Arrive Time	1324
S5	20 Dec 2019	Weather	Sunny
S5	20 Dec 2019	Wind Speed (kts)	4.4
S5	20 Dec 2019	Wind Dir	N
S5	20 Dec 2019	Animal Life	4 Grebes; 14 Seagulls; 8 Terns
S5	20 Dec 2019	Floatables	Foam
S5	20 Dec 2019	Water Color	Green
S5	20 Dec 2019	Current Direction	S
S5	20 Dec 2019	Water Temp (C)	16.2
S5	20 Dec 2019	Wave Height Low (ft)	3
S5	20 Dec 2019	High Tide (ft)	3.7
S5	20 Dec 2019	High Tide Time	1632
S5	20 Dec 2019	Low Tide (ft)	1.2
S5	20 Dec 2019	Low Tide Time	1101
S5	20 Dec 2019	Comments	Resample; Kelp; Sewage-like odor; 1 Jogger; Water turbid
S5	22 Dec 2019	Arrive Time	958
S5	22 Dec 2019	Weather	Overcast
S5	22 Dec 2019	Wind Speed (kts)	3.8
S5	22 Dec 2019	Wind Dir	S
S5	22 Dec 2019	Animal Life	15 Godwits; 20 Seagulls
S5	22 Dec 2019	Floatables	Foam; Film
S5	22 Dec 2019	Water Color	Green
S5	22 Dec 2019	Current Direction	N
S5	22 Dec 2019	Water Temp (C)	15
S5	22 Dec 2019	Wave Height Low (ft)	3
S5	22 Dec 2019	High Tide (ft)	5.9
S5	22 Dec 2019	High Tide Time	550
S5	22 Dec 2019	Low Tide (ft)	-0.2
S5	22 Dec 2019	Low Tide Time	1253
S5	22 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; 2 Persons; Water clear
S5	23 Dec 2019	Arrive Time	856
S5	23 Dec 2019	Weather	Moderate Rain
S5	23 Dec 2019	Wind Speed (kts)	2.1
S5	23 Dec 2019	Wind Dir	E
S5	23 Dec 2019	Animal Life	None
S5	23 Dec 2019	Floatables	Foam; Film
S5	23 Dec 2019	Water Color	Brown
S5	23 Dec 2019	Current Direction	N
S5	23 Dec 2019	Water Temp (C)	10
S5	23 Dec 2019	Wave Height Low (ft)	4
S5	23 Dec 2019	High Tide (ft)	6.2
S5	23 Dec 2019	High Tide Time	629
S5	23 Dec 2019	Low Tide (ft)	-0.8
S5	23 Dec 2019	Low Tide Time	1338
S5	23 Dec 2019	Comments	Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S5	24 Dec 2019	Arrive Time	843
S5	24 Dec 2019	Weather	Partly Cloudy
S5	24 Dec 2019	Wind Speed (kts)	1.9
S5	24 Dec 2019	Wind Dir	SW
S5	24 Dec 2019	Animal Life	None
S5	24 Dec 2019	Floatables	Foam; Dead Animals; Film; Toilet Tissues
S5	24 Dec 2019	Water Color	Brown
S5	24 Dec 2019	Current Direction	N
S5	24 Dec 2019	Water Temp (C)	15
S5	24 Dec 2019	Wave Height Low (ft)	4

Station	Date	Parameter	Value
S5	24 Dec 2019	High Tide (ft)	6.4
S5	24 Dec 2019	High Tide Time	708
S5	24 Dec 2019	Low Tide (ft)	-1.1
S5	24 Dec 2019	Low Tide Time	1420
S5	24 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; 1 Jogger; 3 Persons; Water turbid; Sea spray mist in the air
S5	25 Dec 2019	Arrive Time	939
S5	25 Dec 2019	Weather	Partly Cloudy
S5	25 Dec 2019	Wind Speed (kts)	0
S5	25 Dec 2019	Wind Dir	
S5	25 Dec 2019	Animal Life	None
S5	25 Dec 2019	Floatables	Foam; Film
S5	25 Dec 2019	Water Color	Green
S5	25 Dec 2019	Current Direction	N
S5	25 Dec 2019	Water Temp (C)	16.9
S5	25 Dec 2019	Wave Height Low (ft)	3
S5	25 Dec 2019	High Tide (ft)	6.5
S5	25 Dec 2019	High Tide Time	746
S5	25 Dec 2019	Low Tide (ft)	-1.2
S5	25 Dec 2019	Low Tide Time	1501
S5	25 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S5	27 Dec 2019	Arrive Time	911
S5	27 Dec 2019	Weather	Sunny
S5	27 Dec 2019	Wind Speed (kts)	4.6
S5	27 Dec 2019	Wind Dir	SE
S5	27 Dec 2019	Animal Life	None
S5	27 Dec 2019	Floatables	None
S5	27 Dec 2019	Water Color	Brown
S5	27 Dec 2019	Current Direction	N
S5	27 Dec 2019	Water Temp (C)	14.9
S5	27 Dec 2019	Wave Height Low (ft)	5
S5	27 Dec 2019	High Tide (ft)	6.1
S5	27 Dec 2019	High Tide Time	900
S5	27 Dec 2019	Low Tide (ft)	1.9
S5	27 Dec 2019	Low Tide Time	254
S5	27 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; 1 Jogger; Water clear
S5	30 Dec 2019	Arrive Time	843
S5	30 Dec 2019	Weather	Overcast
S5	30 Dec 2019	Wind Speed (kts)	8.9
S5	30 Dec 2019	Wind Dir	SE
S5	30 Dec 2019	Animal Life	3 Pelicans
S5	30 Dec 2019	Floatables	Foam
S5	30 Dec 2019	Water Color	Green
S5	30 Dec 2019	Current Direction	N
S5	30 Dec 2019	Water Temp (C)	14
S5	30 Dec 2019	Wave Height Low (ft)	3
S5	30 Dec 2019	High Tide (ft)	4.8
S5	30 Dec 2019	High Tide Time	1051
S5	30 Dec 2019	Low Tide (ft)	2.5
S5	30 Dec 2019	Low Tide Time	500
S5	30 Dec 2019	Comments	Kelp; Debris; Water clear
S6	01 Dec 2019	Arrive Time	938
S6	01 Dec 2019	Weather	Partly Cloudy
S6	01 Dec 2019	Wind Speed (kts)	2.5
S6	01 Dec 2019	Wind Dir	W
S6	01 Dec 2019	Animal Life	None

Station	Date	Parameter	Value
S6	01 Dec 2019	Floatables	None
S6	01 Dec 2019	Water Color	Green
S6	01 Dec 2019	Current Direction	N
S6	01 Dec 2019	Water Temp (C)	16.3
S6	01 Dec 2019	Wave Height Low (ft)	3
S6	01 Dec 2019	High Tide (ft)	4.8
S6	01 Dec 2019	High Tide Time	1120
S6	01 Dec 2019	Low Tide (ft)	2.9
S6	01 Dec 2019	Low Tide Time	525
S6	01 Dec 2019	Comments	Resample;Kelp; Seagrass; 3 Persons; 2 Surfers; Water clear
S6	03 Dec 2019	Arrive Time	848
S6	03 Dec 2019	Weather	Overcast
S6	03 Dec 2019	Wind Speed (kts)	2.3
S6	03 Dec 2019	Wind Dir	NE
S6	03 Dec 2019	Animal Life	1 Seagull
S6	03 Dec 2019	Floatables	Foam; Dead Animals
S6	03 Dec 2019	Water Color	Green
S6	03 Dec 2019	Current Direction	N
S6	03 Dec 2019	Water Temp (C)	17.1
S6	03 Dec 2019	Wave Height Low (ft)	5
S6	03 Dec 2019	High Tide (ft)	3.8
S6	03 Dec 2019	High Tide Time	1340
S6	03 Dec 2019	Low Tide (ft)	3
S6	03 Dec 2019	Low Tide Time	838
S6	03 Dec 2019	Comments	Kelp; Seagrass; Debris; 1 Person; 8 Surfers; Water clear
S6	05 Dec 2019	Arrive Time	1055
S6	05 Dec 2019	Weather	Sunny
S6	05 Dec 2019	Wind Speed (kts)	4
S6	05 Dec 2019	Wind Dir	N
S6	05 Dec 2019	Animal Life	60 Cormorants; 1 Godwit; 1 Seagull
S6	05 Dec 2019	Floatables	Foam; Film
S6	05 Dec 2019	Water Color	Brown
S6	05 Dec 2019	Current Direction	S
S6	05 Dec 2019	Water Temp (C)	20
S6	05 Dec 2019	Wave Height Low (ft)	3
S6	05 Dec 2019	High Tide (ft)	3.5
S6	05 Dec 2019	High Tide Time	1626
S6	05 Dec 2019	Low Tide (ft)	2.1
S6	05 Dec 2019	Low Tide Time	1116
S6	05 Dec 2019	Comments	Resample;Kelp; Seagrass; Debris; Sewage-like odor; Water turbid
S6	07 Dec 2019	Arrive Time	857
S6	07 Dec 2019	Weather	Drizzle
S6	07 Dec 2019	Wind Speed (kts)	2.7
S6	07 Dec 2019	Wind Dir	W
S6	07 Dec 2019	Animal Life	None
S6	07 Dec 2019	Floatables	None
S6	07 Dec 2019	Water Color	Green
S6	07 Dec 2019	Current Direction	N
S6	07 Dec 2019	Water Temp (C)	18
S6	07 Dec 2019	Wave Height Low (ft)	3
S6	07 Dec 2019	High Tide (ft)	5
S6	07 Dec 2019	High Tide Time	548
S6	07 Dec 2019	Low Tide (ft)	1
S6	07 Dec 2019	Low Tide Time	1235
S6	07 Dec 2019	Comments	Resample; Kelp; Seagrass; 3 Surfers; Water clear
S6	09 Dec 2019	Arrive Time	1021

Station	Date	Parameter	Value
S6	09 Dec 2019	Weather	Partly Cloudy
S6	09 Dec 2019	Wind Speed (kts)	1
S6	09 Dec 2019	Wind Dir	W
S6	09 Dec 2019	Animal Life	None
S6	09 Dec 2019	Floatables	None
S6	09 Dec 2019	Water Color	Green
S6	09 Dec 2019	Current Direction	N
S6	09 Dec 2019	Water Temp (C)	17.6
S6	09 Dec 2019	Wave Height Low (ft)	4
S6	09 Dec 2019	High Tide (ft)	5.7
S6	09 Dec 2019	High Tide Time	642
S6	09 Dec 2019	Low Tide (ft)	0
S6	09 Dec 2019	Low Tide Time	1342
S6	09 Dec 2019	Comments	Kelp; Seagrass; Debris; Sewage-like odor; 1 Person; Water clear
S6	11 Dec 2019	Arrive Time	1018
S6	11 Dec 2019	Weather	Sunny
S6	11 Dec 2019	Wind Speed (kts)	2.3
S6	11 Dec 2019	Wind Dir	N
S6	11 Dec 2019	Animal Life	3 Dolphins; 26 Godwits; 4 Plovers
S6	11 Dec 2019	Floatables	Foam
S6	11 Dec 2019	Water Color	Green
S6	11 Dec 2019	Current Direction	S
S6	11 Dec 2019	Water Temp (C)	16
S6	11 Dec 2019	Wave Height Low (ft)	4
S6	11 Dec 2019	High Tide (ft)	6.1
S6	11 Dec 2019	High Tide Time	741
S6	11 Dec 2019	Low Tide (ft)	-0.7
S6	11 Dec 2019	Low Tide Time	1453
S6	11 Dec 2019	Comments	Resample; 2 Persons; Water clear
S6	17 Dec 2019	Arrive Time	923
S6	17 Dec 2019	Weather	Sunny
S6	17 Dec 2019	Wind Speed (kts)	19.2
S6	17 Dec 2019	Wind Dir	E
S6	17 Dec 2019	Animal Life	1 Seagull; 12 Terns
S6	17 Dec 2019	Floatables	Foam
S6	17 Dec 2019	Water Color	Green
S6	17 Dec 2019	Current Direction	N
S6	17 Dec 2019	Water Temp (C)	14.3
S6	17 Dec 2019	Wave Height Low (ft)	5
S6	17 Dec 2019	High Tide (ft)	4.8
S6	17 Dec 2019	High Tide Time	1210
S6	17 Dec 2019	Low Tide (ft)	2.6
S6	17 Dec 2019	Low Tide Time	627
S6	17 Dec 2019	Comments	Kelp; Seagrass; 1 Person; 5 Surfers; Water clear
S6	23 Dec 2019	Arrive Time	909
S6	23 Dec 2019	Weather	Moderate Rain
S6	23 Dec 2019	Wind Speed (kts)	7.9
S6	23 Dec 2019	Wind Dir	E
S6	23 Dec 2019	Animal Life	250 Cormorants
S6	23 Dec 2019	Floatables	Foam; Film
S6	23 Dec 2019	Water Color	Green
S6	23 Dec 2019	Current Direction	N
S6	23 Dec 2019	Water Temp (C)	12
S6	23 Dec 2019	Wave Height Low (ft)	5
S6	23 Dec 2019	High Tide (ft)	6.2
S6	23 Dec 2019	High Tide Time	629
S6	23 Dec 2019	Low Tide (ft)	-0.8

Station	Date	Parameter	Value
S6	23 Dec 2019	Low Tide Time	1338
S6	23 Dec 2019	Comments	Kelp; Seagrass; Debris; Water clear
S6	24 Dec 2019	Arrive Time	930
S6	24 Dec 2019	Weather	Partly Cloudy
S6	24 Dec 2019	Wind Speed (kts)	1.1
S6	24 Dec 2019	Wind Dir	NE
S6	24 Dec 2019	Animal Life	100 Terns
S6	24 Dec 2019	Floatables	Foam; Film
S6	24 Dec 2019	Water Color	Grey
S6	24 Dec 2019	Current Direction	N
S6	24 Dec 2019	Water Temp (C)	16.3
S6	24 Dec 2019	Wave Height Low (ft)	4
S6	24 Dec 2019	High Tide (ft)	6.4
S6	24 Dec 2019	High Tide Time	708
S6	24 Dec 2019	Low Tide (ft)	-1.1
S6	24 Dec 2019	Low Tide Time	1420
S6	24 Dec 2019	Comments	Resample; Sewage-like odor; Water turbid
S6	25 Dec 2019	Arrive Time	1003
S6	25 Dec 2019	Weather	Partly Cloudy
S6	25 Dec 2019	Wind Speed (kts)	7.3
S6	25 Dec 2019	Wind Dir	W
S6	25 Dec 2019	Animal Life	60 Cormorants
S6	25 Dec 2019	Floatables	Foam; Film
S6	25 Dec 2019	Water Color	Green
S6	25 Dec 2019	Current Direction	N
S6	25 Dec 2019	Water Temp (C)	16.3
S6	25 Dec 2019	Wave Height Low (ft)	6
S6	25 Dec 2019	High Tide (ft)	6.5
S6	25 Dec 2019	High Tide Time	746
S6	25 Dec 2019	Low Tide (ft)	-1.2
S6	25 Dec 2019	Low Tide Time	1501
S6	25 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S6	27 Dec 2019	Arrive Time	846
S6	27 Dec 2019	Weather	Sunny
S6	27 Dec 2019	Wind Speed (kts)	2.8
S6	27 Dec 2019	Wind Dir	SE
S6	27 Dec 2019	Animal Life	None
S6	27 Dec 2019	Floatables	None
S6	27 Dec 2019	Water Color	Brown
S6	27 Dec 2019	Current Direction	N
S6	27 Dec 2019	Water Temp (C)	15.1
S6	27 Dec 2019	Wave Height Low (ft)	4
S6	27 Dec 2019	High Tide (ft)	6.1
S6	27 Dec 2019	High Tide Time	900
S6	27 Dec 2019	Low Tide (ft)	1.9
S6	27 Dec 2019	Low Tide Time	254
S6	27 Dec 2019	Comments	Resample; Kelp; Seagrass; 3 Persons; Water clear
S6	29 Dec 2019	Arrive Time	745
S6	29 Dec 2019	Weather	Sunny
S6	29 Dec 2019	Wind Speed (kts)	3.8
S6	29 Dec 2019	Wind Dir	SE
S6	29 Dec 2019	Animal Life	100 Cormorants
S6	29 Dec 2019	Floatables	None
S6	29 Dec 2019	Water Color	Green
S6	29 Dec 2019	Current Direction	N
S6	29 Dec 2019	Water Temp (C)	14

Station	Date	Parameter	Value
S6	29 Dec 2019	Wave Height Low (ft)	4
S6	29 Dec 2019	High Tide (ft)	5.3
S6	29 Dec 2019	High Tide Time	1013
S6	29 Dec 2019	Low Tide (ft)	2.3
S6	29 Dec 2019	Low Tide Time	414
S6	29 Dec 2019	Comments	Resample; Kelp; Seagrass; 1 Person; Water clear
S6	30 Dec 2019	Arrive Time	925
S6	30 Dec 2019	Weather	Partly Cloudy
S6	30 Dec 2019	Wind Speed (kts)	13.4
S6	30 Dec 2019	Wind Dir	E
S6	30 Dec 2019	Animal Life	75 Terns
S6	30 Dec 2019	Floatables	Foam
S6	30 Dec 2019	Water Color	Green
S6	30 Dec 2019	Current Direction	N
S6	30 Dec 2019	Water Temp (C)	13.8
S6	30 Dec 2019	Wave Height Low (ft)	4
S6	30 Dec 2019	High Tide (ft)	4.8
S6	30 Dec 2019	High Tide Time	1051
S6	30 Dec 2019	Low Tide (ft)	2.5
S6	30 Dec 2019	Low Tide Time	500
S6	30 Dec 2019	Comments	Water clear
S8	03 Dec 2019	Arrive Time	743
S8	03 Dec 2019	Weather	Overcast
S8	03 Dec 2019	Wind Speed (kts)	1.9
S8	03 Dec 2019	Wind Dir	NE
S8	03 Dec 2019	Animal Life	250 Cormorants; 1 Pelican; 3 Seagulls
S8	03 Dec 2019	Floatables	Foam
S8	03 Dec 2019	Water Color	Green
S8	03 Dec 2019	Current Direction	S
S8	03 Dec 2019	Water Temp (C)	15.9
S8	03 Dec 2019	Wave Height Low (ft)	3
S8	03 Dec 2019	High Tide (ft)	3.8
S8	03 Dec 2019	High Tide Time	340
S8	03 Dec 2019	Low Tide (ft)	3
S8	03 Dec 2019	Low Tide Time	838
S8	03 Dec 2019	Comments	Kelp; Debris; Water clear
S8	09 Dec 2019	Arrive Time	936
S8	09 Dec 2019	Weather	Partly Cloudy
S8	09 Dec 2019	Wind Speed (kts)	0.8
S8	09 Dec 2019	Wind Dir	W
S8	09 Dec 2019	Animal Life	None
S8	09 Dec 2019	Floatables	None
S8	09 Dec 2019	Water Color	Green
S8	09 Dec 2019	Current Direction	N
S8	09 Dec 2019	Water Temp (C)	17.4
S8	09 Dec 2019	Wave Height Low (ft)	3
S8	09 Dec 2019	High Tide (ft)	5.7
S8	09 Dec 2019	High Tide Time	642
S8	09 Dec 2019	Low Tide (ft)	0
S8	09 Dec 2019	Low Tide Time	1342
S8	09 Dec 2019	Comments	Kelp; Seagrass; 2 Persons; Water clear
S8	17 Dec 2019	Arrive Time	805
S8	17 Dec 2019	Weather	Sunny
S8	17 Dec 2019	Wind Speed (kts)	4.4
S8	17 Dec 2019	Wind Dir	N
S8	17 Dec 2019	Animal Life	3 Seagulls; 43 Terns; 3 Crows
S8	17 Dec 2019	Floatables	Foam

Station	Date	Parameter	Value
S8	17 Dec 2019	Water Color	Green
S8	17 Dec 2019	Current Direction	S
S8	17 Dec 2019	Water Temp (C)	14.2
S8	17 Dec 2019	Wave Height Low (ft)	3
S8	17 Dec 2019	High Tide (ft)	4.8
S8	17 Dec 2019	High Tide Time	1210
S8	17 Dec 2019	Low Tide (ft)	2.6
S8	17 Dec 2019	Low Tide Time	627
S8	17 Dec 2019	Comments	Water clear
S8	23 Dec 2019	Arrive Time	825
S8	23 Dec 2019	Weather	Moderate Rain
S8	23 Dec 2019	Wind Speed (kts)	5.2
S8	23 Dec 2019	Wind Dir	W
S8	23 Dec 2019	Animal Life	75 Cormorants
S8	23 Dec 2019	Floatables	Foam; Film
S8	23 Dec 2019	Water Color	Green
S8	23 Dec 2019	Current Direction	N
S8	23 Dec 2019	Water Temp (C)	11
S8	23 Dec 2019	Wave Height Low (ft)	4
S8	23 Dec 2019	High Tide (ft)	6.2
S8	23 Dec 2019	High Tide Time	629
S8	23 Dec 2019	Low Tide (ft)	-0.8
S8	23 Dec 2019	Low Tide Time	1338
S8	23 Dec 2019	Comments	Kelp; Seagrass; Water clear
S8	30 Dec 2019	Arrive Time	755
S8	30 Dec 2019	Weather	Overcast
S8	30 Dec 2019	Wind Speed (kts)	6
S8	30 Dec 2019	Wind Dir	SE
S8	30 Dec 2019	Animal Life	2 Seagulls
S8	30 Dec 2019	Floatables	Foam
S8	30 Dec 2019	Water Color	Green
S8	30 Dec 2019	Current Direction	N
S8	30 Dec 2019	Water Temp (C)	13.8
S8	30 Dec 2019	Wave Height Low (ft)	2
S8	30 Dec 2019	High Tide (ft)	4.8
S8	30 Dec 2019	High Tide Time	1051
S8	30 Dec 2019	Low Tide (ft)	2.5
S8	30 Dec 2019	Low Tide Time	500
S8	30 Dec 2019	Comments	Kelp; 2 Persons; Water clear
S9	03 Dec 2019	Arrive Time	725
S9	03 Dec 2019	Weather	Cloudy
S9	03 Dec 2019	Wind Speed (kts)	2.1
S9	03 Dec 2019	Wind Dir	NW
S9	03 Dec 2019	Animal Life	15 Cormorants; 1 Seagull
S9	03 Dec 2019	Floatables	Foam; Film
S9	03 Dec 2019	Water Color	Green
S9	03 Dec 2019	Current Direction	S
S9	03 Dec 2019	Water Temp (C)	16.2
S9	03 Dec 2019	Wave Height Low (ft)	4
S9	03 Dec 2019	High Tide (ft)	3.8
S9	03 Dec 2019	High Tide Time	340
S9	03 Dec 2019	Low Tide (ft)	3
S9	03 Dec 2019	Low Tide Time	838
S9	03 Dec 2019	Comments	1 Surfer; Water clear
S9	09 Dec 2019	Arrive Time	914
S9	09 Dec 2019	Weather	Partly Cloudy
S9	09 Dec 2019	Wind Speed (kts)	1.1

