Region 9 Enforcement Division
75 Hawthorne Street
San Francisco, CA 94105

Inspection Date(s):	August 20, 2019 and August 21, 2019	
Time:	**Entry, Exit:** 11:05am, 1:30pm	**Entry, Exit:** 11:00am, 2:00pm
Media:	Water	
Regulatory Program(s)	Clean Water Act NPDES	
Company Name:	Dos Cuadras Offshore Resources, LLC (DCOR)	
Facility or Site Name:	Platform C and Platform B	
Facility/Site Physical Location:	Platform C, Pacific Ocean Lease OCS-P 0241	
Geographic Coordinates:	LAT 34.332925, LONG -119.630767	
Mailing address:	290 Maple Court, Suite 290 Ventura, CA 93003	
Facility/Site Contact:	Jay Rao	**Title**: Environmental Engineer
	Phone: 805-535-2078	**Email**: jrao@dcorllc.com
Facility/Site Identifier:	NPDES Permits CAG280000 and CAF001300 and CAF001157	
NAICS:	211111 - Crude petroleum and natural gas extraction	
SIC:	1311	

Facility/Site Personnel Participating in Inspection:

Name	Affiliation	Title	Email
Jay Rao	DCOR	Environmental Engineer	jrao@dcorllc.com
Ron Worrell	DCOR	Lead Operator (Platform C)	rworrell@dcorllc.com
Tom Samples	DCOR	Lead Operator (Platform B)	Not provided

EPA Inspector(s):

Michael Weiss	US EPA	Environmental Engineer	Weiss.Michael@epa.gov
Adam Howell	US EPA	Environmental Engineer	Howell.Adam@epa.gov

Inspection Report Author:	Michael Weiss	415-947-5470
		Date:
Supervisor Review:	Eric Magnan ERIC MAGNAN Digitally signed by ERIC MAGNAN Date: 2019.10.18 13:18:54 -07'00'	415-947-4179
		Date:

ED_006450_00012193-00001

SECTION I – INTRODUCTION

I.1 Purpose of the Inspection

On August 20, 2019, Michael Weiss and Adam Howell from the U.S. EPA Region 9 Enforcement Division (hereafter, we or inspection team) conducted a Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) inspection of the DCOR, LLC (DCOR or Discharger) – Platform C (hereafter, Facility or Platform) offshore oil and gas platform. The purpose of the inspection was to evaluate compliance with the requirements of the EPA Region 9 NPDES Permit Nos. CAG280000 and CAF001300 (hereafter, Permit). On August 21, 2019, the inspection team also visited Platform B (NPDES Permit Nos. CAG280000 and CAF001157) to observe how produced water (Discharge 002) is treated and discharged.

During the inspection we evaluated the accuracy and reliability of the Discharger's self-monitoring and reporting program and the Facility onsite generated waste streams, treatment processes, and discharges to the Pacific Ocean. The announced inspection consisted of two parts: a records review and a general Facility walk through. The onsite Facility Representatives were Jay Rao (Environmental Engineer, DCOR) and Ron Worrell (Lead Operator, Platform C), and later on Tom Samples (Lead Operator, Platform B). Upon arriving at the Platforms on August 20 and August 22, 2019, we met with the Facility Representatives, and presented our CWA credentials and explained the purpose of the inspection.

SECTION II – FACILITY / SITE DESCRIPTION

II.1 Facility Description

Platform C is located in the Santa Barbara Channel and produces oil and gas from the Dos Cuadras Field (Lease OCS-P-0240). The Platform was first installed in February 1977 and began production in August 1977. Platform C is approximately 5.7 miles from land, has 60 well slots, and is at a water depth of 192 feet. As of October 1, 2017, Platform C has a cumulative oil production of 19,166,000 bbls (barrels) and cumulative gas production of 10,764,000 mcf (thousand cubic feet).

