

From: [Eng, Sherri R CIV USN NAVFAC HAWAII PEARL \(USA\)](#)
To: [Kwan, Roxanne S](#)
Cc: [Takaba, Richard R](#); [Shende, Anay](#); [Myers, Hugh](#); [Fujimoto, Dayna K CIV USN NAVFAC HAWAII PEARL \(USA\)](#)
Subject: [EXTERNAL] RE: Confirmed Release Notification, Hotel Pier, Release ID NO. 210011 - Initial Site Characterization Report/Free Product Removal Report
Date: Friday, September 10, 2021 1:25:22 PM
Attachments: [image001.gif](#)
[Kwanltr_InitialSiteCharacterization_10Sept_signed.pdf](#)
[2021Sep_RH_HPier_InitSiteCharRpt_final.pdf](#)
[Kwan_Free Product Removal_10Sept2021_signed.pdf](#)

Roxanne,
Attached in the Initial Site Characterization and Free Product Removal reports for Hotel Pier, UST Release ID NO. 21011. A hard copy is being sent via certified mail.

Very Respectfully,

Sherri R. Eng
NAVFAC Hawaii Environmental Business Line Leader
Navy Region Hawaii Environmental Program Manager (N45)
400 Marshall Road
JBPHH, HI 96860-3139
Office: 808-471-3858
Cell: (b) (6)

From: Eng, Sherri R CIV USN NAVFAC HAWAII PEARL (USA)
Sent: Monday, August 2, 2021 1:57 PM
To: 'Kwan, Roxanne S' <(b) (6)>
Cc: Takaba, Richard R <(b) (6)> Shende, Anay <(b) (6)> Myers, Hugh <(b) (6)> Fujimoto, Dayna K CIV USN NAVFAC HAWAII PEARL (USA) <(b) (6)>
Subject: RE: Confirmed Release Notification, Hotel Pier, Release ID NO. 210011 - Initial Abatement Measures and Site Assessment

Roxanne,
Attached in the Initial Abatement Measures and Site Assessment for Hotel Pier, UST Release ID NO. 21011. A hard copy is being sent via certified mail.

Very Respectfully,

Sherri R. Eng
NAVFAC Hawaii Environmental Business Line Leader
Navy Region Hawaii Environmental Program Manager (N45)
400 Marshall Road
JBPHH, HI 96860-3139

Office: 808-471-3858

Cell: (b) (6)

From: Eng, Sherri R CIV USN NAVFAC HAWAII PEARL (USA)

Sent: Wednesday, July 14, 2021 4:22 PM

To: 'Kwan, Roxanne S' <(b) (6)>

Cc: Takaba, Richard R <(b) (6)> Shende, Anay

<(b) (6)> Myers, Hugh <(b) (6)> Fujimoto, Dayna K
CIV USN NAVFAC HAWAII PEARL (USA) <(b) (6)>

Subject: Confirmed Release Notification Form, Hotel Pier, Release ID NO. 210011

Roxanne,

Attached is the Confirmed Release Notification Form for Hotel Pier, UST
Release ID NO. 21011. A hard copy is being sent via certified mail.

Very Respectfully,

Sherri R. Eng

NAVFAC Hawaii Environmental Business Line Leader

Navy Region Hawaii Environmental Program Manager (N45)

400 Marshall Road

JBPHH, HI 96860-3139

Office: 808-471-3858

Cell: (b) (6)



DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
JBPHH, HAWAII 96860-5101

5000-45A
N45
September 10, 2021

CERTIFIED NO: 9489 0090 0027 6232 9872 90

Ms. Roxanne Kwan
Hawaii State Department of Health
Solid and Hazardous Waste Branch
Underground Storage Tank Section
2827 Waimano Home Road #100
Pearl City, Hawaii 96872

Dear Ms. Kwan:

**SUBJECT: INITIAL SITE CHARACTERIZATION REPORT, HOTEL PIER
DOH FACILITY ID NO. 9-102271, DOH RELEASE ID NO. 210011
DOH HEER INCIDENT RELEASE CASE NOS. 2020317-0914 AND 20200602-1345**

As requested in DOH letter U0711HM of June 30, 2021, the Navy is providing information on the initial site characterization related to the fuel release from the defuel pipeline at Hotel Pier on Joint Base Pearl Harbor-Hickam. The Navy is submitting an Initial Site Characterization Report as Enclosures 1 and 2.