Station	Date	Parameter	Value
S9	09 Dec 2019	Wind Dir	W
S9	09 Dec 2019	Animal Life	None
S9	09 Dec 2019	Floatables	None
S9	09 Dec 2019	Water Color	Green
S9	09 Dec 2019	Current Direction	N
S9	09 Dec 2019	Water Temp (C)	17.2
S9	09 Dec 2019	Wave Height Low (ft)	3
S9	09 Dec 2019	High Tide (ft)	5.7
S9	09 Dec 2019	High Tide Time	642
S9	09 Dec 2019	Low Tide (ft)	0
S9	09 Dec 2019	Low Tide Time	1342
S9	09 Dec 2019	Comments	Kelp; Seagrass; 1 Jogger; 2 Persons; Water clear
S9	17 Dec 2019	Arrive Time	744
S9	17 Dec 2019	Weather	Sunny
S9	17 Dec 2019	Wind Speed (kts)	3.1
S9	17 Dec 2019	Wind Dir	W
S9	17 Dec 2019	Animal Life	6 Cormorants
S9	17 Dec 2019	Floatables	Foam
S9	17 Dec 2019	Water Color	Green
S9	17 Dec 2019	Current Direction	S
S9	17 Dec 2019	Water Temp (C)	14.1
S9	17 Dec 2019	Wave Height Low (ft)	2
S9	17 Dec 2019	High Tide (ft)	4.8
S9	17 Dec 2019	High Tide Time	1210
S9	17 Dec 2019	Low Tide (ft)	2.6
S9	17 Dec 2019	Low Tide Time	627
S9	17 Dec 2019	Comments	2 Persons; Water clear
S9	23 Dec 2019	Arrive Time	809
S9	23 Dec 2019	Weather	Moderate Rain
S9	23 Dec 2019	Wind Speed (kts)	2.9
S9	23 Dec 2019	Wind Dir	E
S9	23 Dec 2019	Animal Life	10 Cormorants; 15 Seagulls
S9	23 Dec 2019	Floatables	Foam; Film
S9	23 Dec 2019	Water Color	Green
S9	23 Dec 2019	Current Direction	N
S9	23 Dec 2019	Water Temp (C)	12
S9	23 Dec 2019	Wave Height Low (ft)	4
S9	23 Dec 2019	High Tide (ft)	6.2
S9	23 Dec 2019	High Tide Time	629
S9	23 Dec 2019	Low Tide (ft)	-0.8
S9	23 Dec 2019	Low Tide Time	1338
S9	23 Dec 2019	Comments	Kelp; Seagrass; 1 Person; 2 Fishermen; 1 Tractor; Water clear
S9	30 Dec 2019	Arrive Time	732
S9	30 Dec 2019	Weather	Overcast
S9	30 Dec 2019	Wind Speed (kts)	2.9
S9	30 Dec 2019	Wind Dir	SE
S9	30 Dec 2019	Animal Life	2 Seagulls
S9	30 Dec 2019	Floatables	Foam
S9	30 Dec 2019	Water Color	Green
S9	30 Dec 2019	Current Direction	N
S9	30 Dec 2019	Water Temp (C)	13.8
S9	30 Dec 2019	Wave Height Low (ft)	2
S9	30 Dec 2019	High Tide (ft)	4.8
S9	30 Dec 2019	High Tide Time	1051
S9	30 Dec 2019	Low Tide (ft)	2.5
S9	30 Dec 2019	Low Tide Time	500
S9	30 Dec 2019	Comments	Kelp; 2 Persons; 1 Surfer; Water clear

Station	Date	Parameter	Value
S10	01 Dec 2019	Arrive Time	727
S10	01 Dec 2019	Weather	Partly Cloudy
S10	01 Dec 2019	Wind Speed (kts)	3.3
S10	01 Dec 2019	Wind Dir	W
S10	01 Dec 2019	Animal Life	15 Cormorants
S10	01 Dec 2019	Floatables	None
S10	01 Dec 2019	Water Color	Green
S10	01 Dec 2019	Current Direction	N
S10	01 Dec 2019	Water Temp (C)	15.6
S10	01 Dec 2019	Wave Height Low (ft)	3
S10	01 Dec 2019	High Tide (ft)	4.8
S10	01 Dec 2019	High Tide Time	1120
S10	01 Dec 2019	Low Tide (ft)	2.9
S10	01 Dec 2019	Low Tide Time	525
S10	01 Dec 2019	Comments	Resample; Kelp; Seagrass; Water clear
S10	03 Dec 2019	Arrive Time	952
S10	03 Dec 2019	Weather	Hazy
S10	03 Dec 2019	Wind Speed (kts)	3.4
S10	03 Dec 2019	Wind Dir	NE
S10	03 Dec 2019	Animal Life	300 Cormorants; 3 Plovers
S10	03 Dec 2019	Floatables	Foam
S10	03 Dec 2019	Water Color	Green
S10	03 Dec 2019	Current Direction	N
S10	03 Dec 2019	Water Temp (C)	18.4
S10	03 Dec 2019	Wave Height Low (ft)	5
S10	03 Dec 2019	High Tide (ft)	3.8
S10	03 Dec 2019	High Tide Time	1340
S10	03 Dec 2019	Low Tide (ft)	3
S10	03 Dec 2019	Low Tide Time	838
S10	03 Dec 2019	Comments	Kelp; Water clear
S10	05 Dec 2019	Arrive Time	933
S10	05 Dec 2019	Weather	Sunny
S10	05 Dec 2019	Wind Speed (kts)	2.1
S10	05 Dec 2019	Wind Dir	E
S10	05 Dec 2019	Animal Life	1000 Cormorants
S10	05 Dec 2019	Floatables	Foam; Film
S10	05 Dec 2019	Water Color	Brown
S10	05 Dec 2019	Current Direction	S
S10	05 Dec 2019	Water Temp (C)	18.5
S10	05 Dec 2019	Wave Height Low (ft)	3
S10	05 Dec 2019	High Tide (ft)	4.4
S10	05 Dec 2019	High Tide Time	456
S10	05 Dec 2019	Low Tide (ft)	2.1
S10	05 Dec 2019	Low Tide Time	1116
S10	05 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water turbid
S10	07 Dec 2019	Arrive Time	749
S10	07 Dec 2019	Weather	Moderate Rain
S10	07 Dec 2019	Wind Speed (kts)	4.4
S10	07 Dec 2019	Wind Dir	W
S10	07 Dec 2019	Animal Life	20 Cormorants
S10	07 Dec 2019	Floatables	None
S10	07 Dec 2019	Water Color	Green
S10	07 Dec 2019	Current Direction	N
S10	07 Dec 2019	Water Temp (C)	18.1
S10	07 Dec 2019	Wave Height Low (ft)	3
S10	07 Dec 2019	High Tide (ft)	5

Station	Date	Parameter	Value
S10	07 Dec 2019	High Tide Time	548
S10	07 Dec 2019	Low Tide (ft)	1
S10	07 Dec 2019	Low Tide Time	1235
S10	07 Dec 2019	Comments	Resample; Kelp; Seagrass; Sewage-like odor; Water clear
S10	09 Dec 2019	Arrive Time	1106
S10	09 Dec 2019	Weather	Partly Cloudy
S10	09 Dec 2019	Wind Speed (kts)	1.6
S10	09 Dec 2019	Wind Dir	W
S10	09 Dec 2019	Animal Life	3 Birds; 7 Cormorants; 2 Sand Pipers
S10	09 Dec 2019	Floatables	None
S10	09 Dec 2019	Water Color	Green
S10	09 Dec 2019	Current Direction	N
S10	09 Dec 2019	Water Temp (C)	17.3
S10	09 Dec 2019	Wave Height Low (ft)	4
S10	09 Dec 2019	High Tide (ft)	5.7
S10	09 Dec 2019	High Tide Time	642
S10	09 Dec 2019	Low Tide (ft)	0
S10	09 Dec 2019	Low Tide Time	1342
S10	09 Dec 2019	Comments	Kelp; Seagrass; Sewage-like odor; Water clear
S10	11 Dec 2019	Arrive Time	818
S10	11 Dec 2019	Weather	Sunny
S10	11 Dec 2019	Wind Speed (kts)	3.1
S10	11 Dec 2019	Wind Dir	E
S10	11 Dec 2019	Animal Life	56 Cormorants
S10	11 Dec 2019	Floatables	None
S10	11 Dec 2019	Water Color	Green
S10	11 Dec 2019	Current Direction	S
S10	11 Dec 2019	Water Temp (C)	13
S10	11 Dec 2019	Wave Height Low (ft)	3
S10	11 Dec 2019	High Tide (ft)	6.1
S10	11 Dec 2019	High Tide Time	741
S10	11 Dec 2019	Low Tide (ft)	-0.7
S10	11 Dec 2019	Low Tide Time	1453
S10	11 Dec 2019	Comments	Resample; Water clear
S10	13 Dec 2019	Arrive Time	916
S10	13 Dec 2019	Weather	Sunny
S10	13 Dec 2019	Wind Speed (kts)	2.1
S10	13 Dec 2019	Wind Dir	W
S10	13 Dec 2019	Animal Life	100 Cormorants; 100 Seagulls
S10	13 Dec 2019	Floatables	Foam; Film
S10	13 Dec 2019	Water Color	Brown
S10	13 Dec 2019	Current Direction	S
S10	13 Dec 2019	Water Temp (C)	17.1
S10	13 Dec 2019	Wave Height Low (ft)	6
S10	13 Dec 2019	High Tide (ft)	6.3
S10	13 Dec 2019	High Tide Time	850
S10	13 Dec 2019	Low Tide (ft)	1.9
S10	13 Dec 2019	Low Tide Time	240
S10	13 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; 1 Person; Water clear
S10	15 Dec 2019	Arrive Time	929
S10	15 Dec 2019	Weather	Partly Cloudy
S10	15 Dec 2019	Wind Speed (kts)	7.3
S10	15 Dec 2019	Wind Dir	W
S10	15 Dec 2019	Animal Life	None
S10	15 Dec 2019	Floatables	Foam
S10	15 Dec 2019	Water Color	Green

Station	Date	Parameter	Value
S10	15 Dec 2019	Current Direction	S
S10	15 Dec 2019	Water Temp (C)	16.4
S10	15 Dec 2019	Wave Height Low (ft)	8
S10	15 Dec 2019	High Tide (ft)	5.8
S10	15 Dec 2019	High Tide Time	1013
S10	15 Dec 2019	Low Tide (ft)	2.3
S10	15 Dec 2019	Low Tide Time	405
S10	15 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S10	17 Dec 2019	Arrive Time	1021
S10	17 Dec 2019	Weather	Sunny
S10	17 Dec 2019	Wind Speed (kts)	21.5
S10	17 Dec 2019	Wind Dir	E
S10	17 Dec 2019	Animal Life	12 Cormorants
S10	17 Dec 2019	Floatables	Foam
S10	17 Dec 2019	Water Color	Brown
S10	17 Dec 2019	Current Direction	N
S10	17 Dec 2019	Water Temp (C)	15.5
S10	17 Dec 2019	Wave Height Low (ft)	4
S10	17 Dec 2019	High Tide (ft)	4.8
S10	17 Dec 2019	High Tide Time	1210
S10	17 Dec 2019	Low Tide (ft)	2.6
S10	17 Dec 2019	Low Tide Time	627
S10	17 Dec 2019	Comments	Kelp; 5 Persons; Water clear
S10	19 Dec 2019	Arrive Time	857
S10	19 Dec 2019	Weather	Sunny
S10	19 Dec 2019	Wind Speed (kts)	5
S10	19 Dec 2019	Wind Dir	E
S10	19 Dec 2019	Animal Life	4 Godwits; 1 Tern
S10	19 Dec 2019	Floatables	Foam
S10	19 Dec 2019	Water Color	Green
S10	19 Dec 2019	Current Direction	S
S10	19 Dec 2019	Water Temp (C)	13.9
S10	19 Dec 2019	Wave Height Low (ft)	6
S10	19 Dec 2019	High Tide (ft)	4.5
S10	19 Dec 2019	High Tide Time	335
S10	19 Dec 2019	Low Tide (ft)	2
S10	19 Dec 2019	Low Tide Time	943
S10	19 Dec 2019	Comments	Resample; Water clear; Foam
S10	20 Dec 2019	Arrive Time	1413
S10	20 Dec 2019	Weather	Sunny
S10	20 Dec 2019	Wind Speed (kts)	6.4
S10	20 Dec 2019	Wind Dir	NW
S10	20 Dec 2019	Animal Life	15 Cormorants; 3 Dogs; 8 Horses; 1 Seagull
S10	20 Dec 2019	Floatables	Foam
S10	20 Dec 2019	Water Color	Green
S10	20 Dec 2019	Current Direction	S
S10	20 Dec 2019	Water Temp (C)	15.3
S10	20 Dec 2019	Wave Height Low (ft)	3
S10	20 Dec 2019	High Tide (ft)	3.7
S10	20 Dec 2019	High Tide Time	1632
S10	20 Dec 2019	Low Tide (ft)	1.2
S10	20 Dec 2019	Low Tide Time	1101
S10	20 Dec 2019	Comments	Resample; 17 Persons; Water turbid
S10	22 Dec 2019	Arrive Time	911
S10	22 Dec 2019	Weather	Overcast
S10	22 Dec 2019	Wind Speed (kts)	1.9
S10	22 Dec 2019	Wind Dir	E

Station	Date	Parameter	Value
S10	22 Dec 2019	Animal Life	125 Cormorants; 1 Grebe
S10	22 Dec 2019	Floatables	Foam; Film
S10	22 Dec 2019	Water Color	Green
S10	22 Dec 2019	Current Direction	N
S10	22 Dec 2019	Water Temp (C)	14.5
S10	22 Dec 2019	Wave Height Low (ft)	6
S10	22 Dec 2019	High Tide (ft)	5.9
S10	22 Dec 2019	High Tide Time	550
S10	22 Dec 2019	Low Tide (ft)	-0.2
S10	22 Dec 2019	Low Tide Time	1253
S10	22 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S10	30 Dec 2019	Arrive Time	1051
S10	30 Dec 2019	Weather	Partly Cloudy
S10	30 Dec 2019	Wind Speed (kts)	11.3
S10	30 Dec 2019	Wind Dir	SE
S10	30 Dec 2019	Animal Life	2 Horses
S10	30 Dec 2019	Floatables	Foam; Film
S10	30 Dec 2019	Water Color	Green
S10	30 Dec 2019	Current Direction	N
S10	30 Dec 2019	Water Temp (C)	15.1
S10	30 Dec 2019	Wave Height Low (ft)	3
S10	30 Dec 2019	High Tide (ft)	4.8
S10	30 Dec 2019	High Tide Time	1051
S10	30 Dec 2019	Low Tide (ft)	2.5
S10	30 Dec 2019	Low Tide Time	500
S10	30 Dec 2019	Comments	Kelp; Debris; 2 Persons; Water clear
S11	01 Dec 2019	Arrive Time	915
S11	01 Dec 2019	Weather	Partly Cloudy
S11	01 Dec 2019	Wind Speed (kts)	2.1
S11	01 Dec 2019	Wind Dir	W
S11	01 Dec 2019	Animal Life	18 Seagulls
S11	01 Dec 2019	Floatables	None
S11	01 Dec 2019	Water Color	Green
S11	01 Dec 2019	Current Direction	W
S11	01 Dec 2019	Water Temp (C)	15.6
S11	01 Dec 2019	Wave Height Low (ft)	3
S11	01 Dec 2019	High Tide (ft)	4.8
S11	01 Dec 2019	High Tide Time	1120
S11	01 Dec 2019	Low Tide (ft)	2.9
S11	01 Dec 2019	Low Tide Time	525
S11	01 Dec 2019	Comments	Resample;Kelp; Seagrass; Water clear
S11	03 Dec 2019	Arrive Time	841
S11	03 Dec 2019	Weather	Overcast
S11	03 Dec 2019	Wind Speed (kts)	3.6
S11	03 Dec 2019	Wind Dir	N
S11	03 Dec 2019	Animal Life	1 Seagull
S11	03 Dec 2019	Floatables	Foam; Dead Animals
S11	03 Dec 2019	Water Color	Green
S11	03 Dec 2019	Current Direction	N
S11	03 Dec 2019	Water Temp (C)	17
S11	03 Dec 2019	Wave Height Low (ft)	4
S11	03 Dec 2019	High Tide (ft)	3.8
S11	03 Dec 2019	High Tide Time	340
S11	03 Dec 2019	Low Tide (ft)	3
S11	03 Dec 2019	Low Tide Time	838
S11	03 Dec 2019	Comments	Kelp; Seagrass; Debris; Water clear
S11	05 Dec 2019	Arrive Time	1053

Station	Date	Parameter	Value
S11	05 Dec 2019	Weather	Sunny
S11	05 Dec 2019	Wind Speed (kts)	3.8
S11	05 Dec 2019	Wind Dir	N
S11	05 Dec 2019	Animal Life	None
S11	05 Dec 2019	Floatables	Foam; Fecal Matter; Film
S11	05 Dec 2019	Water Color	Brown
S11	05 Dec 2019	Current Direction	S
S11	05 Dec 2019	Water Temp (C)	19.4
S11	05 Dec 2019	Wave Height Low (ft)	3
S11	05 Dec 2019	High Tide (ft)	3.5
S11	05 Dec 2019	High Tide Time	1626
S11	05 Dec 2019	Low Tide (ft)	2.1
S11	05 Dec 2019	Low Tide Time	1116
S11	05 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; Water turbid
S11	07 Dec 2019	Arrive Time	845
S11	07 Dec 2019	Weather	Drizzle
S11	07 Dec 2019	Wind Speed (kts)	3.8
S11	07 Dec 2019	Wind Dir	W
S11	07 Dec 2019	Animal Life	8 Birds
S11	07 Dec 2019	Floatables	None
S11	07 Dec 2019	Water Color	Green
S11	07 Dec 2019	Current Direction	N
S11	07 Dec 2019	Water Temp (C)	17.5
S11	07 Dec 2019	Wave Height Low (ft)	3
S11	07 Dec 2019	High Tide (ft)	5
S11	07 Dec 2019	High Tide Time	548
S11	07 Dec 2019	Low Tide (ft)	1
S11	07 Dec 2019	Low Tide Time	1235
S11	07 Dec 2019	Comments	Resample; Kelp; Seagrass; Water clear
S11	09 Dec 2019	Arrive Time	1013
S11	09 Dec 2019	Weather	Partly Cloudy
S11	09 Dec 2019	Wind Speed (kts)	0.9
S11	09 Dec 2019	Wind Dir	W
S11	09 Dec 2019	Animal Life	None
S11	09 Dec 2019	Floatables	None
S11	09 Dec 2019	Water Color	Green
S11	09 Dec 2019	Current Direction	N
S11	09 Dec 2019	Water Temp (C)	17
S11	09 Dec 2019	Wave Height Low (ft)	4
S11	09 Dec 2019	High Tide (ft)	5.7
S11	09 Dec 2019	High Tide Time	642
S11	09 Dec 2019	Low Tide (ft)	0
S11	09 Dec 2019	Low Tide Time	1342
S11	09 Dec 2019	Comments	Kelp; Seagrass; Sewage-like odor; Water clear
S11	11 Dec 2019	Arrive Time	1009
S11	11 Dec 2019	Weather	Sunny
S11	11 Dec 2019	Wind Speed (kts)	5.4
S11	11 Dec 2019	Wind Dir	N
S11	11 Dec 2019	Animal Life	4 Seagulls
S11	11 Dec 2019	Floatables	Foam
S11	11 Dec 2019	Water Color	Green
S11	11 Dec 2019	Current Direction	S
S11	11 Dec 2019	Water Temp (C)	15
S11	11 Dec 2019	Wave Height Low (ft)	3
S11	11 Dec 2019	High Tide (ft)	6.1
S11	11 Dec 2019	High Tide Time	741
S11	11 Dec 2019	Low Tide (ft)	-0.7

Station	Date	Parameter	Value
S11	11 Dec 2019	Low Tide Time	1453
S11	11 Dec 2019	Comments	Resample; Kelp; 1 Jogger; 1 Person; Water clear
S11	13 Dec 2019	Arrive Time	1028
S11	13 Dec 2019	Weather	Sunny
S11	13 Dec 2019	Wind Speed (kts)	6.4
S11	13 Dec 2019	Wind Dir	W
S11	13 Dec 2019	Animal Life	None
S11	13 Dec 2019	Floatables	Foam; Film
S11	13 Dec 2019	Water Color	Green
S11	13 Dec 2019	Current Direction	S
S11	13 Dec 2019	Water Temp (C)	18
S11	13 Dec 2019	Wave Height Low (ft)	6
S11	13 Dec 2019	High Tide (ft)	6.3
S11	13 Dec 2019	High Tide Time	850
S11	13 Dec 2019	Low Tide (ft)	-1
S11	13 Dec 2019	Low Tide Time	1613
S11	13 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Water clear
S11	16 Dec 2019	Arrive Time	1249
S11	16 Dec 2019	Weather	Sunny
S11	16 Dec 2019	Wind Speed (kts)	7.1
S11	16 Dec 2019	Wind Dir	W
S11	16 Dec 2019	Animal Life	None
S11	16 Dec 2019	Floatables	Foam; Film
S11	16 Dec 2019	Water Color	Brown
S11	16 Dec 2019	Current Direction	S
S11	16 Dec 2019	Water Temp (C)	16.1
S11	16 Dec 2019	Wave Height Low (ft)	4
S11	16 Dec 2019	High Tide (ft)	5.4
S11	16 Dec 2019	High Tide Time	1105
S11	16 Dec 2019	Low Tide (ft)	-0.4
S11	16 Dec 2019	Low Tide Time	1841
S11	16 Dec 2019	Comments	Resample for 12/13; Kelp; Seagrass; Debris; Water clear
S11	17 Dec 2019	Arrive Time	913
S11	17 Dec 2019	Weather	Sunny
S11	17 Dec 2019	Wind Speed (kts)	26.8
S11	17 Dec 2019	Wind Dir	SE
S11	17 Dec 2019	Animal Life	1 Seagull
S11	17 Dec 2019	Floatables	Foam
S11	17 Dec 2019	Water Color	Green
S11	17 Dec 2019	Current Direction	N
S11	17 Dec 2019	Water Temp (C)	14.6
S11	17 Dec 2019	Wave Height Low (ft)	4
S11	17 Dec 2019	High Tide (ft)	4.8
S11	17 Dec 2019	High Tide Time	1210
S11	17 Dec 2019	Low Tide (ft)	2.6
S11	17 Dec 2019	Low Tide Time	627
S11	17 Dec 2019	Comments	Water clear
S11	23 Dec 2019	Arrive Time	905
S11	23 Dec 2019	Weather	Moderate Rain
S11	23 Dec 2019	Wind Speed (kts)	2.7
S11	23 Dec 2019	Wind Dir	E
S11	23 Dec 2019	Animal Life	None
S11	23 Dec 2019	Floatables	Foam; Film
S11	23 Dec 2019	Water Color	Green
S11	23 Dec 2019	Current Direction	N
S11	23 Dec 2019	Water Temp (C)	11
S11	23 Dec 2019	Wave Height Low (ft)	4