At the time of the inspection, the Facility was in "production" operations, actively recovering hydrocarbons from the field formation. According to Facility Representatives at the time of the inspection, the Facility is producing approximately 450 bbls of oil per day. Facility Representatives stated that at the time of the inspection, the following NPDES discharges occur or may occur from the Facility:

- Deck Drainage (Discharge 004)
- Sanitary and Domestic Wastes (Discharge 005)
- Desalination Unit Wastes (Discharge 007)
- Fire Control System Water (Discharge 008)

II.2 Wastewater Sources

Note the discharge number (i.e., Discharge 002) referenced throughout this report refers to the type of wastewater discharged at the corresponding outfall point as designated in the Permit. A general description of the process train(s) for each of the above-mentioned discharges is described below:

Produced water (Discharge 002) is water (brine) associated with the extraction of oil and gas from the hydrocarbon-bearing strata which may include formation water, injection water, oil emulsions, and any chemicals added downhole or during the oil/water separation process. Produced water and oil and gas is routed to two-phase production separators. According to Facility Representatives produce water (also known as gross fluid) is not discharged from Platform C, but instead the produced water is pumped to Platform B where the produced water is separated from the oil and then injected back into the production well for enhanced oil recovery (EOR). Any oil or natural gas separated on Platform C is piped off the platform via designated pipelines.

Deck drainage (washdown, rainwater, drip pan and work area drains – Discharge 004) is collected throughout the platform via floor drains into two sump tanks on the Subdeck. The top most platform level (Drill Deck) and next level (Production Deck) are where the majority of oil related operations occur and are enclosed with berms and floor trenches that flow to the two sump tanks on the Subdeck. The sump tanks operate via automatic level sensors that pump all deck drainages into the two-phase production separators with the produced water. Facility Representatives stated that there is no discharge of Deck drainage at Platform C.

Sanitary Wastewater (Discharge 005) is treated onsite at the Facility with a redFox environmental marine sanitation device (MSD) Fox Pac Model No. RF-500-FP, which is United States Coast Guard (USCG) approved (Photograph 3). The treated water is discharged (Discharge 005) to the Pacific Ocean via a pipe (refer to Photograph 4). The onsite Facility representatives stated that the daily discharge water flow rate is estimated based on the number of people on the platform and the time spent per person. The MSD unit is sized for a maximum of 500 gallons per day (gpd).

Desalination (i.e., reverse osmosis) unit wastewater (Discharge 007) is generated during the process of creating freshwater from saltwater. According to onsite Facility representatives, the desalination unit (Photograph 2) only provides water to sinks and showers at the Facility. The desalination unit wastewater is discharged without treatment and was actively being discharged at a high velocity (Photograph 5).

Fire control system water (seawater released during training, testing, and maintenance of fire protection equipment – Discharge 008) is composed of pure seawater that is constantly circulating throughout the Platform. The Fire control water is discharged without treatment and was actively being discharged at a high velocity (Photograph 7).

II.3 Wastewater Treatment

Sanitary wastewater (Discharge 005) is the only wastewater stream to be treated onsite at Platform C. Discharge 005 is treated via a redFox MSD (Photograph 3). The self-contained treatment system is composed of an aeration chamber, flocculation, solids settling, media filtration, and disinfection. The Platform uses liquid bleach (sodium hypochlorite) for disinfection and checks the chlorine residual daily. Facility Representatives state the MSD is serviced annually by a contractor.

Domestic and Sanitary Wastes (Discharge 005), Footnote 2, of the Permit states "any facility which properly operates and maintains a marine sanitation device (MSD) that was certified by the United States Coast Guard (USCG) under Section 312 of the Act shall be deemed to be in compliance with permit limitations for sanitary wastes and the requirements for total residual chlorine do not apply."

On August 21, 2019, the inspection team visited Platform B (NPDES Permit Nos. CAG280000 and CAF001157) to observe how produced water (Discharge 002) is treated and disposed. Produced water, oil, and gas is routed to three-phase production separators. The produced water then goes to further treatment in two mechanical induced gas floatation WEMCO oil and water separators that are operated in series. The WEMCO oil and water separators are located on the drill deck. Following the WEMCO units, produced water is filtered through a 10-micron filter, and then pumped to 500 PSI (pounds per square inch) pressure.

The Discharger conducts internal process monitoring for oil and grease in produced water after filtration via continuous inline turbidity measurement utilizing a HACH Surface Scatter 7 sc turbidimeter (Photograph 9). At the time of the inspection, we observed the continuous inline turbidity measurement of produced water to be 5.43 nephelometric turbidity units (NTUs). The Facility representatives stated that there is an alarm (visual and audible) that activates when the inline turbidity monitor exceeds 15 NTU and 20 NTU. The Facility representatives stated that these set points were to ensure the produced water (Discharge 002) did not exceed the monthly average and daily maximum oil and grease Permit effluent limits of 29 mg/L and 42 mg/L, respectively.