If there are any questions regarding this matter, or if more information is needed, please contact me at (808) 471-3858.

Sincerely,

SHERRI R. ENG
Director
Regional Environmental Department
By direction of the
Commander

- Enclosures: 1. Initial Site Characterization Report, Hotel Pier, DOH Facility ID No. 9-102271, DOH Release ID No. 210011 of August 2021 (hard copy)
2. Initial Site Characterization Report, Hotel Pier, DOH Facility ID No. 9-102271, DOH Release ID No. 210011 of August 2021 (CD)

Hard Copy to: Mr. John Floyd, NAVSUP FLC Pearl Harbor

Electronic Copy (sent via email) to:
Ms. Gabriela Carvalho, U.S. EPA Region 9, Red Hill Coordinator
Mr. John Reed, DLA Energy Pacific

Initial Site Characterization Report

Hotel Pier

JBPHH, O‘ahu, Hawai‘i

DOH Facility ID No. 9-102271
DOH Release ID No. 210011

September 2021

Prepared by:



Commander
Navy Region Hawaii
Environmental Department, Code N45
850 Ticonderoga Street, Suite 110
JBPHH, Hawaii 96860-5101

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Executive Summary

Navy Region Hawaii (NRH) prepared this Initial Site Characterization Report in accordance with the State of Hawai‘i Department of Health (DOH) Technical Guidance Manual, and in response to the DOH release response letter dated June 30, 2021 for the Hotel Pier. The objective of this report is to describe the actions taken by the Navy between March 17, 2020 and August 13, 2021 in response to the fuel released from the defuel pipeline.

The Navy continues to perform work to recover residual oil from the ground, mitigate migration of oil to the water, and recover any oil that does reach the water. Ongoing release response actions include the following:

- Recovery of residual free product through the observation wells (OWs) via absorbent socks, continuously, to mitigate the migration of any residual oil to the water.
- Evaluation of field observations to determine if additional OWs are needed to prevent oil from reaching the water.
- Installation of ocean boom around the site to collect any free product that goes into the ocean.

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Acronyms and Abbreviations

DOH	State of Hawai‘i, Department of Health
F-24	NATO-grade F-24 jet fuel
F-76	marine diesel fuel
HAR	Hawai‘i Administrative Rules
HEER	State of Hawaii, Department of Health, Hazard Evaluation and Emergency Response Office
JBPHH	Joint Base Pearl Harbor-Hickam
JP-5	jet fuel propellant number
L	liter
mg/L	milligram per liter
NATO	North Atlantic Treaty Organization
NAVSUP FLC	Naval Supply Systems Command Fleet Logistics Center
NRH	Navy Region Hawaii
OW	observation well
ppm	parts per million
VOC	volatile organic compound
VS-3	Valve Station 3

1.0 Introduction

As required by Hawai'i Administrative Rules (HAR) 11-280.1-63, Initial Site Characterization, this Report presents the following information:

- 1) Nature and estimated quantity of release;
- 2) Information from available sources and all previous site investigations concerning the following factors: surrounding populations, water quality, use and approximate locations of wells potentially affected by the release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use;
- 3) Results of the site assessment required under HAR section 11-280.1-62(a)(5)

This report presents a summary of the site characterization activities performed through August 13, 2021 in response to the fuel release at Hotel Pier located at Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i. The report presents field observations available as of August 13, 2021.

1.1 Statement of Purpose

Site characterization activities were performed to address a fuel release observed at Hotel Pier.

1.2 Previous Reports

The following documents were previously submitted to DOH:

- Confirmed Release Notification for fuel release from Hotel Pier enclosed with Navy Region Hawaii (NRH) letter dated July 14, 2021
- Initial Abatement Measures and Site Assessment Report, in NRH letter dated August 2, 2021

2.0 Background

A description of the site is presented below.

2.1 Site Description

Hotel Pier has been used as a refueling hub since World War II for conventional refueling of large naval vessels. Previous investigations identified free-phase product floating on the groundwater in the area of Valve Station 3 (VS-3), which is located at the north of Arizona Street and beneath Neosho Avenue (Figure 1). A release of oil to surface water was reported to the DOH Hazard Evaluation and Emergency Response Office (HEER) on March 17, 2020 and June 2, 2020.