Station	Date	Parameter	Value
S11	23 Dec 2019	High Tide (ft)	6.2
S11	23 Dec 2019	High Tide Time	629
S11	23 Dec 2019	Low Tide (ft)	-0.8
S11	23 Dec 2019	Low Tide Time	1338
S11	23 Dec 2019	Comments	Kelp; Seagrass; Debris; Water clear
S11	24 Dec 2019	Arrive Time	919
S11	24 Dec 2019	Weather	Partly Cloudy
S11	24 Dec 2019	Wind Speed (kts)	2.1
S11	24 Dec 2019	Wind Dir	NW
S11	24 Dec 2019	Animal Life	None
S11	24 Dec 2019	Floatables	Foam; Dead Animals; Film
S11	24 Dec 2019	Water Color	Grey
S11	24 Dec 2019	Current Direction	N
S11	24 Dec 2019	Water Temp (C)	16.4
S11	24 Dec 2019	Wave Height Low (ft)	5
S11	24 Dec 2019	High Tide (ft)	6.4
S11	24 Dec 2019	High Tide Time	708
S11	24 Dec 2019	Low Tide (ft)	-1.1
S11	24 Dec 2019	Low Tide Time	1420
S11	24 Dec 2019	Comments	Resample; Debris; Sewage-like odor; 2 Persons; Water turbid
S11	25 Dec 2019	Arrive Time	952
S11	25 Dec 2019	Weather	Partly Cloudy
S11	25 Dec 2019	Wind Speed (kts)	1.5
S11	25 Dec 2019	Wind Dir	W
S11	25 Dec 2019	Animal Life	1 Dog; 3 Godwits
S11	25 Dec 2019	Floatables	Foam; Film
S11	25 Dec 2019	Water Color	Green
S11	25 Dec 2019	Current Direction	N
S11	25 Dec 2019	Water Temp (C)	16.1
S11	25 Dec 2019	Wave Height Low (ft)	6
S11	25 Dec 2019	High Tide (ft)	6.5
S11	25 Dec 2019	High Tide Time	746
S11	25 Dec 2019	Low Tide (ft)	-1.2
S11	25 Dec 2019	Low Tide Time	1501
S11	25 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; Sewage-like odor; 3 Persons; Water clear
S11	27 Dec 2019	Arrive Time	854
S11	27 Dec 2019	Weather	Sunny
S11	27 Dec 2019	Wind Speed (kts)	3.2
S11	27 Dec 2019	Wind Dir	SE
S11	27 Dec 2019	Animal Life	None
S11	27 Dec 2019	Floatables	None
S11	27 Dec 2019	Water Color	Brown
S11	27 Dec 2019	Current Direction	N
S11	27 Dec 2019	Water Temp (C)	14.7
S11	27 Dec 2019	Wave Height Low (ft)	6
S11	27 Dec 2019	High Tide (ft)	6.1
S11	27 Dec 2019	High Tide Time	900
S11	27 Dec 2019	Low Tide (ft)	1.9
S11	27 Dec 2019	Low Tide Time	254
S11	27 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; 1 Person; Water clear
S11	30 Dec 2019	Arrive Time	918
S11	30 Dec 2019	Weather	Partly Cloudy
S11	30 Dec 2019	Wind Speed (kts)	13.4
S11	30 Dec 2019	Wind Dir	E
S11	30 Dec 2019	Animal Life	60 Terns
S11	30 Dec 2019	Floatables	Foam

Station	Date	Parameter	Value
S11	30 Dec 2019	Water Color	Green
S11	30 Dec 2019	Current Direction	N
S11	30 Dec 2019	Water Temp (C)	13.9
S11	30 Dec 2019	Wave Height Low (ft)	4
S11	30 Dec 2019	High Tide (ft)	4.8
S11	30 Dec 2019	High Tide Time	1051
S11	30 Dec 2019	Low Tide (ft)	2.5
S11	30 Dec 2019	Low Tide Time	500
S11	30 Dec 2019	Comments	Water turbid
S12	01 Dec 2019	Arrive Time	958
S12	01 Dec 2019	Weather	Partly Cloudy
S12	01 Dec 2019	Wind Speed (kts)	2
S12	01 Dec 2019	Wind Dir	W
S12	01 Dec 2019	Animal Life	1 Osprey
S12	01 Dec 2019	Floatables	None
S12	01 Dec 2019	Water Color	Green
S12	01 Dec 2019	Current Direction	N
S12	01 Dec 2019	Water Temp (C)	16.4
S12	01 Dec 2019	Wave Height Low (ft)	3
S12	01 Dec 2019	High Tide (ft)	4.8
S12	01 Dec 2019	High Tide Time	1120
S12	01 Dec 2019	Low Tide (ft)	2.9
S12	01 Dec 2019	Low Tide Time	525
S12	01 Dec 2019	Comments	Resample;Kelp; Seagrass; 6 Joggers; 2 Surfers; Water clear
S12	03 Dec 2019	Arrive Time	810
S12	03 Dec 2019	Weather	Overcast
S12	03 Dec 2019	Wind Speed (kts)	0
S12	03 Dec 2019	Wind Dir	
S12	03 Dec 2019	Animal Life	2 Dogs; 1 Godwit; 1 Grebe
S12	03 Dec 2019	Floatables	Foam
S12	03 Dec 2019	Water Color	Green
S12	03 Dec 2019	Current Direction	N
S12	03 Dec 2019	Water Temp (C)	16.5
S12	03 Dec 2019	Wave Height Low (ft)	4
S12	03 Dec 2019	High Tide (ft)	3.8
S12	03 Dec 2019	High Tide Time	340
S12	03 Dec 2019	Low Tide (ft)	3
S12	03 Dec 2019	Low Tide Time	838
S12	03 Dec 2019	Comments	3 Persons; 2 Fishermen; Water clear
S12	09 Dec 2019	Arrive Time	949
S12	09 Dec 2019	Weather	Partly Cloudy
S12	09 Dec 2019	Wind Speed (kts)	1.3
S12	09 Dec 2019	Wind Dir	W
S12	09 Dec 2019	Animal Life	None
S12	09 Dec 2019	Floatables	None
S12	09 Dec 2019	Water Color	Green
S12	09 Dec 2019	Current Direction	N
S12	09 Dec 2019	Water Temp (C)	17.1
S12	09 Dec 2019	Wave Height Low (ft)	4
S12	09 Dec 2019	High Tide (ft)	5.7
S12	09 Dec 2019	High Tide Time	642
S12	09 Dec 2019	Low Tide (ft)	0
S12	09 Dec 2019	Low Tide Time	1342
S12	09 Dec 2019	Comments	Kelp; Seagrass; 1 Person; Water clear
S12	11 Dec 2019	Arrive Time	927
S12	11 Dec 2019	Weather	Sunny
S12	11 Dec 2019	Wind Speed (kts)	2.3

Station	Date	Parameter	Value
S12	11 Dec 2019	Wind Dir	NW
S12	11 Dec 2019	Animal Life	120 Cormorants; 2 Dogs
S12	11 Dec 2019	Floatables	Foam
S12	11 Dec 2019	Water Color	Green
S12	11 Dec 2019	Current Direction	S
S12	11 Dec 2019	Water Temp (C)	14
S12	11 Dec 2019	Wave Height Low (ft)	3
S12	11 Dec 2019	High Tide (ft)	6.1
S12	11 Dec 2019	High Tide Time	741
S12	11 Dec 2019	Low Tide (ft)	-0.7
S12	11 Dec 2019	Low Tide Time	1453
S12	11 Dec 2019	Comments	Resample; 2 Persons; Water clear
S12	17 Dec 2019	Arrive Time	826
S12	17 Dec 2019	Weather	Sunny
S12	17 Dec 2019	Wind Speed (kts)	6.6
S12	17 Dec 2019	Wind Dir	E
S12	17 Dec 2019	Animal Life	1 Dog; 6 Seagulls
S12	17 Dec 2019	Floatables	Foam
S12	17 Dec 2019	Water Color	Green
S12	17 Dec 2019	Current Direction	S
S12	17 Dec 2019	Water Temp (C)	15.3
S12	17 Dec 2019	Wave Height Low (ft)	3
S12	17 Dec 2019	High Tide (ft)	4.8
S12	17 Dec 2019	High Tide Time	1210
S12	17 Dec 2019	Low Tide (ft)	2.6
S12	17 Dec 2019	Low Tide Time	627
S12	17 Dec 2019	Comments	2 Joggers; 2 Persons; Water clear
S12	23 Dec 2019	Arrive Time	844
S12	23 Dec 2019	Weather	Moderate Rain
S12	23 Dec 2019	Wind Speed (kts)	2.9
S12	23 Dec 2019	Wind Dir	W
S12	23 Dec 2019	Animal Life	25 Cormorants; 2 Godwits; 3 Seagulls
S12	23 Dec 2019	Floatables	Foam; Film
S12	23 Dec 2019	Water Color	Green
S12	23 Dec 2019	Current Direction	N
S12	23 Dec 2019	Water Temp (C)	12
S12	23 Dec 2019	Wave Height Low (ft)	4
S12	23 Dec 2019	High Tide (ft)	6.2
S12	23 Dec 2019	High Tide Time	629
S12	23 Dec 2019	Low Tide (ft)	-0.8
S12	23 Dec 2019	Low Tide Time	1338
S12	23 Dec 2019	Comments	Kelp; Seagrass; Debris; Water clear
S12	24 Dec 2019	Arrive Time	816
S12	24 Dec 2019	Weather	Partly Cloudy
S12	24 Dec 2019	Wind Speed (kts)	1.3
S12	24 Dec 2019	Wind Dir	NW
S12	24 Dec 2019	Animal Life	1 Dog; 40 Terns
S12	24 Dec 2019	Floatables	Foam
S12	24 Dec 2019	Water Color	Grey
S12	24 Dec 2019	Current Direction	N
S12	24 Dec 2019	Water Temp (C)	14.9
S12	24 Dec 2019	Wave Height Low (ft)	3
S12	24 Dec 2019	High Tide (ft)	6.4
S12	24 Dec 2019	High Tide Time	708
S12	24 Dec 2019	Low Tide (ft)	-1.1
S12	24 Dec 2019	Low Tide Time	1420
S12	24 Dec 2019	Comments	Resample; Kelp; Seagrass; 2 Joggers; 2 Persons; 1 Surfer; Water turbid

Station	Date	Parameter	Value
S12	25 Dec 2019	Arrive Time	904
S12	25 Dec 2019	Weather	Partly Cloudy
S12	25 Dec 2019	Wind Speed (kts)	0.7
S12	25 Dec 2019	Wind Dir	E
S12	25 Dec 2019	Animal Life	12 Cormorants; 1 Dog
S12	25 Dec 2019	Floatables	Foam; Film
S12	25 Dec 2019	Water Color	Green
S12	25 Dec 2019	Current Direction	N
S12	25 Dec 2019	Water Temp (C)	14.9
S12	25 Dec 2019	Wave Height Low (ft)	6
S12	25 Dec 2019	High Tide (ft)	6.5
S12	25 Dec 2019	High Tide Time	746
S12	25 Dec 2019	Low Tide (ft)	-1.2
S12	25 Dec 2019	Low Tide Time	1501
S12	25 Dec 2019	Comments	Resample; Kelp; Seagrass; Debris; 8 Persons; Water clear
S12	27 Dec 2019	Arrive Time	952
S12	27 Dec 2019	Weather	Sunny
S12	27 Dec 2019	Wind Speed (kts)	2.5
S12	27 Dec 2019	Wind Dir	SE
S12	27 Dec 2019	Animal Life	None
S12	27 Dec 2019	Floatables	None
S12	27 Dec 2019	Water Color	Green
S12	27 Dec 2019	Current Direction	N
S12	27 Dec 2019	Water Temp (C)	15.8
S12	27 Dec 2019	Wave Height Low (ft)	4
S12	27 Dec 2019	High Tide (ft)	6.1
S12	27 Dec 2019	High Tide Time	900
S12	27 Dec 2019	Low Tide (ft)	-1
S12	27 Dec 2019	Low Tide Time	1619
S12	27 Dec 2019	Comments	Resample; Kelp; Seagrass; Water clear
S12	29 Dec 2019	Arrive Time	806
S12	29 Dec 2019	Weather	Sunny
S12	29 Dec 2019	Wind Speed (kts)	3.8
S12	29 Dec 2019	Wind Dir	SE
S12	29 Dec 2019	Animal Life	None
S12	29 Dec 2019	Floatables	None
S12	29 Dec 2019	Water Color	Green
S12	29 Dec 2019	Current Direction	E
S12	29 Dec 2019	Water Temp (C)	14.2
S12	29 Dec 2019	Wave Height Low (ft)	4
S12	29 Dec 2019	High Tide (ft)	5.3
S12	29 Dec 2019	High Tide Time	1013
S12	29 Dec 2019	Low Tide (ft)	2.3
S12	29 Dec 2019	Low Tide Time	414
S12	29 Dec 2019	Comments	Resample; Kelp; Seagrass; 3 Persons; Water clear
S12	30 Dec 2019	Arrive Time	815
S12	30 Dec 2019	Weather	Overcast
S12	30 Dec 2019	Wind Speed (kts)	3.3
S12	30 Dec 2019	Wind Dir	N
S12	30 Dec 2019	Animal Life	2 Seagulls
S12	30 Dec 2019	Floatables	Foam
S12	30 Dec 2019	Water Color	Green
S12	30 Dec 2019	Current Direction	S
S12	30 Dec 2019	Water Temp (C)	13.8
S12	30 Dec 2019	Wave Height Low (ft)	3
S12	30 Dec 2019	High Tide (ft)	4.8
S12	30 Dec 2019	High Tide Time	1051

Station	Date	Parameter	Value
S12	30 Dec 2019	Low Tide (ft)	2.5
S12	30 Dec 2019	Low Tide Time	500
S12	30 Dec 2019	Comments	Kelp; 1 Person; Water clear

Kelp Stations

Table 3.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >1,000 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Dec 2019	17	90	26	23	9	6	33
02 Dec 2019	35	175	64	53	17	22	110
03 Dec 2019	35	175	64	53	17	22	110
04 Dec 2019	72	378	151	119	29	40	300
05 Dec 2019	72	378	151	119	29	40	300
06 Dec 2019	72	378	151	119	29	40	300
07 Dec 2019	72	378	151	119	29	40	300
08 Dec 2019	72	378	151	119	29	40	300
09 Dec 2019	126	658	182	110	61	34	598
10 Dec 2019	126	658	182	110	61	34	598
11 Dec 2019	126	658	182	110	61	34	598
12 Dec 2019	193	1250	390	263	102	69	1336
13 Dec 2019	193	1250	390	263	102	69	1336
14 Dec 2019	193	1250	390	263	102	69	1336
15 Dec 2019	193	1250	390	263	102	69	1336
16 Dec 2019	352	547	182	142	73	34	806
17 Dec 2019	352	547	182	142	73	34	806
18 Dec 2019	1283	1366	562	384	181	48	3361
19 Dec 2019	1283	1366	562	384	181	48	3361
20 Dec 2019	1283	1366	562	384	181	48	3361
21 Dec 2019	1283	1366	562	384	181	48	3361
22 Dec 2019	1429	812	269	134	97	27	3907
23 Dec 2019	1429	812	269	134	97	27	3907
24 Dec 2019	1429	812	269	134	97	27	3907
25 Dec 2019	1626	416	103	41	80	26	3165
26 Dec 2019	1626	416	103	41	80	26	3165
27 Dec 2019	1626	416	103	41	80	26	3165
28 Dec 2019	1626	416	103	41	80	26	3165
29 Dec 2019	1626	416	103	41	80	26	3165
30 Dec 2019	1626	416	103	41	80	26	3165
31 Dec 2019	1626	416	103	41	80	26	3165

* Geometric mean calculated using n<5

Table 3.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Dec 2019	7	12	12	13	4	3	11
02 Dec 2019	12	22	22	18	6	8	32
03 Dec 2019	12	22	22	18	6	8	32
04 Dec 2019	19	41	40	31	8	11	63
05 Dec 2019	19	41	40	31	8	11	63
06 Dec 2019	19	41	40	31	8	11	63
07 Dec 2019	19	41	40	31	8	11	63
08 Dec 2019	19	41	40	31	8	11	63
09 Dec 2019	30	103	38	27	13	8	149
10 Dec 2019	30	103	38	27	13	8	149
11 Dec 2019	30	103	38	27	13	8	149
12 Dec 2019	54	257	79	52	21	11	408
13 Dec 2019	54	257	79	52	21	11	408
14 Dec 2019	54	257	79	52	21	11	408
15 Dec 2019	54	257	79	52	21	11	408
16 Dec 2019	94	97	38	27	13	8	162
17 Dec 2019	94	97	38	27	13	8	162
18 Dec 2019	246	257	79	52	21	11	485
19 Dec 2019	246	257	79	52	21	11	485
20 Dec 2019	246	257	79	52	21	11	485
21 Dec 2019	246	257	79	52	21	11	485
22 Dec 2019	269	160	38	27	13	8	760
23 Dec 2019	269	160	38	27	13	8	760
24 Dec 2019	269	160	38	27	13	8	760
25 Dec 2019	264	87	13	8	10	8	678
26 Dec 2019	264	87	13	8	10	8	678
27 Dec 2019	264	87	13	8	10	8	678
28 Dec 2019	264	87	13	8	10	8	678
29 Dec 2019	264	87	13	8	10	8	678
30 Dec 2019	264	87	13	8	10	8	678
31 Dec 2019	264	87	13	8	10	8	678

* Geometric mean calculated using n<5

Table 3.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >35 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Dec 2019	4	7	7	8	5	2	6
02 Dec 2019	10	12	14	13	8	5	16
03 Dec 2019	10	12	14	13	8	5	16
04 Dec 2019	15	19	23	19	11	6	26
05 Dec 2019	15	19	23	19	11	6	26
06 Dec 2019	15	19	23	19	11	6	26
07 Dec 2019	15	19	23	19	11	6	26
08 Dec 2019	15	19	23	19	11	6	26
09 Dec 2019	23	51	25	17	17	6	74
10 Dec 2019	23	51	25	17	17	6	74
11 Dec 2019	23	51	25	17	17	6	74
12 Dec 2019	43	114	46	28	30	8	182
13 Dec 2019	43	114	46	28	30	8	182
14 Dec 2019	43	114	46	28	30	8	182
15 Dec 2019	43	114	46	28	30	8	182
16 Dec 2019	61	51	25	17	20	6	146
17 Dec 2019	61	51	25	17	20	6	146
18 Dec 2019	145	114	46	28	35	8	427
19 Dec 2019	145	114	46	28	35	8	427
20 Dec 2019	145	114	46	28	35	8	427
21 Dec 2019	145	114	46	28	35	8	427
22 Dec 2019	144	76	25	17	22	6	683
23 Dec 2019	144	76	25	17	22	6	683
24 Dec 2019	144	76	25	17	22	6	683
25 Dec 2019	201	55	14	8	16	6	936
26 Dec 2019	201	55	14	8	16	6	936
27 Dec 2019	201	55	14	8	16	6	936
28 Dec 2019	201	55	14	8	16	6	936
29 Dec 2019	201	55	14	8	16	6	936
30 Dec 2019	201	55	14	8	16	6	936
31 Dec 2019	201	55	14	8	16	6	936

* Geometric mean calculated using n<5

Table 3.4

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
02 Dec 2019	IC	IC	IC	IC	IC	IC	E
09 Dec 2019	IC	E	IC	IC	IC	IC	E
16 Dec 2019	IC	IC	IC	IC	IC	IC	IC
22 Dec 2019	IC	IC	IC	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
02 Dec 2019	IC	E	E	IC	IC	E	E
09 Dec 2019	IC	E	IC	IC	IC	IC	E
16 Dec 2019	E	IC	IC	IC	IC	IC	IC
22 Dec 2019	E	IC	IC	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
02 Dec 2019	E	E	E	E	IC	E	E
09 Dec 2019	E	E	IC	IC	E	IC	E
16 Dec 2019	E	IC	IC	IC	IC	IC	E
22 Dec 2019	E	IC	IC	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	I19	I24	I25	I26	I32	I39	I40
02 Dec 2019	E	E	E	IC	IC	E	E
09 Dec 2019	E	E	IC	IC	IC	IC	E
16 Dec 2019	E	IC	IC	IC	IC	IC	IC
22 Dec 2019	E	IC	IC	IC	IC	IC	E

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.8

Summary of water quality parameters at the SBOO kelp stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal) and *Enterococcus* (Entero) bacteria are reported as CFU/100 mL; the fecal:total coliform ratio (F:T) is unitless; values for temperature (Temp, °C), transmissivity (XMS, %), dissolved oxygen (DO, mg/L), salinity (Sal, ppt) and pH were extracted from CTD profile data for depths closest to those at which the bacteriological samples were collected. Comments follow the data summary.

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I19	02 Dec 2019	1031	2	320e	18e	88	0.06	16.3	58.24	8.2	33.42	8.1
I19	02 Dec 2019	1031	6	1100	140e	520e	0.13	16.3	47.19	8.0	33.42	8.1
I19	02 Dec 2019	1031	11	600	84	280e	0.14	16.2	46.10	8.1	33.42	8.1
I19	09 Dec 2019	1019	2	1400e	240e	160e	0.17	16.7	39.53	8.3	33.17	8.1
I19	09 Dec 2019	1019	6	1600e	180e	140e	0.11	16.4	53.28	7.5	33.34	8.1
I19	09 Dec 2019	1019	11	600e	120e	160e	0.20	16.5	27.82	6.6	33.46	8.0
I19	16 Dec 2019	1051	2	7400	1600e	180e	0.22	15.2	38.80	7.4	33.53	8.0
I19	16 Dec 2019	1051	6	4000	920	320e	0.23	15.0	23.56	7.4	33.55	8.0
I19	16 Dec 2019	1051	11	400e	66	260e	0.16	14.6	27.78	6.7	33.57	8.0
I19	22 Dec 2019	1051	2	2000e	600e	160e	0.30	14.9	67.79	8.3	33.54	8.1
I19	22 Dec 2019	1051	6	3200e	200e	180e	0.06	14.8	57.59	8.2	33.55	8.1
I19	22 Dec 2019	1051	11	1400	360e	82	0.26	14.6	62.40	7.9	33.56	8.1
I24	02 Dec 2019	1054	2	300e	50	56	0.17	16.4	57.42	7.9	33.35	8.1
I24	02 Dec 2019	1054	6	1400	240e	92	0.17	16.4	67.04	8.0	33.35	8.1
I24	02 Dec 2019	1054	11	5600	600	200e	0.11	16.4	41.89	7.4	33.46	8.1
I24	09 Dec 2019	1041	2	>16000	>12000	8000	0.75	16.8	46.50	8.1	33.00	8.1
I24	09 Dec 2019	1041	6	600e	160e	70	0.27	16.6	61.85	7.2	33.50	8.1
I24	09 Dec 2019	1041	11	1600e	140e	110	0.09	16.6	57.12	7.2	33.50	8.1
I24	16 Dec 2019	1114	2	<20	<2	<2	0.10	15.4	58.85	7.5	33.55	8.0
I24	16 Dec 2019	1114	6	<20	<2	<2	0.10	14.7	68.63	6.8	33.57	8.0
I24	16 Dec 2019	1114	11	<20	2e	2e	0.10	14.6	65.95	6.6	33.56	8.0
I24	22 Dec 2019	1109	2	200e	56	28e	0.28	15.2	73.28	8.1	33.55	8.1
I24	22 Dec 2019	1109	6	4e	2e	4e	0.50	15.2	69.88	8.0	33.55	8.1
I24	22 Dec 2019	1109	11	100e	14e	12e	0.14	15.0	27.94	7.6	33.57	8.1
I25	02 Dec 2019	1100	2	420	48	30e	0.11	16.4	70.75	8.2	33.32	8.2
I25	02 Dec 2019	1100	6	4800	420	440	0.09	16.5	71.54	7.6	33.46	8.1
I25	02 Dec 2019	1100	9	2000e	340e	380e	0.17	16.5	43.81	7.2	33.48	8.1
I25	09 Dec 2019	1049	2	320e	40	28e	0.12	16.6	63.50	7.9	33.42	8.1
I25	09 Dec 2019	1049	6	600e	28e	44	0.05	16.6	64.83	7.3	33.51	8.1
I25	09 Dec 2019	1049	9	240e	22e	32e	0.09	16.6	64.81	7.2	33.52	8.1
I25	16 Dec 2019	1123	2	<20	<2	<2	0.10	15.4	57.09	7.6	33.54	8.0
I25	16 Dec 2019	1123	6	4e	<2	<2	0.50	14.4	67.97	6.6	33.57	8.0
I25	16 Dec 2019	1123	9	<2	2e	<2	1.00	14.4	65.25	6.5	33.57	8.0
I25	22 Dec 2019	1116	2	20e	<2	2e	0.10	15.2	75.65	8.2	33.55	8.1
I25	22 Dec 2019	1116	6	<2	<2	<2	1.00	15.2	75.25	8.2	33.55	8.1
I25	22 Dec 2019	1116	9	<20	<2	<2	0.10	15.2	74.74	8.2	33.55	8.1
I26	02 Dec 2019	1108	2	32e	2e	4e	0.06	16.4	68.42	8.5	33.30	8.2
I26	02 Dec 2019	1108	6	2600e	60e	160e	0.02	16.4	61.44	7.3	33.42	8.1
I26	02 Dec 2019	1108	9	1600e	140e	120e	0.09	16.4	46.02	7.3	33.42	8.1