According to Facility Representatives, the pressurized treated produced water is then re-injected into the oil formation through approximately 11 water injection wells. If there is too much treated produced water to be injected, the produced water is discharged to the Pacific Ocean via a submerged outfall. The produced water (Discharge 002) NPDES sampling point is located after the turbidimeter near a diversion valve (Photograph 10). The inspection team did not witness the Facility take produced water effluent samples as the produced water was being re-injected.

II.4 Compliance History

Platform C Discharge Monitoring Reports (DMRs) reviewed by the inspection team did not

indicate any reported effluent violations during the period of review (January 2016 through July 2019). During that time period there were no reported discharges of produced water (Discharge 002) or deck drainage (Discharge 004) except for on 1/31/2016, during which 3.25 bbls/day were discharged but there was no sheen present. All other sources of wastewater discharge (sanitary, desalination, and fire control system) were in compliance. It should be noted that the Sanitary waste, residual chlorine DMR values are always recorded as 1 mg/L (minimum) and 2 mg/L (maximum) for every month.

Platform B DMRs for produced water (Discharge 002) reviewed by the inspection team did not indicate any reported effluent violations during the period of review (January 2016 through July 2019). According to the DMRs, Platform B discharged produced water in 27 months at an average volume of 6196 bbls/day. The oil and grease values for the monthly average and daily maximum were all below the discharge limits (Table 6 of General Permit CAG280000).

The produced water effluent passed all required annual toxicity tests (7 Day Chronic Atherinops affinis, 48Hr Chronic Haliotis rufescens, and 48Hr Chronic Macrocystis pyrifera). Annual tests for benzo[a]pyrene, benzo[k]fluoranthene, and benzo[b]fluoranthene (Table B-2 of General Permit CAG280000) were reported as below detection limit (except benzo[k]fluoranthene on 2/28/2019 measured at 30 parts per trillion).

SECTION III – OBSERVATIONS

1. During the Platform B walk through, we observed drilling operations on the Drill Deck. According to Facility Representatives, drilling operations began 3 months ago. Drilling mud is hauled off the Platform and taken to Anterra, an oilfield waste management company, specifically the Oxnard Class 2 Disposal Facility in Ventura County.

2. The NPDES permit, daily reports, and DMRs were all well organized and readily available on an electronic share drive accessible on the Platform.

3. We observed the natural gas, separated oil, and gross fluid pipelines leaving the Platform (Photograph 6).

4. We observed the Facility's leak detection response flow chart (Photograph 8) regarding standard operating procedures if there is a pipeline leak alarm.

5. The discharge from the MSD on Platform C was cloudy and brown (Photograph 4).

SECTION IV – AREAS OF CONCERN

The presentation of areas of concern does not constitute a formal compliance determination or violation.

1. There was rust and corrosion present throughout the Platform. While this is to be expected in a harsh marine environment, the Facility should ensure that the corrosion does not negatively impact that operations of the Platform and its ability to comply with the Clean Water Act.

2. The discharge from the MSD was cloudy and brown (Photograph 4). Facility Representatives stated the MSD is serviced annually by a contractor. Facility representatives should provide documentation for the last three years of MSD calibrations on Platform C and evaluate if there are any issues with the treatment unit.