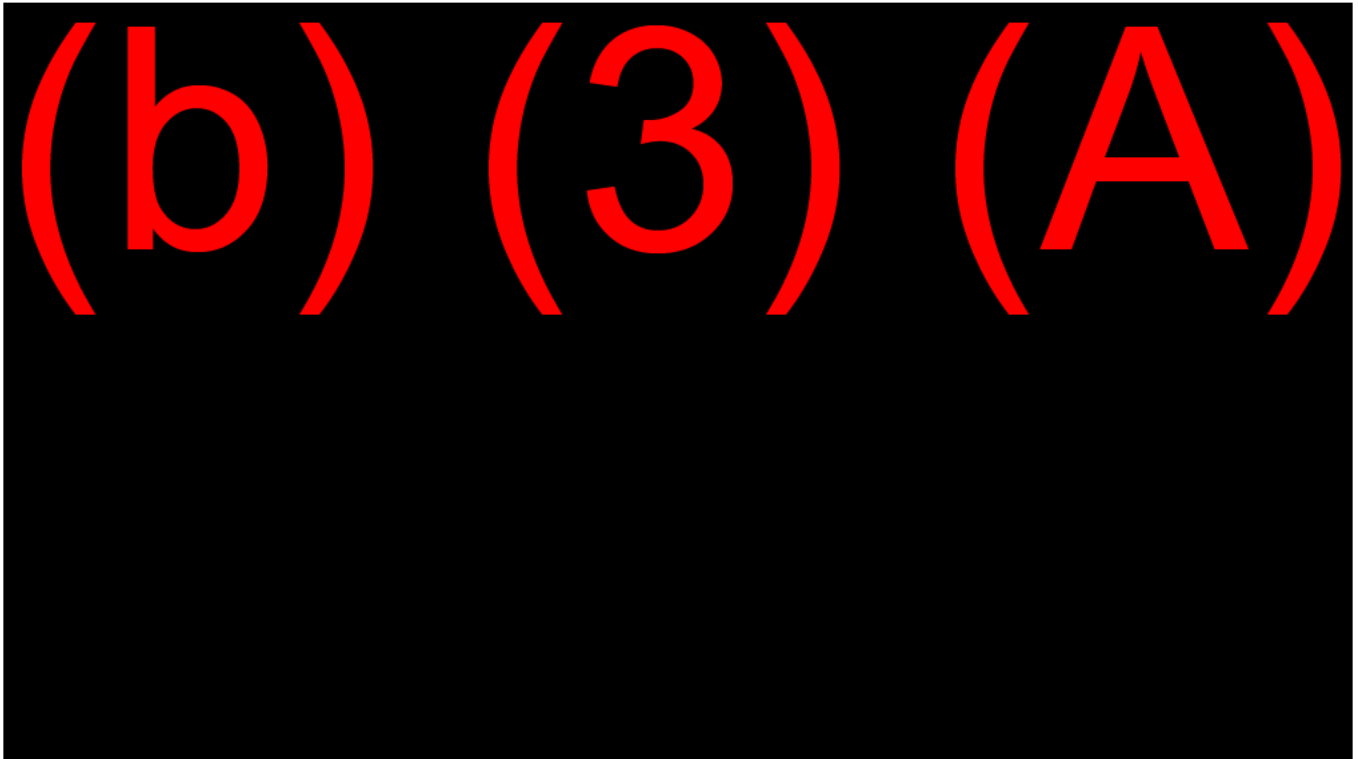


Figure 1 – Site Map

2.1.1 Climate

Climatological conditions in the area consist of warm to moderate temperatures and low to moderate rainfall. The average annual precipitation is approximately 40 inches, which occurs mainly between November and April (Giambelluca, Nullet, and Schroeder 1986). Average temperatures range from the low 60s to high 80s (degrees Fahrenheit) (Juvik and Juvik 1998).

2.1.2 Soils/Geology

The Hotel Pier area is mostly fill material. The predominant soil types are silt, silty sand, and silty gravel (Ogden, 1997).

2.1.3 Surface Water

The nearest surface water bodies are Pearl Harbor and Hālawā Stream, which is an ephemeral stream present along the north side of the pier.

2.1.4 Groundwater

The depth to the groundwater varies from 5 to 8 feet below ground surface. Hotel Pier is located in the Waimalu Aquifer System of the Pearl Harbor Aquifer Sector. The underlying aquifer is classified as a basal, unconfined, flank-type and is not currently used as a drinking water source, but is ecologically important.