Station	Date	Time	Depth	Total	Fecal	Entero	F:T	Temp	XMS	DO	Sal	pH
I26	09 Dec 2019	1100	2	60e	12e	14e	0.20	16.7	57.57	8.9	33.28	8.2
I26	09 Dec 2019	1100	6	120e	22e	8e	0.18	16.4	73.88	7.5	33.54	8.1
I26	09 Dec 2019	1100	9	60e	12e	4e	0.20	16.4	71.49	7.5	33.54	8.1
I26	16 Dec 2019	1133	2	<20	<2	<2	0.10	15.4	57.44	7.7	33.55	8.0
I26	16 Dec 2019	1133	6	8e	<2	<2	0.25	14.3	63.94	6.5	33.58	8.0
I26	16 Dec 2019	1133	9	8e	2e	<2	0.25	14.3	57.65	6.5	33.57	8.0
I26	22 Dec 2019	1124	2	<2	<2	<2	1.00	15.3	77.00	8.3	33.55	8.1
I26	22 Dec 2019	1124	6	2e	<2	<2	1.00	15.2	76.07	8.1	33.55	8.1
I26	22 Dec 2019	1124	9	<2	<2	<2	1.00	15.1	75.35	8.0	33.55	8.1
I32	02 Dec 2019	1118	2	6e	2e	<2	0.33	16.3	55.53	8.9	33.29	8.2
I32	02 Dec 2019	1118	6	220e	14e	32e	0.06	16.1	53.07	8.1	33.30	8.1
I32	02 Dec 2019	1118	9	360e	60	80	0.17	16.1	43.15	7.6	33.33	8.1
I32	09 Dec 2019	1111	2	300e	26e	12e	0.09	16.5	50.08	8.7	33.23	8.2
I32	09 Dec 2019	1111	6	540	36e	42	0.07	16.4	65.03	7.7	33.40	8.1
I32	09 Dec 2019	1111	9	3000e	200e	300e	0.07	16.4	58.52	7.1	33.44	8.1
I32	16 Dec 2019	1144	2	<20	<2	<2	0.10	15.3	47.68	7.8	33.56	8.0
I32	16 Dec 2019	1144	6	<20	<2	6e	0.10	14.6	65.28	6.7	33.57	8.0
I32	16 Dec 2019	1144	9	<20	2e	4e	0.10	14.5	61.02	6.6	33.57	8.0
I32	22 Dec 2019	1136	2	<2	<2	<2	1.00	15.2	74.29	8.4	33.56	8.1
I32	22 Dec 2019	1136	6	<2	<2	2e	1.00	15.1	60.89	8.2	33.57	8.1
I32	22 Dec 2019	1136	9	<20	2e	6e	0.10	14.9	40.31	7.7	33.56	8.1
I39	02 Dec 2019	1013	2	4800	700	110	0.15	16.8	83.86	7.9	33.54	8.1
I39	02 Dec 2019	1013	12	8800	660	84	0.07	16.8	83.96	7.9	33.56	8.1
I39	02 Dec 2019	1013	18	720	82	130e	0.11	16.6	78.25	7.6	33.52	8.1
I39	09 Dec 2019	1000	2	40e	<2	8e	0.05	16.6	70.31	8.9	33.23	8.2
I39	09 Dec 2019	1000	12	10e	<2	<2	0.20	16.6	85.05	7.7	33.52	8.1
I39	09 Dec 2019	1000	18	<2	<2	<2	1.00	16.2	79.97	7.3	33.55	8.1
I39	16 Dec 2019	1031	2	<2	<2	<2	1.00	15.9	82.91	8.1	33.52	8.1
I39	16 Dec 2019	1031	12	<2	<2	<2	1.00	15.6	81.93	7.9	33.52	8.1
I39	16 Dec 2019	1031	18	<2	<2	<2	1.00	15.0	81.44	7.4	33.56	8.0
I39	22 Dec 2019	1033	2	<2	<2	<2	1.00	15.5	81.75	8.3	33.54	8.1
I39	22 Dec 2019	1033	12	2e	<2	<2	1.00	15.4	79.34	8.1	33.55	8.1
I39	22 Dec 2019	1033	18	4e	<2	<2	0.50	15.0	66.89	7.7	33.56	8.1
I40	02 Dec 2019	1046	2	>16000	2800e	560	0.17	16.3	28.39	7.9	33.31	8.1
I40	02 Dec 2019	1046	6	>16000	3600e	800	0.22	16.3	31.09	7.7	33.32	8.1
I40	02 Dec 2019	1046	9	9800	1200e	500	0.12	16.2	19.92	7.2	33.39	8.1
I40	09 Dec 2019	1031	2	>16000	>12000	>12000	0.75	16.6	10.36	7.8	33.11	8.1
I40	09 Dec 2019	1031	6	3200e	680	880	0.21	16.5	16.62	6.3	33.44	8.0
I40	09 Dec 2019	1031	9	9200	1000	1000	0.11	16.5	9.80	5.9	33.47	8.0
I40	16 Dec 2019	1104	2	<20	2e	6e	0.10	15.5	52.25	7.5	33.53	8.0
I40	16 Dec 2019	1104	6	<200	2e	14e	0.01	15.3	43.49	7.5	33.54	8.0
I40	16 Dec 2019	1104	9	100e	8e	160e	0.08	15.2	38.85	7.2	33.55	8.0
I40	22 Dec 2019	1102	2	>16000	>12000	13000e	0.75	15.0	49.79	8.5	33.40	8.1
I40	22 Dec 2019	1102	6	3600e	1200e	240e	0.33	15.0	53.91	8.4	33.56	8.1
I40	22 Dec 2019	1102	9	1800e	520	140e	0.29	14.9	39.52	8.2	33.57	8.1

ns = not sampled

ND = no data

Table 3.9

Summary of visual observations made during the month for each SBOO kelp station by sample date.

Station	Date	Parameter	Value
I19	02 Dec 2019	Depth (m)	11
I19	02 Dec 2019	Arrive Time	1031
I19	02 Dec 2019	Depart Time	1033
I19	02 Dec 2019	Air Temp (C)	18
I19	02 Dec 2019	Weather	Haze
I19	02 Dec 2019	Visibility (mi)	10
I19	02 Dec 2019	Wind Speed (kts)	4
I19	02 Dec 2019	Wind Dir	NW
I19	02 Dec 2019	Water Color	Greenish-Brown
I19	02 Dec 2019	Wave Ht Low (ft)	4
I19	02 Dec 2019	Wave Period (sec)	13
I19	02 Dec 2019	Sea State	Calm
I19	02 Dec 2019	High Tide (ft)	6.33
I19	02 Dec 2019	High Tide Time	2106
I19	02 Dec 2019	Low Tide (ft)	-0.71
I19	02 Dec 2019	Low Tide Time	405
I19	02 Dec 2019	Comments	Kelp debris
I19	09 Dec 2019	Depth (m)	9
I19	09 Dec 2019	Arrive Time	1019
I19	09 Dec 2019	Depart Time	1022
I19	09 Dec 2019	Air Temp (C)	16
I19	09 Dec 2019	Weather	Partly Cloudy
I19	09 Dec 2019	Visibility (mi)	11
I19	09 Dec 2019	Wind Speed (kts)	0
I19	09 Dec 2019	Wind Dir	
I19	09 Dec 2019	Water Color	Brownish-Green
I19	09 Dec 2019	Wave Ht Low (ft)	4
I19	09 Dec 2019	Wave Period (sec)	13
I19	09 Dec 2019	Sea State	Light chop
I19	09 Dec 2019	High Tide (ft)	6.33
I19	09 Dec 2019	High Tide Time	2106
I19	09 Dec 2019	Low Tide (ft)	-0.71
I19	09 Dec 2019	Low Tide Time	405
I19	09 Dec 2019	Comments	none
I19	16 Dec 2019	Depth (m)	11
I19	16 Dec 2019	Arrive Time	1051
I19	16 Dec 2019	Depart Time	1056
I19	16 Dec 2019	Air Temp (C)	16
I19	16 Dec 2019	Weather	Clear
I19	16 Dec 2019	Visibility (mi)	9
I19	16 Dec 2019	Wind Speed (kts)	9
I19	16 Dec 2019	Wind Dir	SW
I19	16 Dec 2019	Water Color	Green
I19	16 Dec 2019	Wave Ht Low (ft)	6
I19	16 Dec 2019	Wave Period (sec)	13
I19	16 Dec 2019	Sea State	Wind ripples
I19	16 Dec 2019	High Tide (ft)	6.33
I19	16 Dec 2019	High Tide Time	2106
I19	16 Dec 2019	Low Tide (ft)	-0.71
I19	16 Dec 2019	Low Tide Time	405
I19	16 Dec 2019	Comments	Kelp debris
I19	22 Dec 2019	Depth (m)	11
I19	22 Dec 2019	Arrive Time	1051

Station	Date	Parameter	Value
I19	22 Dec 2019	Depart Time	1054
I19	22 Dec 2019	Air Temp (C)	16
I19	22 Dec 2019	Weather	Partly Cloudy
I19	22 Dec 2019	Visibility (mi)	7
I19	22 Dec 2019	Wind Speed (kts)	7
I19	22 Dec 2019	Wind Dir	SE
I19	22 Dec 2019	Water Color	Green
I19	22 Dec 2019	Wave Ht Low (ft)	4
I19	22 Dec 2019	Wave Period (sec)	13
I19	22 Dec 2019	Sea State	Light chop
I19	22 Dec 2019	High Tide (ft)	6.33
I19	22 Dec 2019	High Tide Time	2106
I19	22 Dec 2019	Low Tide (ft)	-0.71
I19	22 Dec 2019	Low Tide Time	405
I19	22 Dec 2019	Comments	none
I24	02 Dec 2019	Depth (m)	11
I24	02 Dec 2019	Arrive Time	1054
I24	02 Dec 2019	Depart Time	1055
I24	02 Dec 2019	Air Temp (C)	16
I24	02 Dec 2019	Weather	Haze
I24	02 Dec 2019	Visibility (mi)	10
I24	02 Dec 2019	Wind Speed (kts)	2
I24	02 Dec 2019	Wind Dir	W
I24	02 Dec 2019	Water Color	Greenish-Brown
I24	02 Dec 2019	Wave Ht Low (ft)	5
I24	02 Dec 2019	Wave Period (sec)	13
I24	02 Dec 2019	Sea State	Calm
I24	02 Dec 2019	High Tide (ft)	6.33
I24	02 Dec 2019	High Tide Time	2106
I24	02 Dec 2019	Low Tide (ft)	-0.71
I24	02 Dec 2019	Low Tide Time	405
I24	02 Dec 2019	Comments	Kelp debris
I24	09 Dec 2019	Depth (m)	11
I24	09 Dec 2019	Arrive Time	1041
I24	09 Dec 2019	Depart Time	1044
I24	09 Dec 2019	Air Temp (C)	16
I24	09 Dec 2019	Weather	Partly Cloudy
I24	09 Dec 2019	Visibility (mi)	11
I24	09 Dec 2019	Wind Speed (kts)	0
I24	09 Dec 2019	Wind Dir	
I24	09 Dec 2019	Water Color	Brown
I24	09 Dec 2019	Wave Ht Low (ft)	4
I24	09 Dec 2019	Wave Period (sec)	13
I24	09 Dec 2019	Sea State	Light chop
I24	09 Dec 2019	High Tide (ft)	6.33
I24	09 Dec 2019	High Tide Time	2106
I24	09 Dec 2019	Low Tide (ft)	-0.71
I24	09 Dec 2019	Low Tide Time	405
I24	09 Dec 2019	Comments	TJ River plume visible at surface
I24	16 Dec 2019	Depth (m)	11
I24	16 Dec 2019	Arrive Time	1114
I24	16 Dec 2019	Depart Time	1118
I24	16 Dec 2019	Air Temp (C)	16
I24	16 Dec 2019	Weather	Clear
I24	16 Dec 2019	Visibility (mi)	9
I24	16 Dec 2019	Wind Speed (kts)	6
I24	16 Dec 2019	Wind Dir	SW
I24	16 Dec 2019	Water Color	Green

Station	Date	Parameter	Value
I24	16 Dec 2019	Wave Ht Low (ft)	6
I24	16 Dec 2019	Wave Period (sec)	13
I24	16 Dec 2019	Sea State	Wind ripples
I24	16 Dec 2019	High Tide (ft)	6.33
I24	16 Dec 2019	High Tide Time	2106
I24	16 Dec 2019	Low Tide (ft)	-0.71
I24	16 Dec 2019	Low Tide Time	405
I24	16 Dec 2019	Comments	none
I24	22 Dec 2019	Depth (m)	10
I24	22 Dec 2019	Arrive Time	1109
I24	22 Dec 2019	Depart Time	1112
I24	22 Dec 2019	Air Temp (C)	16
I24	22 Dec 2019	Weather	Partly Cloudy
I24	22 Dec 2019	Visibility (mi)	7
I24	22 Dec 2019	Wind Speed (kts)	8
I24	22 Dec 2019	Wind Dir	E
I24	22 Dec 2019	Water Color	Green
I24	22 Dec 2019	Wave Ht Low (ft)	4
I24	22 Dec 2019	Wave Period (sec)	13
I24	22 Dec 2019	Sea State	Light chop
I24	22 Dec 2019	High Tide (ft)	6.33
I24	22 Dec 2019	High Tide Time	2106
I24	22 Dec 2019	Low Tide (ft)	-0.71
I24	22 Dec 2019	Low Tide Time	405
I24	22 Dec 2019	Comments	none
I25	02 Dec 2019	Depth (m)	9
I25	02 Dec 2019	Arrive Time	1100
I25	02 Dec 2019	Depart Time	1101
I25	02 Dec 2019	Air Temp (C)	16
I25	02 Dec 2019	Weather	Haze
I25	02 Dec 2019	Visibility (mi)	10
I25	02 Dec 2019	Wind Speed (kts)	2
I25	02 Dec 2019	Wind Dir	SW
I25	02 Dec 2019	Water Color	Green
I25	02 Dec 2019	Wave Ht Low (ft)	5
I25	02 Dec 2019	Wave Period (sec)	13
I25	02 Dec 2019	Sea State	Calm
I25	02 Dec 2019	High Tide (ft)	6.33
I25	02 Dec 2019	High Tide Time	2106
I25	02 Dec 2019	Low Tide (ft)	-0.71
I25	02 Dec 2019	Low Tide Time	405
I25	02 Dec 2019	Comments	none
I25	09 Dec 2019	Depth (m)	9
I25	09 Dec 2019	Arrive Time	1049
I25	09 Dec 2019	Depart Time	1055
I25	09 Dec 2019	Air Temp (C)	16
I25	09 Dec 2019	Weather	Partly Cloudy
I25	09 Dec 2019	Visibility (mi)	13
I25	09 Dec 2019	Wind Speed (kts)	1
I25	09 Dec 2019	Wind Dir	S
I25	09 Dec 2019	Water Color	Greenish-Brown
I25	09 Dec 2019	Wave Ht Low (ft)	4
I25	09 Dec 2019	Wave Period (sec)	13
I25	09 Dec 2019	Sea State	Light chop
I25	09 Dec 2019	High Tide (ft)	6.33
I25	09 Dec 2019	High Tide Time	2106
I25	09 Dec 2019	Low Tide (ft)	-0.71
I25	09 Dec 2019	Low Tide Time	405

Station	Date	Parameter	Value
I25	09 Dec 2019	Comments	none
I25	16 Dec 2019	Depth (m)	11
I25	16 Dec 2019	Arrive Time	1123
I25	16 Dec 2019	Depart Time	1127
I25	16 Dec 2019	Air Temp (C)	16
I25	16 Dec 2019	Weather	Clear
I25	16 Dec 2019	Visibility (mi)	9
I25	16 Dec 2019	Wind Speed (kts)	9
I25	16 Dec 2019	Wind Dir	SW
I25	16 Dec 2019	Water Color	Green
I25	16 Dec 2019	Wave Ht Low (ft)	6
I25	16 Dec 2019	Wave Period (sec)	13
I25	16 Dec 2019	Sea State	Wind ripples
I25	16 Dec 2019	High Tide (ft)	6.33
I25	16 Dec 2019	High Tide Time	2106
I25	16 Dec 2019	Low Tide (ft)	-0.71
I25	16 Dec 2019	Low Tide Time	405
I25	16 Dec 2019	Comments	none
I25	22 Dec 2019	Depth (m)	9
I25	22 Dec 2019	Arrive Time	1116
I25	22 Dec 2019	Depart Time	1119
I25	22 Dec 2019	Air Temp (C)	16
I25	22 Dec 2019	Weather	Partly Cloudy
I25	22 Dec 2019	Visibility (mi)	7
I25	22 Dec 2019	Wind Speed (kts)	8
I25	22 Dec 2019	Wind Dir	E
I25	22 Dec 2019	Water Color	Green
I25	22 Dec 2019	Wave Ht Low (ft)	4
I25	22 Dec 2019	Wave Period (sec)	13
I25	22 Dec 2019	Sea State	Light chop
I25	22 Dec 2019	High Tide (ft)	6.33
I25	22 Dec 2019	High Tide Time	2106
I25	22 Dec 2019	Low Tide (ft)	-0.71
I25	22 Dec 2019	Low Tide Time	405
I25	22 Dec 2019	Comments	none
I26	02 Dec 2019	Depth (m)	10
I26	02 Dec 2019	Arrive Time	1108
I26	02 Dec 2019	Depart Time	1109
I26	02 Dec 2019	Air Temp (C)	16
I26	02 Dec 2019	Weather	Haze
I26	02 Dec 2019	Visibility (mi)	10
I26	02 Dec 2019	Wind Speed (kts)	2
I26	02 Dec 2019	Wind Dir	SW
I26	02 Dec 2019	Water Color	Green
I26	02 Dec 2019	Wave Ht Low (ft)	5
I26	02 Dec 2019	Wave Period (sec)	13
I26	02 Dec 2019	Sea State	Calm
I26	02 Dec 2019	High Tide (ft)	6.33
I26	02 Dec 2019	High Tide Time	2106
I26	02 Dec 2019	Low Tide (ft)	-0.71
I26	02 Dec 2019	Low Tide Time	405
I26	02 Dec 2019	Comments	none
I26	09 Dec 2019	Depth (m)	9
I26	09 Dec 2019	Arrive Time	1100
I26	09 Dec 2019	Depart Time	1102
I26	09 Dec 2019	Air Temp (C)	16
I26	09 Dec 2019	Weather	Partly Cloudy

Station	Date	Parameter	Value
I26	09 Dec 2019	Visibility (mi)	13
I26	09 Dec 2019	Wind Speed (kts)	2
I26	09 Dec 2019	Wind Dir	S
I26	09 Dec 2019	Water Color	Greenish-Brown
I26	09 Dec 2019	Wave Ht Low (ft)	4
I26	09 Dec 2019	Wave Period (sec)	13
I26	09 Dec 2019	Sea State	Light chop
I26	09 Dec 2019	High Tide (ft)	6.33
I26	09 Dec 2019	High Tide Time	2106
I26	09 Dec 2019	Low Tide (ft)	-0.71
I26	09 Dec 2019	Low Tide Time	405
I26	09 Dec 2019	Comments	none
I26	16 Dec 2019	Depth (m)	10
I26	16 Dec 2019	Arrive Time	1133
I26	16 Dec 2019	Depart Time	1137
I26	16 Dec 2019	Air Temp (C)	16
I26	16 Dec 2019	Weather	Clear
I26	16 Dec 2019	Visibility (mi)	9
I26	16 Dec 2019	Wind Speed (kts)	8
I26	16 Dec 2019	Wind Dir	W
I26	16 Dec 2019	Water Color	Green
I26	16 Dec 2019	Wave Ht Low (ft)	6
I26	16 Dec 2019	Wave Period (sec)	13
I26	16 Dec 2019	Sea State	Wind ripples
I26	16 Dec 2019	High Tide (ft)	6.33
I26	16 Dec 2019	High Tide Time	2106
I26	16 Dec 2019	Low Tide (ft)	-0.71
I26	16 Dec 2019	Low Tide Time	405
I26	16 Dec 2019	Comments	none
I26	22 Dec 2019	Depth (m)	10
I26	22 Dec 2019	Arrive Time	1124
I26	22 Dec 2019	Depart Time	1127
I26	22 Dec 2019	Air Temp (C)	16
I26	22 Dec 2019	Weather	Partly Cloudy
I26	22 Dec 2019	Visibility (mi)	7
I26	22 Dec 2019	Wind Speed (kts)	7
I26	22 Dec 2019	Wind Dir	E
I26	22 Dec 2019	Water Color	Green
I26	22 Dec 2019	Wave Ht Low (ft)	4
I26	22 Dec 2019	Wave Period (sec)	13
I26	22 Dec 2019	Sea State	Light chop
I26	22 Dec 2019	High Tide (ft)	6.33
I26	22 Dec 2019	High Tide Time	2106
I26	22 Dec 2019	Low Tide (ft)	-0.71
I26	22 Dec 2019	Low Tide Time	405
I26	22 Dec 2019	Comments	none
I32	02 Dec 2019	Depth (m)	10
I32	02 Dec 2019	Arrive Time	1118
I32	02 Dec 2019	Depart Time	1121
I32	02 Dec 2019	Air Temp (C)	16
I32	02 Dec 2019	Weather	Haze
I32	02 Dec 2019	Visibility (mi)	11
I32	02 Dec 2019	Wind Speed (kts)	5
I32	02 Dec 2019	Wind Dir	S
I32	02 Dec 2019	Water Color	Greenish-Brown
I32	02 Dec 2019	Wave Ht Low (ft)	4
I32	02 Dec 2019	Wave Period (sec)	13
I32	02 Dec 2019	Sea State	Calm

Station	Date	Parameter	Value
I32	02 Dec 2019	High Tide (ft)	6.33
I32	02 Dec 2019	High Tide Time	2106
I32	02 Dec 2019	Low Tide (ft)	-0.71
I32	02 Dec 2019	Low Tide Time	405
I32	02 Dec 2019	Comments	none
I32	09 Dec 2019	Depth (m)	10
I32	09 Dec 2019	Arrive Time	1111
I32	09 Dec 2019	Depart Time	1115
I32	09 Dec 2019	Air Temp (C)	16
I32	09 Dec 2019	Weather	Partly Cloudy
I32	09 Dec 2019	Visibility (mi)	13
I32	09 Dec 2019	Wind Speed (kts)	2
I32	09 Dec 2019	Wind Dir	SW
I32	09 Dec 2019	Water Color	Greenish-Brown
I32	09 Dec 2019	Wave Ht Low (ft)	4
I32	09 Dec 2019	Wave Period (sec)	13
I32	09 Dec 2019	Sea State	Light chop
I32	09 Dec 2019	High Tide (ft)	6.33
I32	09 Dec 2019	High Tide Time	2106
I32	09 Dec 2019	Low Tide (ft)	-0.71
I32	09 Dec 2019	Low Tide Time	405
I32	09 Dec 2019	Comments	none
I32	16 Dec 2019	Depth (m)	11
I32	16 Dec 2019	Arrive Time	1144
I32	16 Dec 2019	Depart Time	1149
I32	16 Dec 2019	Air Temp (C)	16
I32	16 Dec 2019	Weather	Clear
I32	16 Dec 2019	Visibility (mi)	9
I32	16 Dec 2019	Wind Speed (kts)	2
I32	16 Dec 2019	Wind Dir	W
I32	16 Dec 2019	Water Color	Green
I32	16 Dec 2019	Wave Ht Low (ft)	6
I32	16 Dec 2019	Wave Period (sec)	13
I32	16 Dec 2019	Sea State	Wind ripples
I32	16 Dec 2019	High Tide (ft)	6.33
I32	16 Dec 2019	High Tide Time	2106
I32	16 Dec 2019	Low Tide (ft)	-0.71
I32	16 Dec 2019	Low Tide Time	405
I32	16 Dec 2019	Comments	none
I32	22 Dec 2019	Depth (m)	10
I32	22 Dec 2019	Arrive Time	1136
I32	22 Dec 2019	Depart Time	1139
I32	22 Dec 2019	Air Temp (C)	16
I32	22 Dec 2019	Weather	Partly Cloudy
I32	22 Dec 2019	Visibility (mi)	7
I32	22 Dec 2019	Wind Speed (kts)	6
I32	22 Dec 2019	Wind Dir	E
I32	22 Dec 2019	Water Color	Green
I32	22 Dec 2019	Wave Ht Low (ft)	4
I32	22 Dec 2019	Wave Period (sec)	13
I32	22 Dec 2019	Sea State	Light chop
I32	22 Dec 2019	High Tide (ft)	6.33
I32	22 Dec 2019	High Tide Time	2106
I32	22 Dec 2019	Low Tide (ft)	-0.71
I32	22 Dec 2019	Low Tide Time	405
I32	22 Dec 2019	Comments	none
I39	02 Dec 2019	Depth (m)	18