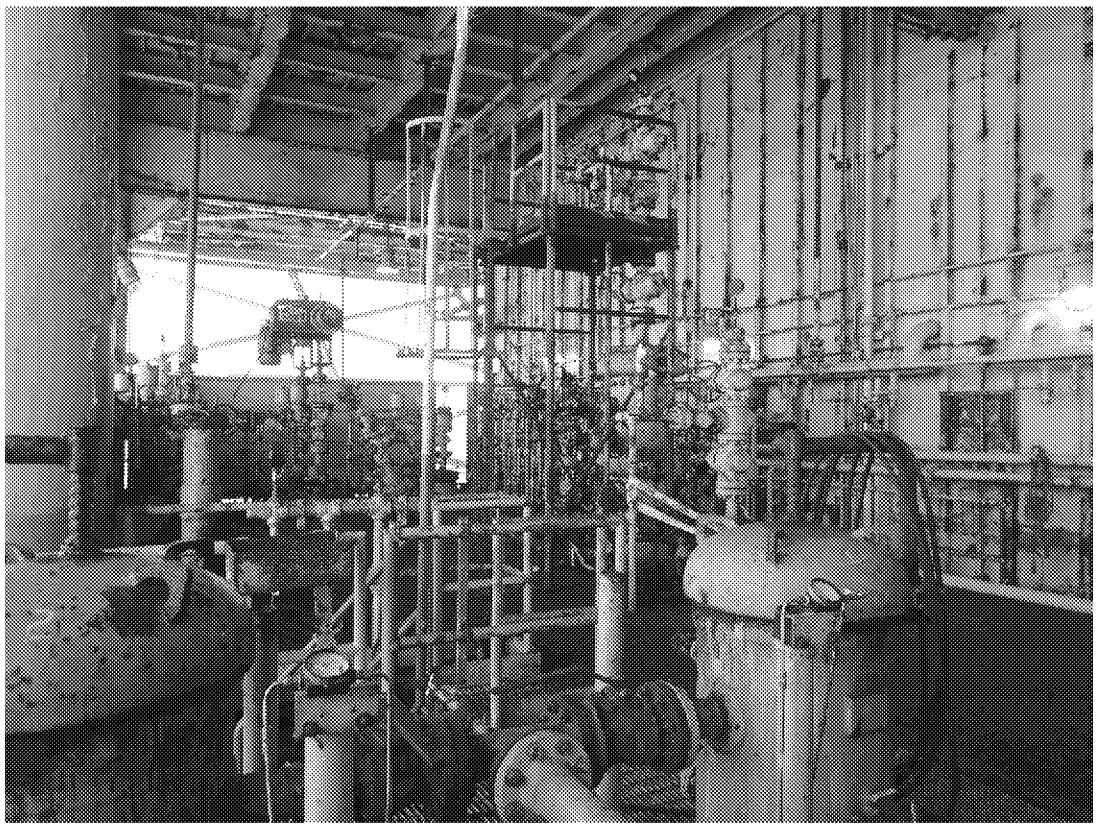
3. Facility representatives should provide documentation for the last three years of inline turbidimeter calibrations on Platform B.