Station	Date	Parameter	Value
I39	02 Dec 2019	Arrive Time	1013
I39	02 Dec 2019	Depart Time	1016
I39	02 Dec 2019	Air Temp (C)	15
I39	02 Dec 2019	Weather	Haze
I39	02 Dec 2019	Visibility (mi)	8
I39	02 Dec 2019	Wind Speed (kts)	4
I39	02 Dec 2019	Wind Dir	NW
I39	02 Dec 2019	Water Color	Greenish-Blue
I39	02 Dec 2019	Wave Ht Low (ft)	4
I39	02 Dec 2019	Wave Period (sec)	13
I39	02 Dec 2019	Sea State	Calm
I39	02 Dec 2019	High Tide (ft)	6.33
I39	02 Dec 2019	High Tide Time	2106
I39	02 Dec 2019	Low Tide (ft)	-0.71
I39	02 Dec 2019	Low Tide Time	405
I39	02 Dec 2019	Comments	Kelp debris
I39	09 Dec 2019	Depth (m)	19
I39	09 Dec 2019	Arrive Time	1000
I39	09 Dec 2019	Depart Time	1002
I39	09 Dec 2019	Air Temp (C)	16
I39	09 Dec 2019	Weather	Partly Cloudy
I39	09 Dec 2019	Visibility (mi)	11
I39	09 Dec 2019	Wind Speed (kts)	1
I39	09 Dec 2019	Wind Dir	NW
I39	09 Dec 2019	Water Color	Greenish-Blue
I39	09 Dec 2019	Wave Ht Low (ft)	5
I39	09 Dec 2019	Wave Period (sec)	13
I39	09 Dec 2019	Sea State	Light chop
I39	09 Dec 2019	High Tide (ft)	6.33
I39	09 Dec 2019	High Tide Time	2106
I39	09 Dec 2019	Low Tide (ft)	-0.71
I39	09 Dec 2019	Low Tide Time	405
I39	09 Dec 2019	Comments	none
I39	16 Dec 2019	Depth (m)	20
I39	16 Dec 2019	Arrive Time	1031
I39	16 Dec 2019	Depart Time	1035
I39	16 Dec 2019	Air Temp (C)	16
I39	16 Dec 2019	Weather	Clear
I39	16 Dec 2019	Visibility (mi)	9
I39	16 Dec 2019	Wind Speed (kts)	4
I39	16 Dec 2019	Wind Dir	SW
I39	16 Dec 2019	Water Color	Bluish-Green
I39	16 Dec 2019	Wave Ht Low (ft)	6
I39	16 Dec 2019	Wave Period (sec)	13
I39	16 Dec 2019	Sea State	Wind ripples
I39	16 Dec 2019	High Tide (ft)	6.33
I39	16 Dec 2019	High Tide Time	2106
I39	16 Dec 2019	Low Tide (ft)	-0.71
I39	16 Dec 2019	Low Tide Time	405
I39	16 Dec 2019	Comments	Lobster floats; Kelp debris
I39	22 Dec 2019	Depth (m)	19
I39	22 Dec 2019	Arrive Time	1033
I39	22 Dec 2019	Depart Time	1036
I39	22 Dec 2019	Air Temp (C)	16
I39	22 Dec 2019	Weather	Partly Cloudy
I39	22 Dec 2019	Visibility (mi)	7
I39	22 Dec 2019	Wind Speed (kts)	7
I39	22 Dec 2019	Wind Dir	SE

Station	Date	Parameter	Value
I39	22 Dec 2019	Water Color	Green
I39	22 Dec 2019	Wave Ht Low (ft)	4
I39	22 Dec 2019	Wave Period (sec)	13
I39	22 Dec 2019	Sea State	Light chop
I39	22 Dec 2019	High Tide (ft)	6.33
I39	22 Dec 2019	High Tide Time	2106
I39	22 Dec 2019	Low Tide (ft)	-0.71
I39	22 Dec 2019	Low Tide Time	405
I39	22 Dec 2019	Comments	none
I40	02 Dec 2019	Depth (m)	10
I40	02 Dec 2019	Arrive Time	1046
I40	02 Dec 2019	Depart Time	1049
I40	02 Dec 2019	Air Temp (C)	17
I40	02 Dec 2019	Weather	Haze
I40	02 Dec 2019	Visibility (mi)	10
I40	02 Dec 2019	Wind Speed (kts)	2
I40	02 Dec 2019	Wind Dir	W
I40	02 Dec 2019	Water Color	Greenish-Brown
I40	02 Dec 2019	Wave Ht Low (ft)	4
I40	02 Dec 2019	Wave Period (sec)	13
I40	02 Dec 2019	Sea State	Calm
I40	02 Dec 2019	High Tide (ft)	6.33
I40	02 Dec 2019	High Tide Time	2106
I40	02 Dec 2019	Low Tide (ft)	-0.71
I40	02 Dec 2019	Low Tide Time	405
I40	02 Dec 2019	Comments	Kelp debris; TJ river debris present
I40	09 Dec 2019	Depth (m)	10
I40	09 Dec 2019	Arrive Time	1031
I40	09 Dec 2019	Depart Time	1037
I40	09 Dec 2019	Air Temp (C)	16
I40	09 Dec 2019	Weather	Partly Cloudy
I40	09 Dec 2019	Visibility (mi)	11
I40	09 Dec 2019	Wind Speed (kts)	1
I40	09 Dec 2019	Wind Dir	W
I40	09 Dec 2019	Water Color	Brown
I40	09 Dec 2019	Wave Ht Low (ft)	4
I40	09 Dec 2019	Wave Period (sec)	13
I40	09 Dec 2019	Sea State	Light chop
I40	09 Dec 2019	High Tide (ft)	6.33
I40	09 Dec 2019	High Tide Time	2106
I40	09 Dec 2019	Low Tide (ft)	-0.71
I40	09 Dec 2019	Low Tide Time	405
I40	09 Dec 2019	Comments	TJ River plume visible on surface
I40	16 Dec 2019	Depth (m)	12
I40	16 Dec 2019	Arrive Time	1104
I40	16 Dec 2019	Depart Time	1108
I40	16 Dec 2019	Air Temp (C)	16
I40	16 Dec 2019	Weather	Clear
I40	16 Dec 2019	Visibility (mi)	9
I40	16 Dec 2019	Wind Speed (kts)	4
I40	16 Dec 2019	Wind Dir	SW
I40	16 Dec 2019	Water Color	Green
I40	16 Dec 2019	Wave Ht Low (ft)	6
I40	16 Dec 2019	Wave Period (sec)	13
I40	16 Dec 2019	Sea State	Wind ripples
I40	16 Dec 2019	High Tide (ft)	6.33
I40	16 Dec 2019	High Tide Time	2106
I40	16 Dec 2019	Low Tide (ft)	-0.71

Station	Date	Parameter	Value
I40	16 Dec 2019	Low Tide Time	405
I40	16 Dec 2019	Comments	none
I40	22 Dec 2019	Depth (m)	11
I40	22 Dec 2019	Arrive Time	1102
I40	22 Dec 2019	Depart Time	1108
I40	22 Dec 2019	Air Temp (C)	16
I40	22 Dec 2019	Weather	Partly Cloudy
I40	22 Dec 2019	Visibility (mi)	7
I40	22 Dec 2019	Wind Speed (kts)	7
I40	22 Dec 2019	Wind Dir	E
I40	22 Dec 2019	Water Color	Green
I40	22 Dec 2019	Wave Ht Low (ft)	4
I40	22 Dec 2019	Wave Period (sec)	13
I40	22 Dec 2019	Sea State	Light chop
I40	22 Dec 2019	High Tide (ft)	6.33
I40	22 Dec 2019	High Tide Time	2106
I40	22 Dec 2019	Low Tide (ft)	-0.71
I40	22 Dec 2019	Low Tide Time	405
I40	22 Dec 2019	Comments	Sewage-like odor on station; Freshwater lens

Table 3.10

Summary of CTD profile data from the SBOO kelp stations for each sample date.

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I19	02 Dec 2019	1	16.38	58.44	8.2	33.42	8.1	24.4	2.17
I19	02 Dec 2019	2	16.34	58.24	8.2	33.42	8.1	24.5	2.49
I19	02 Dec 2019	3	16.30	55.27	8.2	33.42	8.1	24.5	3.65
I19	02 Dec 2019	4	16.29	55.25	8.2	33.42	8.1	24.5	4.96
I19	02 Dec 2019	5	16.27	55.57	8.1	33.42	8.1	24.5	4.52
I19	02 Dec 2019	6	16.27	47.19	8.0	33.42	8.1	24.5	3.55
I19	02 Dec 2019	7	16.27	38.02	8.0	33.42	8.1	24.5	2.98
I19	02 Dec 2019	8	16.24	40.31	8.0	33.42	8.1	24.5	2.64
I19	02 Dec 2019	9	16.23	46.77	8.1	33.42	8.1	24.5	2.33
I19	02 Dec 2019	10	16.23	46.10	8.1	33.42	8.1	24.5	2.24
I19	09 Dec 2019	1	16.68	34.26	8.2	33.20	8.1	24.2	2.76
I19	09 Dec 2019	2	16.70	39.53	8.3	33.17	8.1	24.2	2.59
I19	09 Dec 2019	3	16.61	32.64	8.1	33.24	8.1	24.3	3.78
I19	09 Dec 2019	4	16.53	25.87	7.8	33.32	8.1	24.3	3.13
I19	09 Dec 2019	5	16.50	32.51	7.6	33.34	8.1	24.4	2.22
I19	09 Dec 2019	6	16.45	53.28	7.5	33.34	8.1	24.4	1.76
I19	09 Dec 2019	7	16.43	65.55	7.4	33.36	8.1	24.4	1.55
I19	09 Dec 2019	8	16.46	74.21	7.4	33.42	8.1	24.4	1.33
I19	09 Dec 2019	9	16.52	63.56	7.1	33.46	8.1	24.4	1.21
I19	09 Dec 2019	10	16.53	27.82	6.6	33.46	8.0	24.4	1.32
I19	16 Dec 2019	1	15.33	35.28	7.5	33.50	8.0	24.7	1.30
I19	16 Dec 2019	2	15.18	38.80	7.4	33.53	8.0	24.8	1.32
I19	16 Dec 2019	3	15.09	35.23	7.5	33.53	8.0	24.8	1.60
I19	16 Dec 2019	4	15.02	26.71	7.7	33.54	8.0	24.8	1.83
I19	16 Dec 2019	5	15.06	28.55	7.5	33.53	8.0	24.8	1.89
I19	16 Dec 2019	6	14.96	23.56	7.4	33.55	8.0	24.9	1.83
I19	16 Dec 2019	7	14.91	22.49	7.3	33.55	8.0	24.9	1.77
I19	16 Dec 2019	8	14.82	32.55	7.0	33.56	8.0	24.9	1.63
I19	16 Dec 2019	9	14.77	38.15	6.8	33.56	8.0	24.9	1.47
I19	16 Dec 2019	10	14.65	27.78	6.7	33.57	8.0	24.9	1.38
I19	22 Dec 2019	1	14.95	68.05	8.3	33.54	8.1	24.9	2.35
I19	22 Dec 2019	2	14.94	67.79	8.3	33.54	8.1	24.9	2.44
I19	22 Dec 2019	3	14.89	67.29	8.2	33.55	8.1	24.9	2.53
I19	22 Dec 2019	4	14.86	65.88	8.2	33.55	8.1	24.9	2.45
I19	22 Dec 2019	5	14.83	62.42	8.2	33.55	8.1	24.9	2.36
I19	22 Dec 2019	6	14.82	57.59	8.2	33.55	8.1	24.9	2.23
I19	22 Dec 2019	7	14.81	55.90	8.2	33.55	8.1	24.9	2.11
I19	22 Dec 2019	8	14.72	50.22	8.1	33.56	8.1	24.9	2.09
I19	22 Dec 2019	9	14.63	52.82	8.0	33.55	8.1	24.9	1.98
I19	22 Dec 2019	10	14.62	62.40	7.9	33.56	8.1	24.9	1.91
I24	02 Dec 2019	1	16.48	62.71	7.9	33.35	8.1	24.4	1.13
I24	02 Dec 2019	2	16.43	57.42	7.9	33.35	8.1	24.4	1.59
I24	02 Dec 2019	3	16.38	63.21	8.0	33.35	8.1	24.4	2.30
I24	02 Dec 2019	4	16.36	65.37	8.0	33.35	8.1	24.4	2.98
I24	02 Dec 2019	5	16.34	66.23	8.0	33.34	8.1	24.4	3.45
I24	02 Dec 2019	6	16.35	67.04	8.0	33.35	8.1	24.4	3.32
I24	02 Dec 2019	7	16.35	67.52	8.0	33.36	8.1	24.4	3.11
I24	02 Dec 2019	8	16.38	66.30	7.8	33.38	8.1	24.4	2.61
I24	02 Dec 2019	9	16.44	59.19	7.6	33.45	8.1	24.5	2.05
I24	02 Dec 2019	10	16.45	51.70	7.4	33.46	8.1	24.5	1.64
I24	02 Dec 2019	11	16.44	41.89	7.4	33.46	8.1	24.5	1.53

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I24	09 Dec 2019	1	16.91	39.61	8.2	32.19	8.1	23.4	3.24
I24	09 Dec 2019	2	16.76	46.50	8.1	33.00	8.1	24.0	3.27
I24	09 Dec 2019	3	16.66	46.39	7.8	33.37	8.1	24.3	2.42
I24	09 Dec 2019	4	16.60	63.41	7.4	33.49	8.1	24.5	1.61
I24	09 Dec 2019	5	16.59	64.68	7.3	33.50	8.1	24.5	1.36
I24	09 Dec 2019	6	16.58	61.85	7.2	33.50	8.1	24.5	1.22
I24	09 Dec 2019	7	16.58	62.53	7.2	33.50	8.1	24.5	1.21
I24	09 Dec 2019	8	16.58	61.73	7.2	33.50	8.1	24.5	1.19
I24	09 Dec 2019	9	16.58	60.42	7.2	33.50	8.1	24.5	1.16
I24	09 Dec 2019	10	16.58	58.44	7.2	33.50	8.1	24.5	1.17
I24	09 Dec 2019	11	16.58	57.12	7.2	33.50	8.1	24.5	1.17
I24	16 Dec 2019	1	15.39	59.07	7.6	33.54	8.0	24.8	1.00
I24	16 Dec 2019	2	15.37	58.85	7.5	33.55	8.0	24.8	1.02
I24	16 Dec 2019	3	15.28	59.75	7.4	33.55	8.0	24.8	1.27
I24	16 Dec 2019	4	15.07	65.94	7.1	33.56	8.0	24.9	1.55
I24	16 Dec 2019	5	14.86	69.91	6.9	33.57	8.0	24.9	1.45
I24	16 Dec 2019	6	14.72	68.63	6.8	33.57	8.0	24.9	1.25
I24	16 Dec 2019	7	14.63	67.07	6.7	33.57	8.0	24.9	1.21
I24	16 Dec 2019	8	14.61	66.05	6.6	33.56	8.0	24.9	1.19
I24	16 Dec 2019	9	14.60	65.89	6.6	33.56	8.0	24.9	1.24
I24	16 Dec 2019	10	14.61	66.22	6.6	33.56	8.0	24.9	1.23
I24	16 Dec 2019	11	14.61	65.95	6.6	33.56	8.0	24.9	1.22
I24	22 Dec 2019	1	15.19	73.04	8.1	33.55	8.1	24.8	2.17
I24	22 Dec 2019	2	15.18	73.28	8.1	33.55	8.1	24.8	2.26
I24	22 Dec 2019	3	15.17	73.49	8.1	33.55	8.1	24.8	2.50
I24	22 Dec 2019	4	15.17	73.77	8.1	33.55	8.1	24.8	2.55
I24	22 Dec 2019	5	15.17	73.34	8.1	33.55	8.1	24.8	2.58
I24	22 Dec 2019	6	15.16	69.88	8.0	33.55	8.1	24.8	2.50
I24	22 Dec 2019	7	15.16	66.88	8.0	33.55	8.1	24.8	2.50
I24	22 Dec 2019	8	15.15	62.83	8.0	33.55	8.1	24.8	2.44
I24	22 Dec 2019	9	15.06	50.28	7.8	33.56	8.1	24.9	2.34
I24	22 Dec 2019	10	14.97	27.94	7.6	33.57	8.1	24.9	2.29
I25	02 Dec 2019	1	16.40	71.03	8.2	33.32	8.2	24.4	1.54
I25	02 Dec 2019	2	16.38	70.75	8.2	33.32	8.2	24.4	1.64
I25	02 Dec 2019	3	16.34	69.34	8.2	33.33	8.2	24.4	2.36
I25	02 Dec 2019	4	16.33	69.00	8.2	33.35	8.2	24.4	2.53
I25	02 Dec 2019	5	16.39	71.04	8.0	33.39	8.1	24.4	2.25
I25	02 Dec 2019	6	16.48	71.54	7.6	33.46	8.1	24.5	1.84
I25	02 Dec 2019	7	16.49	57.47	7.4	33.48	8.1	24.5	1.72
I25	02 Dec 2019	8	16.49	48.65	7.3	33.48	8.1	24.5	1.61
I25	02 Dec 2019	9	16.48	43.81	7.2	33.48	8.1	24.5	1.51
I25	09 Dec 2019	1	16.71	63.51	8.4	33.29	8.2	24.3	1.80
I25	09 Dec 2019	2	16.62	63.50	7.9	33.42	8.1	24.4	1.59
I25	09 Dec 2019	3	16.57	66.91	7.5	33.51	8.1	24.5	1.28
I25	09 Dec 2019	4	16.58	67.23	7.5	33.49	8.1	24.5	1.30
I25	09 Dec 2019	5	16.57	66.90	7.4	33.50	8.1	24.5	1.30
I25	09 Dec 2019	6	16.56	64.83	7.3	33.51	8.1	24.5	1.24
I25	09 Dec 2019	7	16.55	64.55	7.3	33.52	8.1	24.5	1.19
I25	09 Dec 2019	8	16.56	64.81	7.2	33.52	8.1	24.5	1.11
I25	16 Dec 2019	1	15.42	56.86	7.7	33.54	8.0	24.8	1.00
I25	16 Dec 2019	2	15.41	57.09	7.6	33.54	8.0	24.8	1.02
I25	16 Dec 2019	3	15.01	61.29	7.2	33.58	8.0	24.9	1.18
I25	16 Dec 2019	4	14.77	68.14	6.9	33.57	8.0	24.9	1.33
I25	16 Dec 2019	5	14.47	68.84	6.7	33.59	8.0	25.0	1.30
I25	16 Dec 2019	6	14.40	67.97	6.6	33.57	8.0	25.0	1.14
I25	16 Dec 2019	7	14.39	66.99	6.6	33.57	8.0	25.0	1.09

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I25	16 Dec 2019	8	14.38	66.38	6.6	33.57	8.0	25.0	1.09
I25	16 Dec 2019	9	14.38	65.25	6.5	33.57	8.0	25.0	1.08
I25	22 Dec 2019	1	15.22	75.11	8.2	33.55	8.1	24.8	2.39
I25	22 Dec 2019	2	15.21	75.65	8.2	33.55	8.1	24.8	2.41
I25	22 Dec 2019	3	15.20	75.77	8.2	33.55	8.1	24.8	2.58
I25	22 Dec 2019	4	15.20	75.68	8.2	33.55	8.1	24.8	2.68
I25	22 Dec 2019	5	15.20	75.37	8.2	33.55	8.1	24.8	2.78
I25	22 Dec 2019	6	15.20	75.25	8.2	33.55	8.1	24.8	2.78
I25	22 Dec 2019	7	15.20	75.26	8.2	33.55	8.1	24.8	2.83
I25	22 Dec 2019	8	15.20	74.99	8.2	33.55	8.1	24.8	2.77
I25	22 Dec 2019	9	15.20	74.74	8.2	33.55	8.1	24.8	2.69
I26	02 Dec 2019	1	16.40	68.85	8.4	33.30	8.2	24.3	1.82
I26	02 Dec 2019	2	16.35	68.42	8.5	33.30	8.2	24.4	2.43
I26	02 Dec 2019	3	16.33	67.54	8.3	33.32	8.2	24.4	3.12
I26	02 Dec 2019	4	16.38	69.27	7.7	33.39	8.1	24.4	2.82
I26	02 Dec 2019	5	16.39	65.65	7.4	33.41	8.1	24.4	2.06
I26	02 Dec 2019	6	16.39	61.44	7.3	33.42	8.1	24.4	1.69
I26	02 Dec 2019	7	16.39	58.53	7.3	33.42	8.1	24.4	1.59
I26	02 Dec 2019	8	16.40	54.96	7.3	33.42	8.1	24.4	1.58
I26	02 Dec 2019	9	16.40	46.02	7.3	33.42	8.1	24.4	1.63
I26	09 Dec 2019	1	16.78	58.07	9.4	33.22	8.2	24.2	3.18
I26	09 Dec 2019	2	16.71	57.57	8.9	33.28	8.2	24.3	4.03
I26	09 Dec 2019	3	16.70	72.06	8.2	33.48	8.1	24.4	4.53
I26	09 Dec 2019	4	16.55	81.07	7.7	33.54	8.1	24.5	2.85
I26	09 Dec 2019	5	16.50	77.46	7.6	33.53	8.1	24.5	1.77
I26	09 Dec 2019	6	16.44	73.88	7.5	33.54	8.1	24.5	1.41
I26	09 Dec 2019	7	16.44	72.87	7.4	33.54	8.1	24.5	1.28
I26	09 Dec 2019	8	16.44	72.01	7.4	33.54	8.1	24.5	1.24
I26	09 Dec 2019	9	16.44	71.49	7.5	33.54	8.1	24.5	1.20
I26	16 Dec 2019	1	15.40	58.16	7.7	33.55	8.0	24.8	0.99
I26	16 Dec 2019	2	15.37	57.44	7.7	33.55	8.0	24.8	1.08
I26	16 Dec 2019	3	15.24	59.96	7.5	33.56	8.0	24.8	1.29
I26	16 Dec 2019	4	15.01	69.91	7.2	33.55	8.0	24.9	1.36
I26	16 Dec 2019	5	14.68	72.24	6.8	33.59	8.0	25.0	1.27
I26	16 Dec 2019	6	14.31	63.94	6.5	33.58	8.0	25.0	1.08
I26	16 Dec 2019	7	14.32	61.84	6.5	33.57	8.0	25.0	1.04
I26	16 Dec 2019	8	14.31	60.10	6.5	33.57	8.0	25.0	1.08
I26	16 Dec 2019	9	14.30	57.65	6.5	33.57	8.0	25.0	1.10
I26	22 Dec 2019	1	15.29	76.76	8.3	33.55	8.1	24.8	2.52
I26	22 Dec 2019	2	15.27	77.00	8.3	33.55	8.1	24.8	2.66
I26	22 Dec 2019	3	15.27	77.06	8.3	33.55	8.1	24.8	2.80
I26	22 Dec 2019	4	15.24	76.99	8.2	33.55	8.1	24.8	2.89
I26	22 Dec 2019	5	15.21	76.35	8.2	33.55	8.1	24.8	2.92
I26	22 Dec 2019	6	15.18	76.07	8.1	33.55	8.1	24.8	2.91
I26	22 Dec 2019	7	15.15	75.64	8.1	33.55	8.1	24.8	2.85
I26	22 Dec 2019	8	15.14	75.30	8.0	33.55	8.1	24.8	2.79
I26	22 Dec 2019	9	15.13	75.35	8.0	33.55	8.1	24.8	2.75
I32	02 Dec 2019	1	16.32	54.91	9.0	33.29	8.2	24.4	7.16
I32	02 Dec 2019	2	16.34	55.53	8.9	33.29	8.2	24.4	6.13
I32	02 Dec 2019	3	16.24	53.64	9.2	33.29	8.2	24.4	9.95
I32	02 Dec 2019	4	16.17	50.75	9.3	33.28	8.2	24.4	15.61
I32	02 Dec 2019	5	16.10	55.72	8.6	33.29	8.2	24.4	9.61
I32	02 Dec 2019	6	16.09	53.07	8.1	33.30	8.1	24.4	5.88
I32	02 Dec 2019	7	16.07	49.81	8.1	33.30	8.1	24.4	5.01
I32	02 Dec 2019	8	16.04	50.56	8.1	33.29	8.1	24.4	4.01

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I32	02 Dec 2019	9	16.13	43.15	7.6	33.33	8.1	24.4	2.77
I32	02 Dec 2019	10	16.21	11.25	6.9	33.38	8.1	24.5	2.32
I32	09 Dec 2019	1	16.52	51.54	8.8	33.23	8.2	24.3	4.07
I32	09 Dec 2019	2	16.49	50.08	8.7	33.23	8.2	24.3	4.37
I32	09 Dec 2019	3	16.50	51.15	8.7	33.23	8.2	24.3	4.81
I32	09 Dec 2019	4	16.42	51.96	8.3	33.25	8.2	24.3	4.54
I32	09 Dec 2019	5	16.39	53.84	7.9	33.36	8.1	24.4	3.02
I32	09 Dec 2019	6	16.39	65.03	7.7	33.40	8.1	24.4	2.15
I32	09 Dec 2019	7	16.39	73.48	7.6	33.42	8.1	24.4	1.77
I32	09 Dec 2019	8	16.39	69.27	7.4	33.43	8.1	24.5	1.67
I32	09 Dec 2019	9	16.40	58.52	7.1	33.44	8.1	24.5	1.62
I32	09 Dec 2019	10	16.42	21.36	6.5	33.45	8.1	24.5	1.98
I32	16 Dec 2019	1	15.42	47.78	7.9	33.55	8.0	24.8	1.15
I32	16 Dec 2019	2	15.31	47.68	7.8	33.56	8.0	24.8	1.25
I32	16 Dec 2019	3	15.04	50.60	7.6	33.56	8.0	24.9	1.62
I32	16 Dec 2019	4	14.92	49.25	7.3	33.56	8.0	24.9	1.92
I32	16 Dec 2019	5	14.73	55.26	7.0	33.57	8.0	24.9	1.91
I32	16 Dec 2019	6	14.63	65.28	6.7	33.57	8.0	24.9	1.82
I32	16 Dec 2019	7	14.57	55.66	6.6	33.57	8.0	25.0	1.91
I32	16 Dec 2019	8	14.51	58.63	6.6	33.57	8.0	25.0	1.79
I32	16 Dec 2019	9	14.50	61.02	6.6	33.57	8.0	25.0	1.63
I32	16 Dec 2019	10	14.51	47.79	6.5	33.57	8.0	25.0	1.61
I32	22 Dec 2019	1	15.17	74.15	8.3	33.56	8.1	24.8	2.37
I32	22 Dec 2019	2	15.16	74.29	8.4	33.56	8.1	24.8	2.54
I32	22 Dec 2019	3	15.16	74.06	8.4	33.56	8.1	24.8	2.91
I32	22 Dec 2019	4	15.16	73.16	8.3	33.56	8.1	24.8	3.21
I32	22 Dec 2019	5	15.12	70.85	8.3	33.57	8.1	24.8	3.31
I32	22 Dec 2019	6	15.05	60.89	8.2	33.57	8.1	24.9	3.28
I32	22 Dec 2019	7	15.03	59.90	8.1	33.56	8.1	24.9	3.21
I32	22 Dec 2019	8	14.97	57.99	7.9	33.57	8.1	24.9	3.05
I32	22 Dec 2019	9	14.91	40.31	7.7	33.56	8.1	24.9	3.06
I39	02 Dec 2019	1	16.83	83.96	7.9	33.54	8.1	24.4	0.66
I39	02 Dec 2019	2	16.82	83.86	7.9	33.54	8.1	24.4	0.67
I39	02 Dec 2019	3	16.81	83.90	7.9	33.55	8.1	24.4	0.72
I39	02 Dec 2019	4	16.81	83.91	7.9	33.55	8.1	24.4	0.78
I39	02 Dec 2019	5	16.81	83.91	8.0	33.55	8.1	24.4	0.82
I39	02 Dec 2019	6	16.82	83.89	8.0	33.55	8.1	24.4	0.91
I39	02 Dec 2019	7	16.84	84.03	8.0	33.55	8.1	24.4	0.95
I39	02 Dec 2019	8	16.83	84.13	8.0	33.56	8.1	24.4	1.00
I39	02 Dec 2019	9	16.81	83.50	8.0	33.55	8.1	24.4	1.04
I39	02 Dec 2019	10	16.81	83.95	7.9	33.55	8.1	24.4	1.10
I39	02 Dec 2019	11	16.81	84.04	7.9	33.55	8.1	24.4	1.16
I39	02 Dec 2019	12	16.82	83.96	7.9	33.56	8.1	24.5	1.25
I39	02 Dec 2019	13	16.79	83.99	7.9	33.56	8.1	24.5	1.40
I39	02 Dec 2019	14	16.73	83.36	7.8	33.55	8.1	24.5	1.55
I39	02 Dec 2019	15	16.70	81.87	7.8	33.54	8.1	24.5	1.57
I39	02 Dec 2019	16	16.68	81.76	7.8	33.53	8.1	24.5	1.55
I39	02 Dec 2019	17	16.65	81.00	7.7	33.53	8.1	24.5	1.49
I39	02 Dec 2019	18	16.62	78.25	7.6	33.52	8.1	24.5	1.39
I39	09 Dec 2019	1	16.65	72.11	8.9	33.24	8.2	24.2	2.19
I39	09 Dec 2019	2	16.65	70.31	8.9	33.23	8.2	24.2	2.09
I39	09 Dec 2019	3	16.64	72.34	8.8	33.25	8.2	24.3	2.51
I39	09 Dec 2019	4	16.63	72.59	8.7	33.28	8.2	24.3	2.84
I39	09 Dec 2019	5	16.64	76.89	8.6	33.32	8.2	24.3	3.08
I39	09 Dec 2019	6	16.61	79.15	8.4	33.35	8.2	24.3	2.80
I39	09 Dec 2019	7	16.57	80.55	8.2	33.38	8.1	24.4	2.49

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I39	09 Dec 2019	8	16.53	82.37	8.0	33.45	8.1	24.4	1.99
I39	09 Dec 2019	9	16.54	84.15	7.8	33.49	8.1	24.5	1.62
I39	09 Dec 2019	10	16.55	84.71	7.7	33.51	8.1	24.5	1.44
I39	09 Dec 2019	11	16.56	85.05	7.7	33.52	8.1	24.5	1.36
I39	09 Dec 2019	12	16.56	85.05	7.7	33.52	8.1	24.5	1.27
I39	09 Dec 2019	13	16.55	85.19	7.7	33.53	8.1	24.5	1.23
I39	09 Dec 2019	14	16.55	85.30	7.7	33.53	8.1	24.5	1.24
I39	09 Dec 2019	15	16.52	85.48	7.6	33.54	8.1	24.5	1.18
I39	09 Dec 2019	16	16.47	85.41	7.6	33.55	8.1	24.5	1.10
I39	09 Dec 2019	17	16.38	83.53	7.5	33.56	8.1	24.6	1.05
I39	09 Dec 2019	18	16.23	79.97	7.3	33.55	8.1	24.6	0.94
I39	16 Dec 2019	1	15.97	82.94	8.1	33.52	8.1	24.6	0.75
I39	16 Dec 2019	2	15.95	82.91	8.1	33.52	8.1	24.6	0.76
I39	16 Dec 2019	3	15.91	82.44	8.1	33.52	8.1	24.6	0.82
I39	16 Dec 2019	4	15.80	82.00	8.0	33.52	8.1	24.7	0.94
I39	16 Dec 2019	5	15.77	81.51	8.0	33.52	8.1	24.7	1.07
I39	16 Dec 2019	6	15.74	81.40	8.0	33.52	8.1	24.7	1.15
I39	16 Dec 2019	7	15.71	81.45	8.0	33.52	8.1	24.7	1.28
I39	16 Dec 2019	8	15.72	81.54	8.0	33.52	8.1	24.7	1.41
I39	16 Dec 2019	9	15.68	81.58	8.0	33.52	8.1	24.7	1.54
I39	16 Dec 2019	10	15.66	81.68	7.9	33.52	8.1	24.7	1.59
I39	16 Dec 2019	11	15.61	81.76	7.9	33.52	8.1	24.7	1.72
I39	16 Dec 2019	12	15.56	81.93	7.9	33.52	8.1	24.7	1.77
I39	16 Dec 2019	13	15.53	82.11	7.9	33.52	8.1	24.7	1.82
I39	16 Dec 2019	14	15.47	82.15	7.8	33.53	8.1	24.7	1.83
I39	16 Dec 2019	15	15.41	82.09	7.8	33.53	8.1	24.8	1.83
I39	16 Dec 2019	16	15.36	81.98	7.7	33.53	8.1	24.8	1.81
I39	16 Dec 2019	17	15.24	81.57	7.6	33.54	8.1	24.8	1.74
I39	16 Dec 2019	18	15.03	81.44	7.4	33.56	8.0	24.9	1.56
I39	22 Dec 2019	1	15.47	81.32	8.3	33.54	8.1	24.7	1.67
I39	22 Dec 2019	2	15.46	81.75	8.3	33.54	8.1	24.7	1.71
I39	22 Dec 2019	3	15.46	81.80	8.3	33.54	8.1	24.7	1.76
I39	22 Dec 2019	4	15.46	81.83	8.3	33.54	8.1	24.7	1.83
I39	22 Dec 2019	5	15.46	81.90	8.3	33.54	8.1	24.7	1.84
I39	22 Dec 2019	6	15.46	81.88	8.3	33.54	8.1	24.7	1.86
I39	22 Dec 2019	7	15.46	81.79	8.2	33.54	8.1	24.7	1.91
I39	22 Dec 2019	8	15.44	81.70	8.2	33.54	8.1	24.8	1.97
I39	22 Dec 2019	9	15.43	81.03	8.2	33.54	8.1	24.8	2.09
I39	22 Dec 2019	10	15.41	80.55	8.2	33.55	8.1	24.8	2.07
I39	22 Dec 2019	11	15.39	80.01	8.2	33.55	8.1	24.8	2.14
I39	22 Dec 2019	12	15.36	79.34	8.1	33.55	8.1	24.8	2.10
I39	22 Dec 2019	13	15.32	78.36	8.0	33.55	8.1	24.8	2.00
I39	22 Dec 2019	14	15.21	77.15	7.9	33.56	8.1	24.8	1.97
I39	22 Dec 2019	15	15.13	75.48	7.8	33.56	8.1	24.8	2.25
I39	22 Dec 2019	16	15.04	72.82	7.8	33.57	8.1	24.9	2.23
I39	22 Dec 2019	17	15.01	68.96	7.7	33.56	8.1	24.9	1.99
I39	22 Dec 2019	18	15.01	66.89	7.7	33.56	8.1	24.9	1.90
I40	02 Dec 2019	1	16.32	28.83	7.9	33.31	8.1	24.4	1.47
I40	02 Dec 2019	2	16.31	28.39	7.9	33.31	8.1	24.4	1.78
I40	02 Dec 2019	3	16.30	28.28	7.9	33.31	8.1	24.4	2.17
I40	02 Dec 2019	4	16.29	28.35	7.9	33.31	8.1	24.4	2.20
I40	02 Dec 2019	5	16.28	29.20	7.8	33.31	8.1	24.4	2.18
I40	02 Dec 2019	6	16.26	31.09	7.7	33.32	8.1	24.4	2.13
I40	02 Dec 2019	7	16.25	32.93	7.5	33.34	8.1	24.4	2.05
I40	02 Dec 2019	8	16.25	33.89	7.3	33.36	8.1	24.4	1.97
I40	02 Dec 2019	9	16.25	19.92	7.2	33.39	8.1	24.5	1.92
I40	02 Dec 2019	10	16.25	11.93	7.2	33.40	8.1	24.5	1.85

Station	Date	Depth (m)	Temp (°C)	XMS (‰)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I40	09 Dec 2019	1	16.65	5.89	7.8	31.48	8.0	22.9	3.85
I40	09 Dec 2019	2	16.57	10.36	7.8	33.11	8.1	24.2	3.59
I40	09 Dec 2019	3	16.56	10.51	7.7	33.23	8.1	24.3	2.98
I40	09 Dec 2019	4	16.54	11.34	7.3	33.26	8.1	24.3	2.37
I40	09 Dec 2019	5	16.51	11.20	6.8	33.32	8.1	24.3	1.79
I40	09 Dec 2019	6	16.49	16.62	6.3	33.44	8.0	24.4	1.31
I40	09 Dec 2019	7	16.49	17.47	6.1	33.46	8.0	24.5	1.06
I40	09 Dec 2019	8	16.50	13.14	5.9	33.47	8.0	24.5	0.99
I40	09 Dec 2019	9	16.50	9.80	5.9	33.47	8.0	24.5	1.00
I40	09 Dec 2019	10	16.51	7.52	5.8	33.47	8.0	24.5	1.07
I40	16 Dec 2019	1	15.49	52.69	7.6	33.53	8.0	24.7	1.24
I40	16 Dec 2019	2	15.46	52.25	7.5	33.53	8.0	24.7	1.42
I40	16 Dec 2019	3	15.41	51.56	7.5	33.54	8.0	24.8	1.85
I40	16 Dec 2019	4	15.34	50.20	7.5	33.54	8.0	24.8	2.14
I40	16 Dec 2019	5	15.32	46.22	7.5	33.54	8.0	24.8	2.29
I40	16 Dec 2019	6	15.29	43.49	7.5	33.54	8.0	24.8	2.37
I40	16 Dec 2019	7	15.24	42.08	7.5	33.54	8.0	24.8	2.21
I40	16 Dec 2019	8	15.22	41.10	7.4	33.54	8.0	24.8	2.03
I40	16 Dec 2019	9	15.19	38.85	7.2	33.55	8.0	24.8	1.86
I40	16 Dec 2019	10	14.95	21.79	6.7	33.57	8.0	24.9	1.75
I40	22 Dec 2019	1	14.90	48.05	8.5	33.20	8.1	24.6	1.89
I40	22 Dec 2019	2	14.97	49.79	8.5	33.40	8.1	24.7	2.07
I40	22 Dec 2019	3	15.00	53.60	8.4	33.52	8.1	24.8	2.28
I40	22 Dec 2019	4	15.01	55.02	8.4	33.56	8.1	24.9	2.33
I40	22 Dec 2019	5	15.01	54.61	8.4	33.56	8.1	24.9	2.34
I40	22 Dec 2019	6	15.01	53.91	8.4	33.56	8.1	24.9	2.29
I40	22 Dec 2019	7	15.01	53.29	8.4	33.56	8.1	24.9	2.30
I40	22 Dec 2019	8	15.00	47.79	8.3	33.56	8.1	24.9	2.28
I40	22 Dec 2019	9	14.94	39.52	8.2	33.57	8.1	24.9	2.30