SECTION V – DOCUMENTS REQUESTED DURING INSPECTION AND ANALYTICAL RESULTS

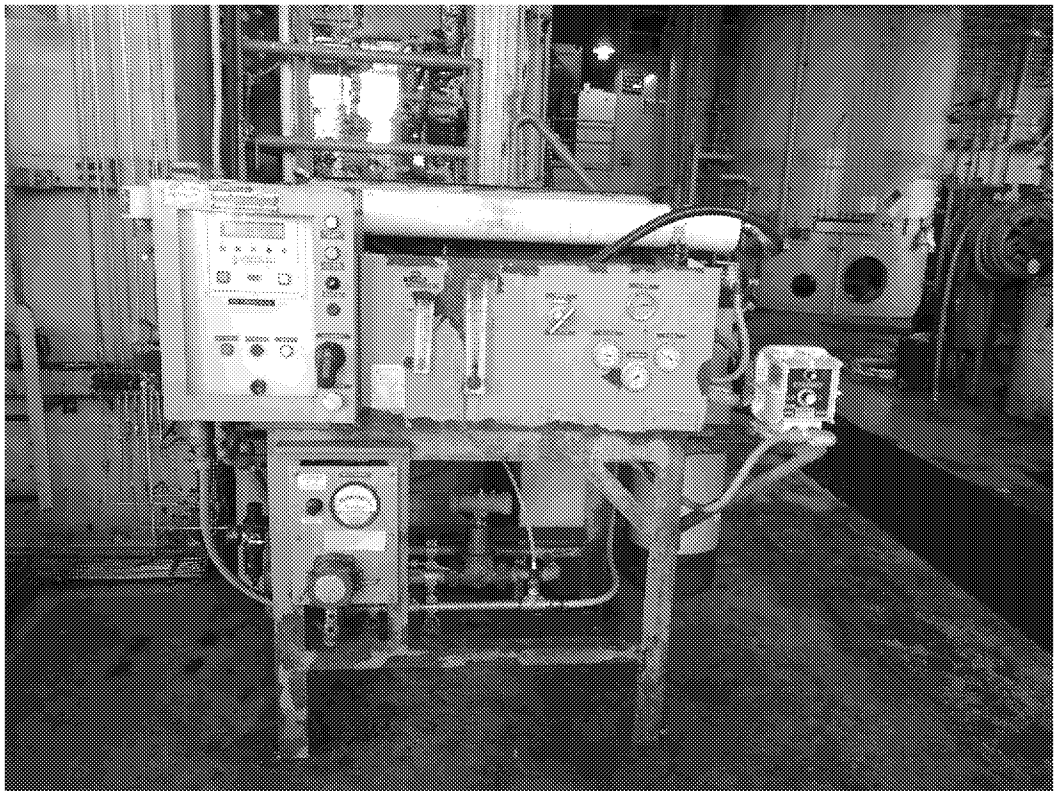
APPENDICES

Appendix 1 – Photograph Log

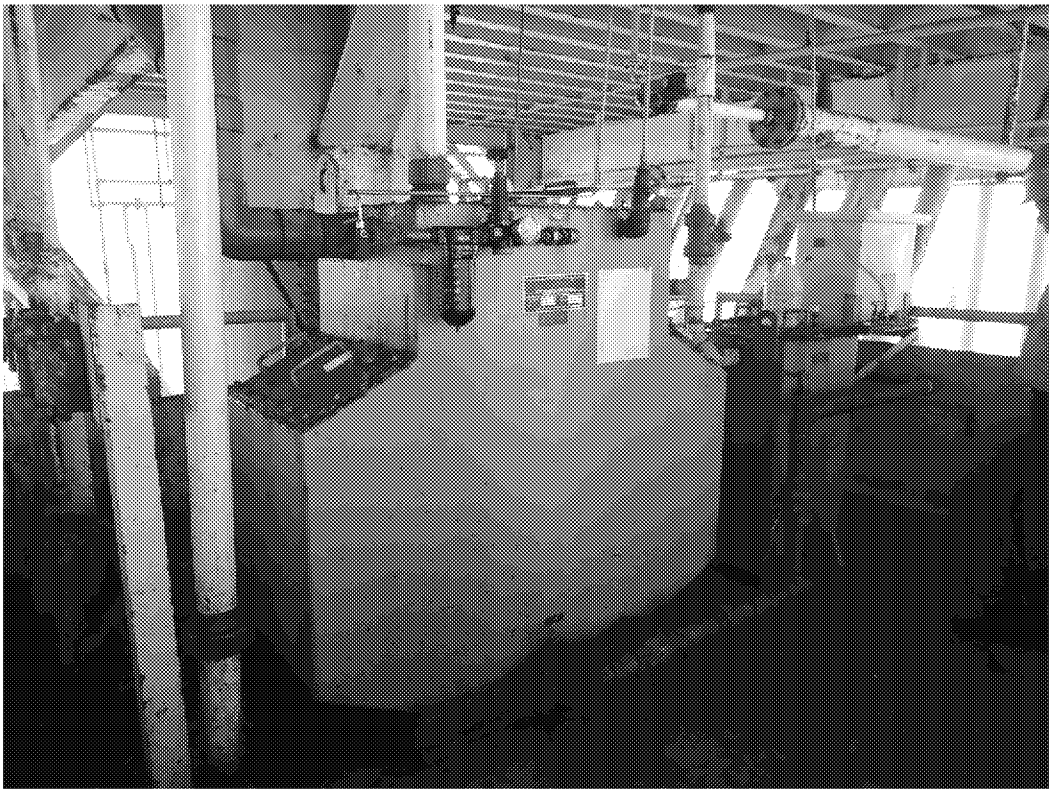
The photographs were taken during the inspection by Adam Howell using an Olympus Tough TG-5 Digital Camera. Original copies of the photos are maintained by EPA Region 9.