NA = not available

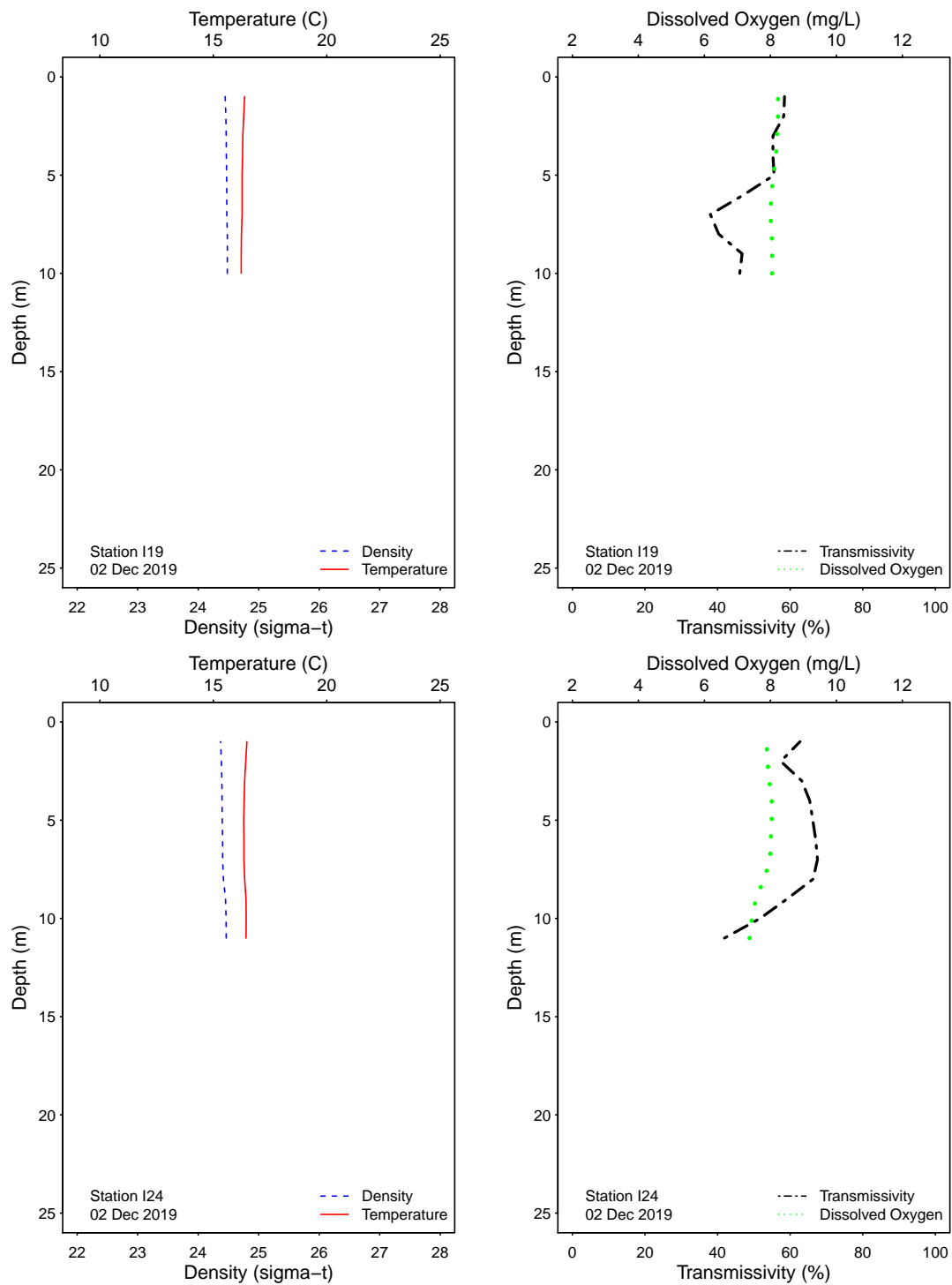


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

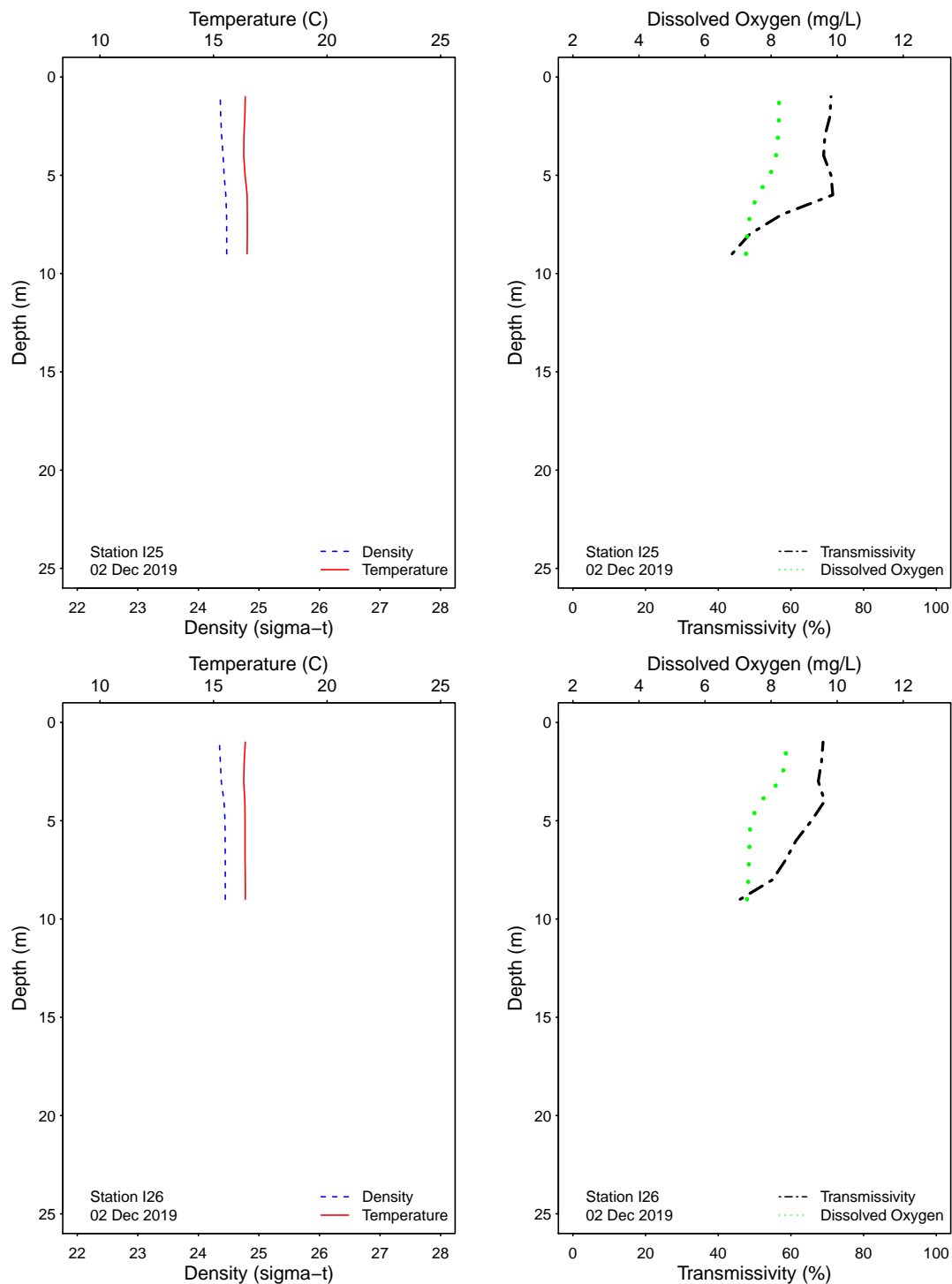


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

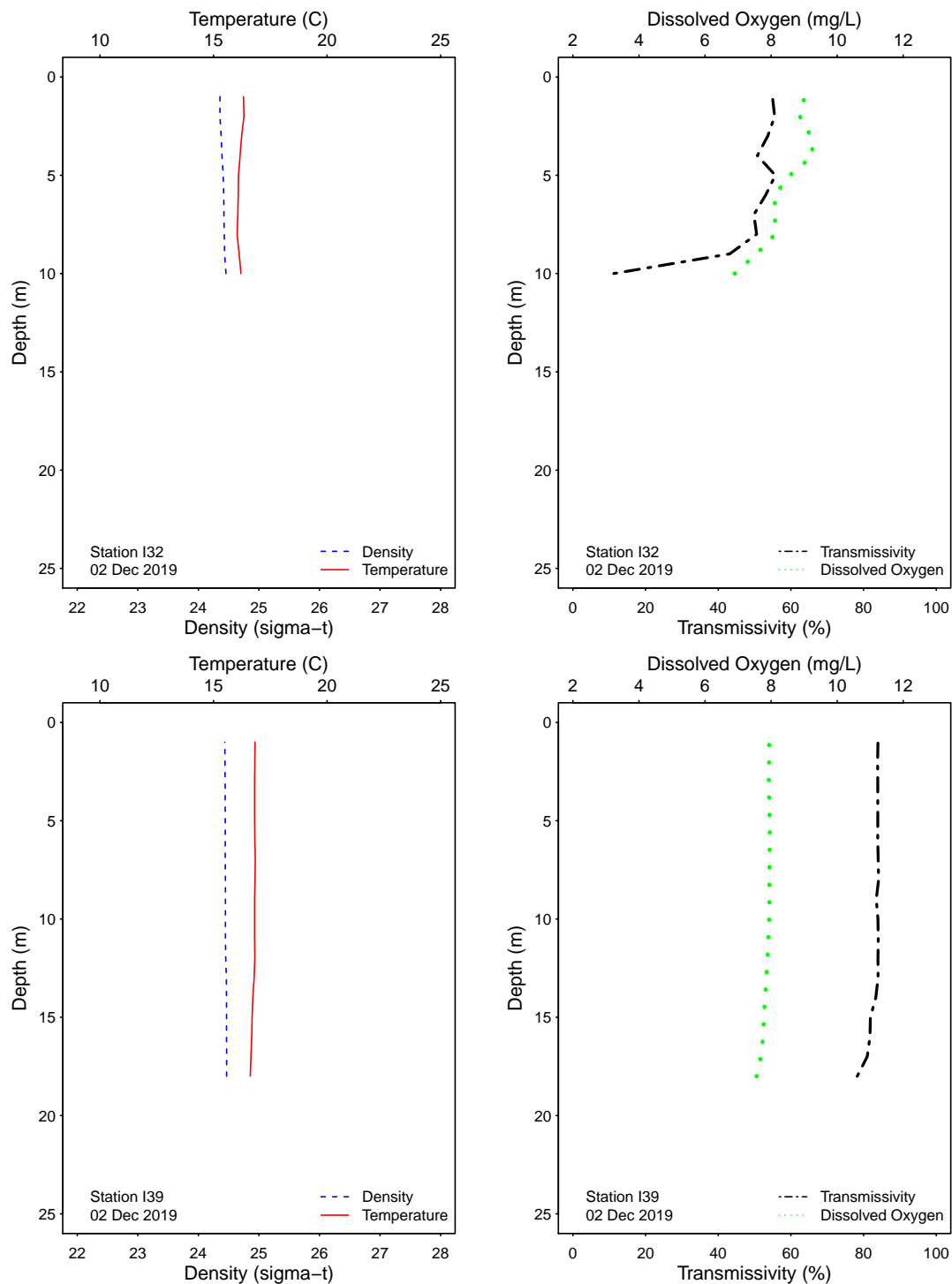


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

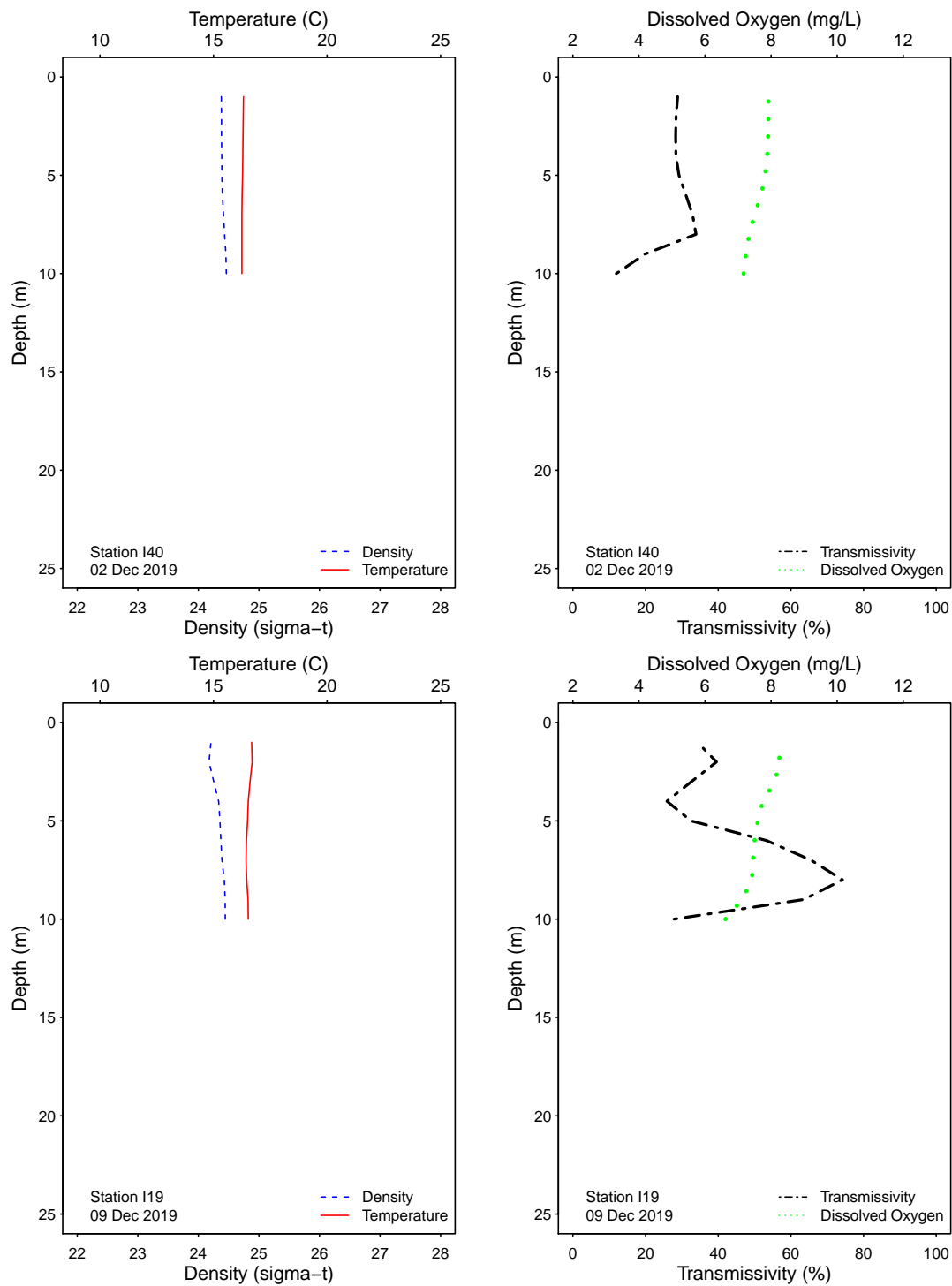


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

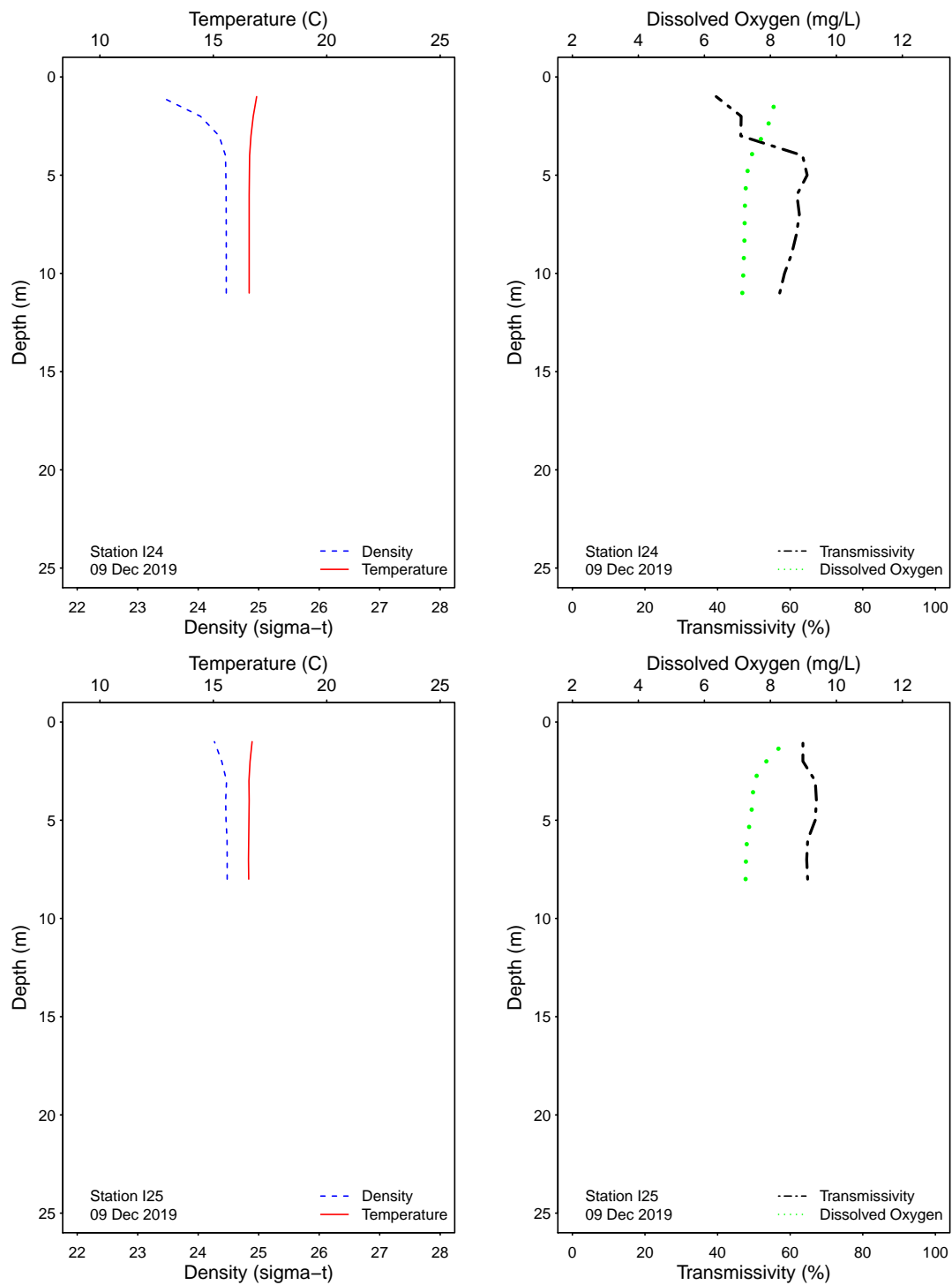


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

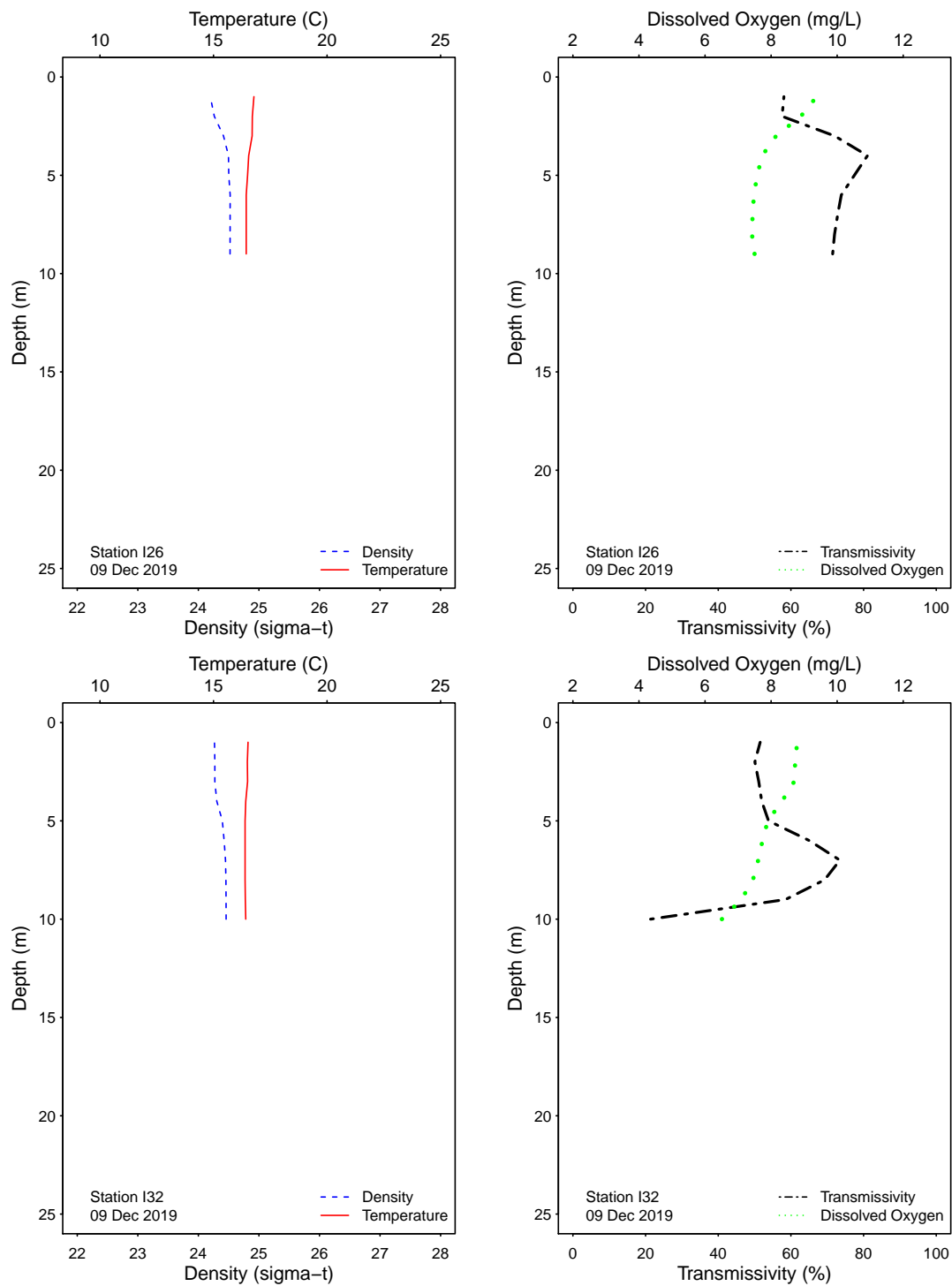


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

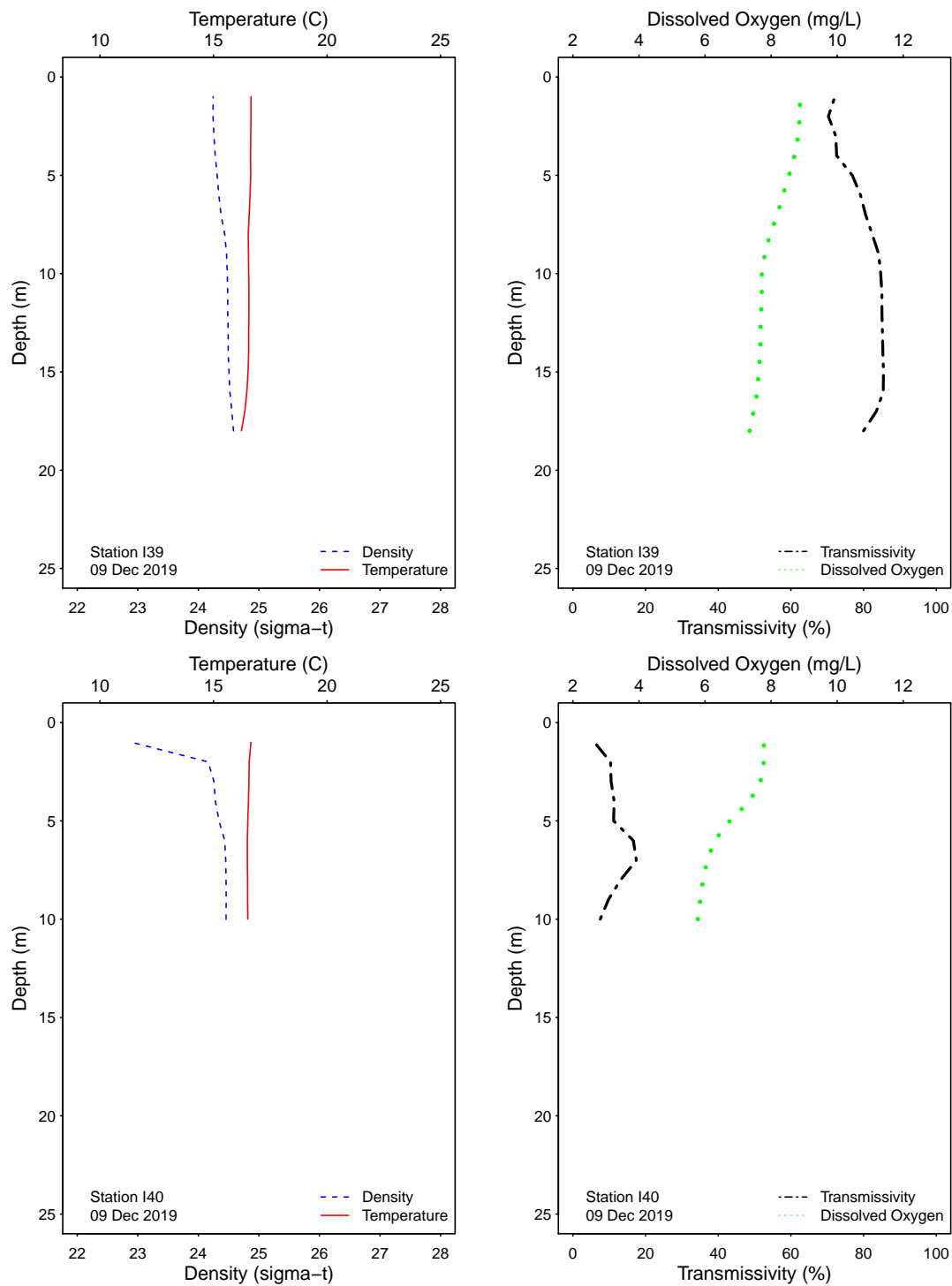


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

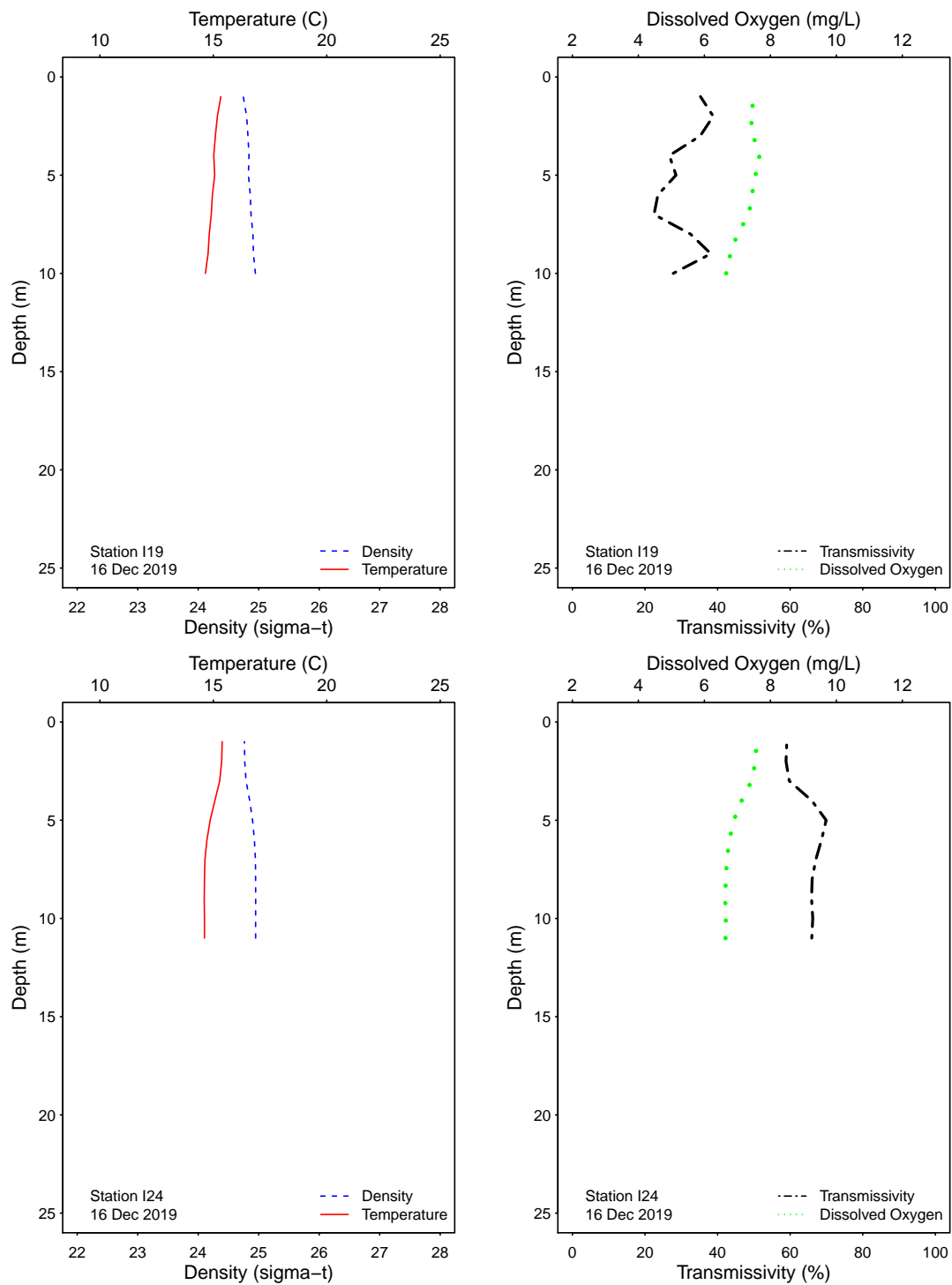


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

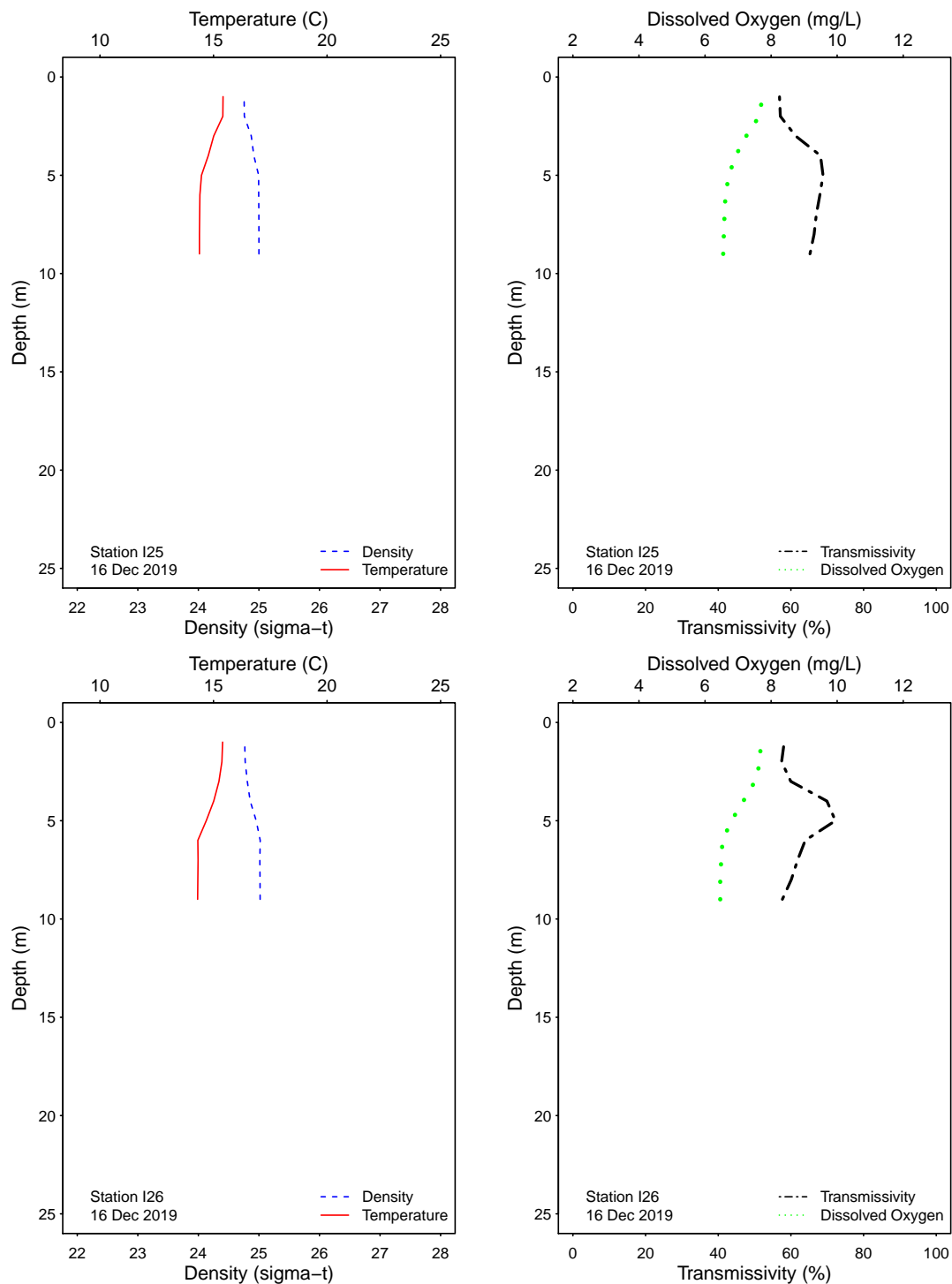


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

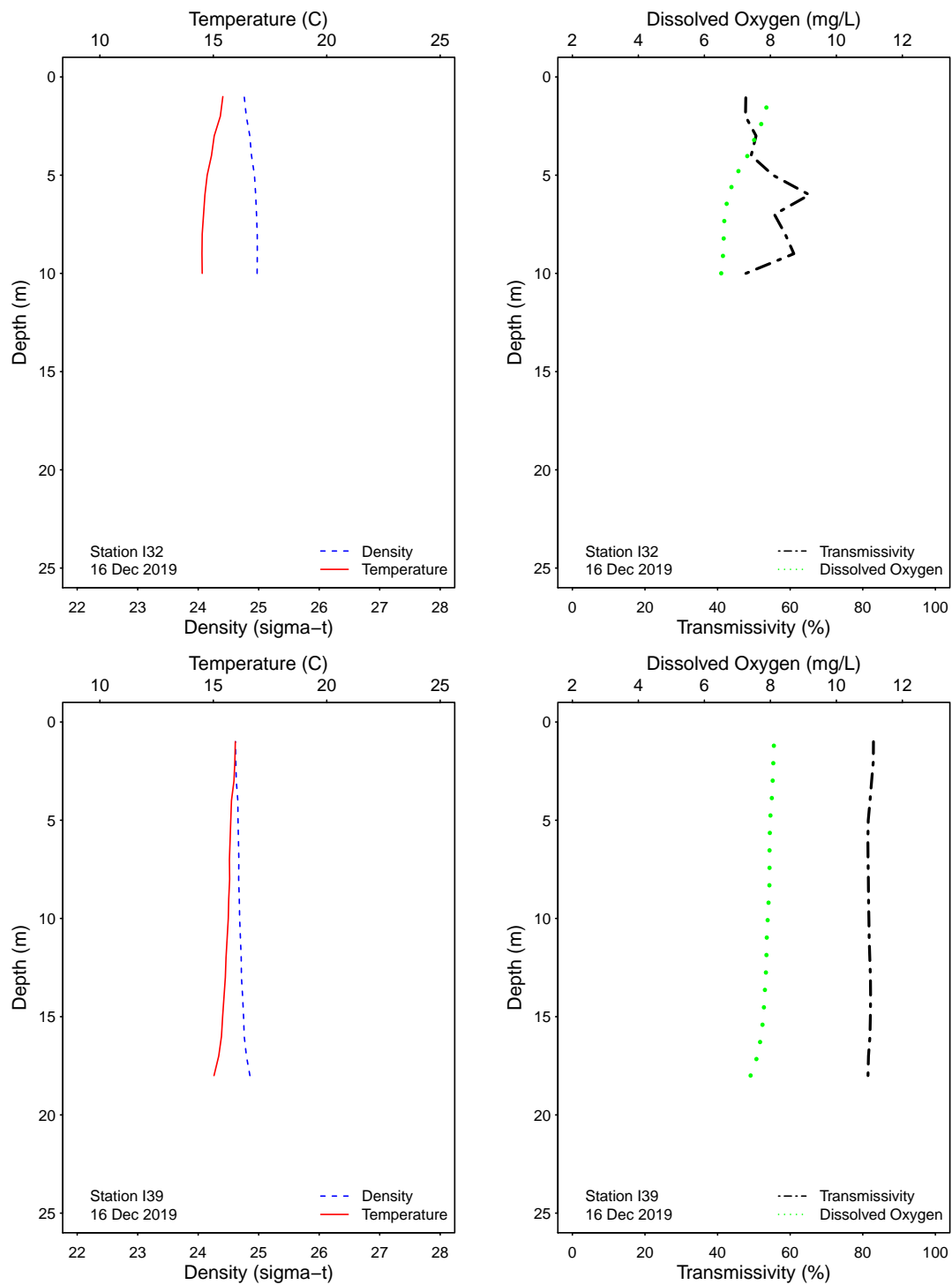


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

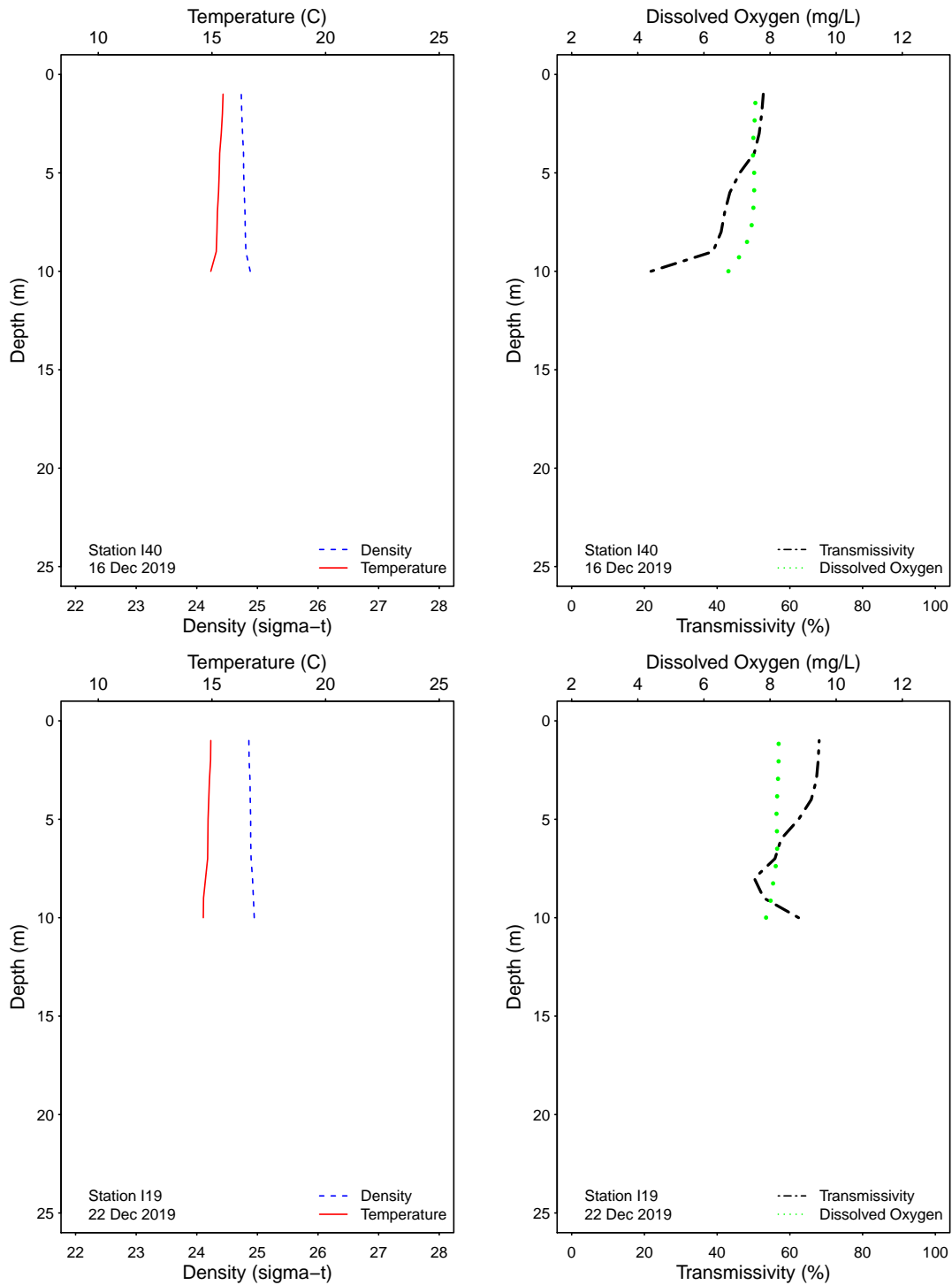


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

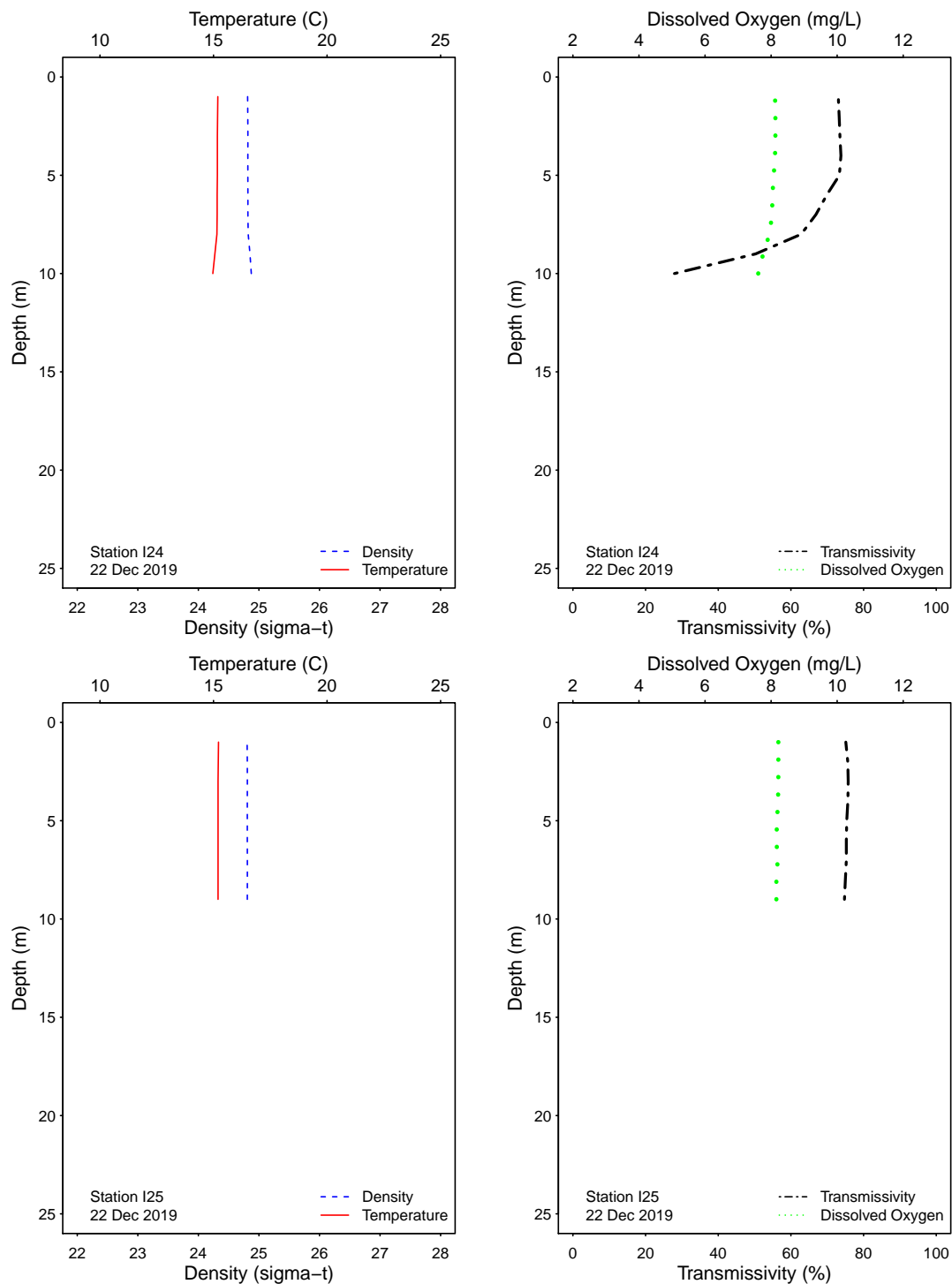


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

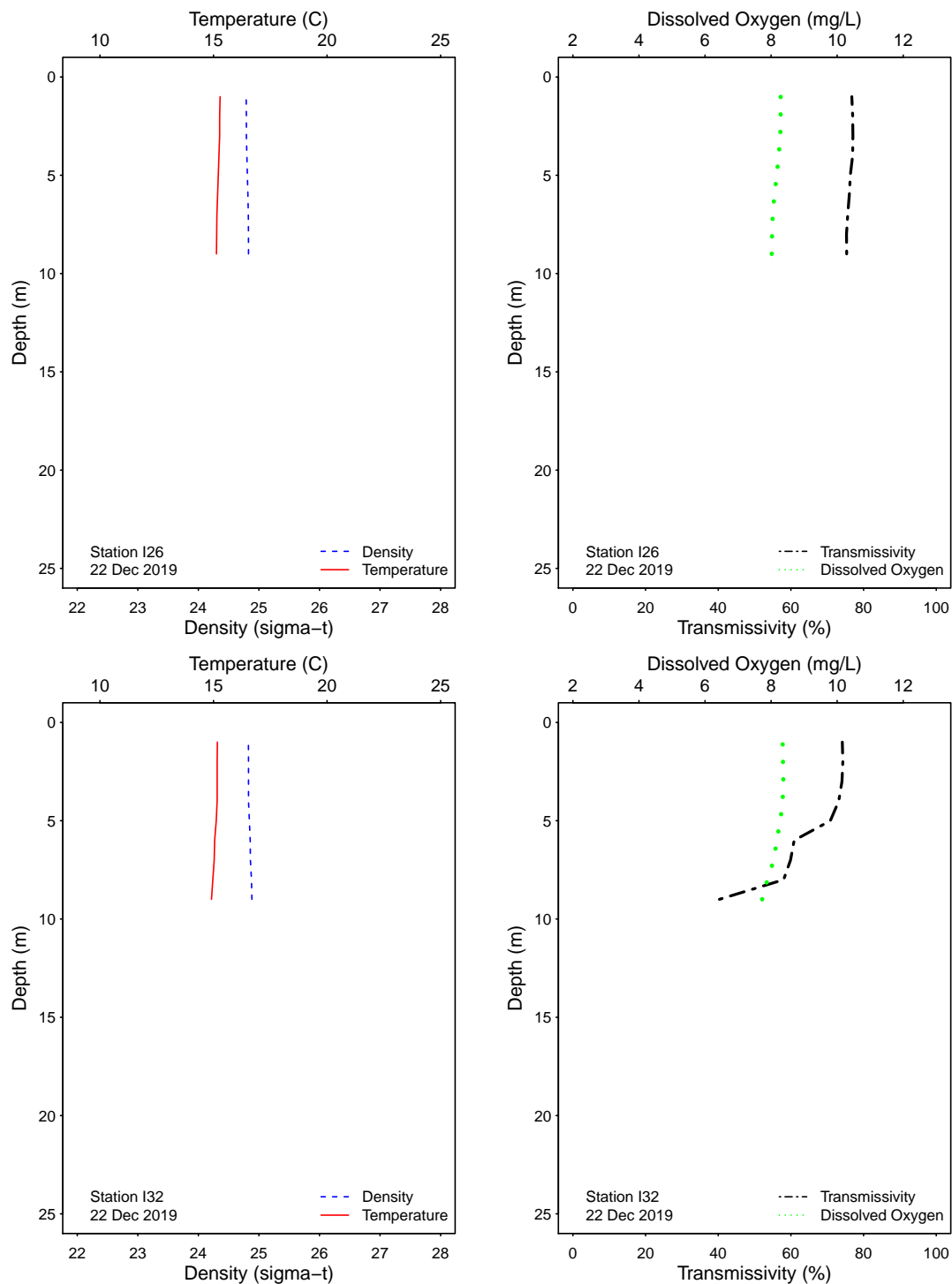


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

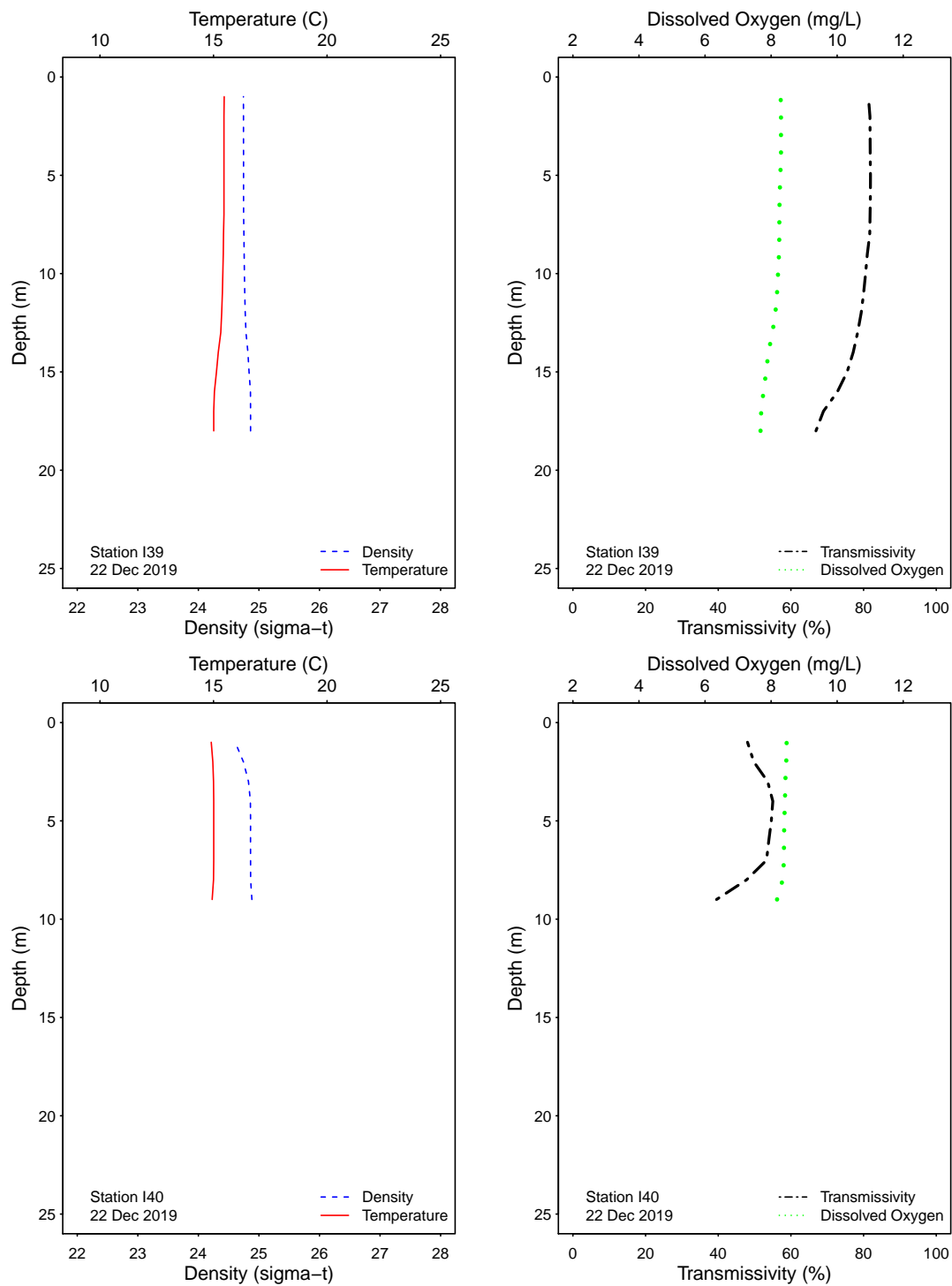


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

Summary of bacteriological quality assurance field and lab duplicate sample analyses at selected SBOO stations. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Entero) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Entero
I19	02 Dec 2019	6	JT	LAB DUPLICATE	600e	120e	500
I19	09 Dec 2019	6	JF	LAB DUPLICATE	1200e	320e	160e
I19	16 Dec 2019	6	JF	LAB DUPLICATE	6200	960	240e
I19	22 Dec 2019	6	LMA	LAB DUPLICATE	3200e	600e	120e
I40	02 Dec 2019	6	JT	LAB DUPLICATE	>16000	3000e	740
I40	09 Dec 2019	6	JF	LAB DUPLICATE	6000	580	820
I40	16 Dec 2019	6	JF	LAB DUPLICATE	20e	8e	16e
I40	22 Dec 2019	6	BS	LAB DUPLICATE	2200e	900	340e
S12	03 Dec 2019		AE	FIELD DUPLICATE	180e	<20	40
S12	03 Dec 2019		AE	LAB DUPLICATE	120e	40e	48
S12	09 Dec 2019		AE	FIELD DUPLICATE	1400e	110	160e
S12	09 Dec 2019		AE	LAB DUPLICATE	1600e	110	100e
S12	17 Dec 2019		AR	FIELD DUPLICATE	<20	<2	<2
S12	17 Dec 2019		AR	LAB DUPLICATE	<2	<2	<2
S12	23 Dec 2019		AE	FIELD DUPLICATE	4600	980	760
S12	23 Dec 2019		AE	LAB DUPLICATE	6200	800	600
S12	30 Dec 2019		AE	FIELD DUPLICATE	<20	<4	32e
S12	30 Dec 2019		AE	LAB DUPLICATE	32e	4e	12e

ns = not sampled

ND = no data