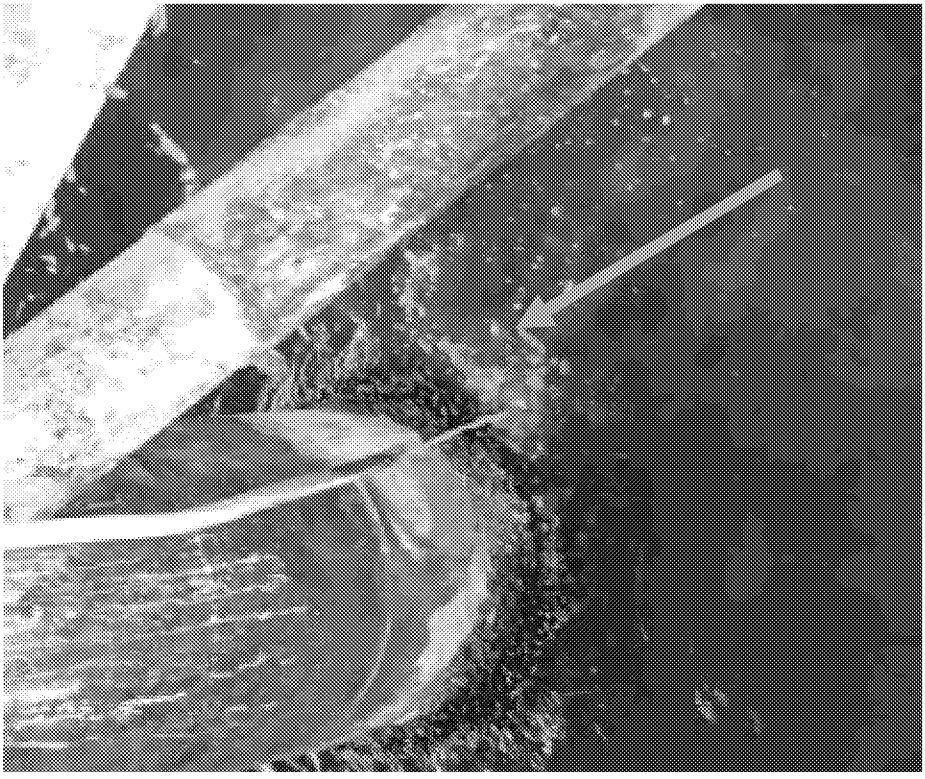
Photograph 1: Production Deck



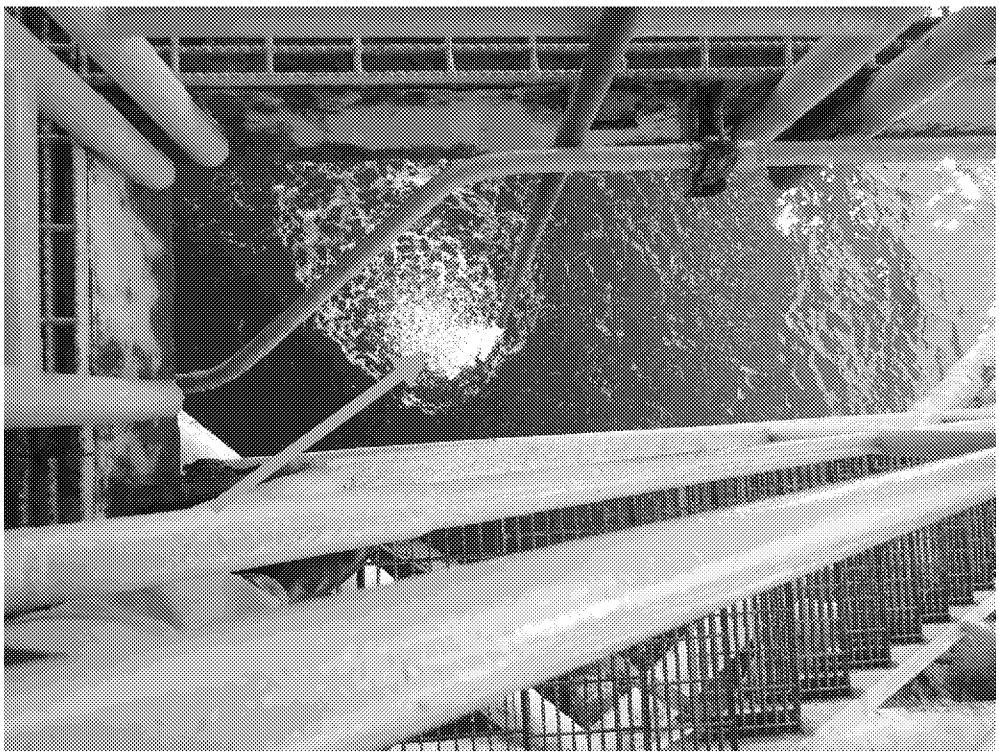
Photograph 2: Desalination reverse osmosis (RO) water treatment system



Photograph 3: RedFox Marine Sanitation Device



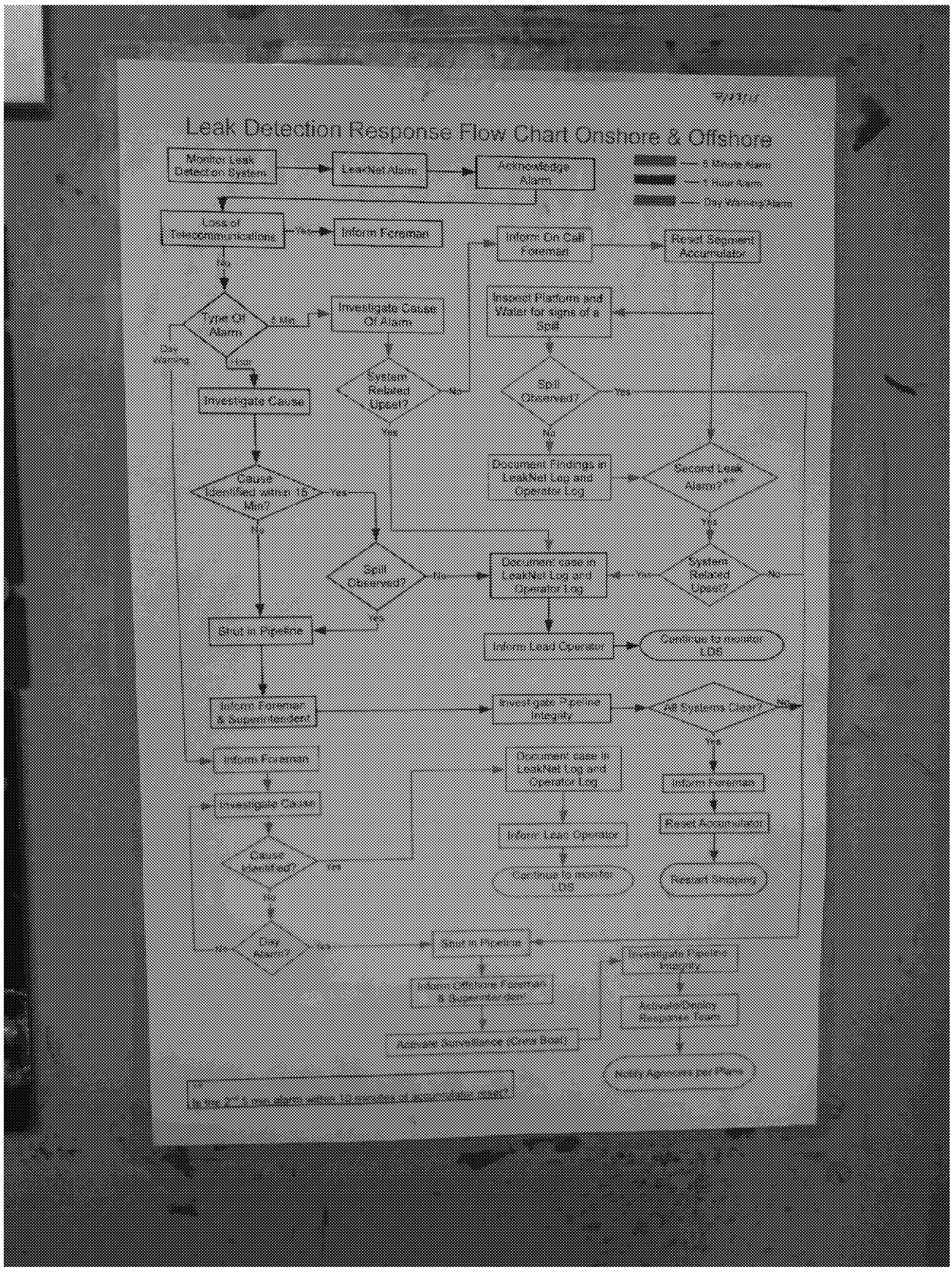
Photograph 4: Marine Sanitation Device discharge



Photograph 5:Discharge pipe of RO reject

Photograph 6: Gross fluid, oil, and natural gas pipelines (from left to right) leaving the Platform

Photograph 7: Fire Control wastewater discharge



Photograph 8: Leak detection response flow chart

Photograph 9: Continuous inline turbidimeter on Platform B

Photograph 10: The produced water (Discharge 002) NPDES sampling point on Platform B