2.2 Pipeline Information

The defuel pipeline was a multi-product line operated by Naval Supply Systems Command (NAVSUP) Fleet Logistics Center (FLC) Pearl Harbor (formerly Fleet and Industrial Supply Center) and contained Jet Fuel Propellant No. 5 (JP-5), North Atlantic Treaty Organization (NATO)-grade F-24 jet fuel (F-24), or Marine Diesel Fuel (F-76). The pipeline has been inactive since January 2021.

3.0 Summary of Investigation History

In response to the fuel release, temporary response boom systems were installed and divers were deployed to locate the areas in which oil was leaking into the water through the seawall. The dive team deployed a booming strategy and repaired areas in the deteriorated sheet-pile sea wall that were allowing migration of free product into the harbor water.

The team then dug interception trenches and observation wells (OWs) to search for the source and remove the product prior to it reaching the water.

Oil was recovered from the surface of the trenches, and remaining oil and water was pumped to an oil/water separator up slope from the source. The oil was skimmed and recovered from the separator. Treated groundwater was then transferred from the oil/water separator to an injection trench. The reintroduced, treated groundwater caused the subsurface oil to travel towards the intercepting trenches (east to west). The process continued until little to no oil was being recovered. At that point, the trenches were discontinued and backfilled. The OWs that had historically produced oil were left in place, and absorbent socks were inserted into them to continue to passively recover remaining oil and prevent it from reaching the water.

Volatile organic compounds (VOCs) were measured for the purpose of safety of personnel working in the trenches. The vast majority of digging and work occurred at ground level where the VOCs were 0-1 part per million (ppm).

4.0 Field Activities

The depth of free product was measured within the observation wells from April 22 to July 28, 2021. Measurements were taken using detecting paste and a tank measuring stick. Free product measurements are included as Appendix A.

On July 28, absorbent socks were placed into the wells as free product quantities had decreased to such a level that vacuum recovery was no longer an effective and efficient method to remove free product from the wells.

5.0 Field Observations

No changes were observed in free product accumulation or movement since the trenches were closed. Small amounts of free product continue to accumulate in some of the OWs.

6.0 Summary of Results and Extent and Magnitude of Contamination

Field measurements are ongoing and pending completion.

7.0 Conclusions and Recommendations

As data gathering and data evaluation are ongoing, no conclusions or recommendations are presented in this report. Any conclusions and recommendations, if appropriate, will be presented in a subsequent report after evaluating field observations.

8.0 References

- Giambelluca, T. W., M. A. Nullet, and T. A. Schroeder. 1986. *Rainfall Atlas of Hawaii*. Report R76. Honolulu, HI: Department of Land and Natural Resources, Division of Water and Land Development. June.
- Juvik, S. P., and J. O. Juvik, eds. 1998. *Atlas of Hawaii*. Honolulu, HI: University of Hawaii Press.
- Mink, John F., and L. Stephen Lau. 1990. *Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii*. Technical Report No. 179. Honolulu, HI: University of Hawaii, Water Resources Research Center. November 1987; rev. February 1990.
- Ogden Environmental and Energy Services, Inc. 1997. *Remedial Investigation Report*.

Appendix A – Free Product Measurements

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Free Product Measurements
Hotel Pier

Date	4/22		4/23		4/26		4/27		4/28		4/29	
Location	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color
OW2	0.25	L/M	0.00	--	0.00	--	0.38	L/M	0.38	L/M	0.25	NO
OW3	4.25	D	0.38	D	3.38	D	0.88	D	1.00	NO	2.25	NO
OW4	0.13	D	0.00	--	0.13	D	0.00	--	0.13	--	0.00	--
OW5	0.50	L/M	0.00	--	0.75	M	0.00	--	0.00	--	0.00	--
OW6	0.25	L/M	0.00	--	0.00	--	0.00	--	0.00	--	0.13	NO
OW7	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW8	4.75	D	0.50	D	6.00	D	2.50	D	4.00	D	1.00	NO
OW9	NA	NA	NA	NA	NA	NA	0.50	D	0.50	NO	0.25	NO
OW10	NA	NA	NA	NA	NA	NA	0.38	D	0.88	NO	2.13	NO
OW14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
K111	1.00	D	0.50	M	0.13	L/M	0.00	--	0.00	--	1.00	NO

Notes:

-- Insufficient free product to ascertain color

D - dark

L - light

M- medium

NA - Not applicable

NO - Color Not Observed

Blue highlight indicates OWs that the NOSC Rep wants to close

Free Product Measurements

Hotel Pier

Date	5/3		5/4		5/5		5/6		5/7		5/10	
Location	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color
OW2	0.25	M	1.00	M	0.88	M	1.00	D	0.88	D	0.88	D
OW3	7.75	D	1.25	D	2.88	D	3.25	D	3.88	D	4.38	D
OW4	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW5	0.00	--	0.00	--	0.75	M	2.00	M	3.75	M	6.00	M
OW6	0.25	M	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW7	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW8	8.00	D	2.13	D	3.38	D	3.50	D	3.75	D	3.38	D
OW9	0.25	D	0.00	--	0.38	D	0.50	D	0.88	D	0.00	--
OW10	3.25	D	3.00	D	4.25	D	3.00	D	3.38	D	3.50	D
OW14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
K111	1.25	M	0.88	M	1.25	M	2.00	D	2.38	D	2.00	D

Notes:

-- Insufficient free product to ascertain color

D - dark

L - light

M- medium

NA - Not applicable

NO - Color Not Observed

Blue highlight indicates OWs that the NOSC Rep wants to close

Free Product Measurements
Hotel Pier

Date	5/11		5/12		5/13		5/17		5/18		5/19	
Location	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color
OW2	0.88	D	1.00	M	0.75	M	0.00		1.00	L/M	1.00	L/M
OW3	7.75	D	11.00	D	7.75	D	16.88	D	11.00	D	10.00	D
OW4	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW5	8.50	M	9.25	M	9.63	M	4.50	L/M	13.00	L/M	14.00	L/M
OW6	0.00	--	0.00	--	0.13	M	1.25	L/M	0.25	L/M	0.50	L/M
OW7	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW8	3.00	D	3.00	D	3.38	D	2.50	D	1.00	D	1.00	D
OW9	0.00	--	0.00	--	0.00	--	2.50	D	0.00	--	0.00	--
OW10	3.50	D	5.00	NO	2.75	D	2.50	D	1.00	D	1.00	D
OW14	NA	NA	2.50	M	8.38	L/M	10.50	L/M	4.50	L/M	3.00	L/M
OW15	NA	NA	2.25	M	10.00	L/M	8.50	L/M	9.00	L/M	6.00	L/M
OW16	NA	NA	NA	NA	NA	NA	8.50	D	2.00	D	4.00	D
OW17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OW23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
K111	1.75	D	1.00	D	1.25	D	1.50	D	1.00	D	1.00	D

Notes:

-- Insufficient free product to ascertain color

D - dark

L - light

M- medium

NA - Not applicable

NO - Color Not Observed

Blue highlight indicates OWs that the NOSC Rep wants to close

Free Product Measurements
Hotel Pier

Date	5/20		5/21		5/24		5/25		5/26		5/27	
Location	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color
OW2	1.00	L/M	1.00	L/M	1.75	L/M	0.88	L/M	2.00	L/M	1.00	L/M
OW3	3.00	D	1.25	L/M	3.38	D	0.50	D	1.50	D	1.38	D
OW4	0.00	--	0.00	--	0.13	L/M	0.00	--	0.00	--	0.00	--
OW5	9.00	L/M	3.75	L/M	0.00	--	1.00	L/M	0.13	--	0.25	L/M
OW6	0.25	L/M	0.00	--	0.13	L/M	0.00	--	0.13	--	0.13	--
OW7	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW8	1.00	D	1.00	D	1.00	D	6.00	D	0.75	D	2.75	D
OW9	0.00	--	0.38	D	1.00	D	0.38	D	1.00	D	1.13	D
OW10	1.50	D	0.00	--	0.50	D	1.00	LM	1.50	L/M	1.00	D
OW14	3.00	L/M	0.50	L/M	0.38	L/M	0.00	--	0.00	--	0.00	--
OW15	6.00	L/M	3.13	L/M	3.00	L/M	2.00	L/M	2.50	L/M	2.13	L/M
OW16	3.00	D	3.00	D	2.13	D	0.38	D	2.00	D	3.00	D
OW17	NA	NA	NA	NA	0.00	--	0.00	--	0.00	--	0.00	--
OW18	NA	NA	NA	NA	0.00	--	0.00	--	0.25	L/M	0.00	--
OW19	NA	NA	NA	NA	3.75	L/M	1.38	D	2.25	L/M	3.00	L/M
OW20	NA	NA	NA	NA	NA	NA	11.00	L/M	9.00	L/M	6.00	L/M
OW21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.88	D
OW22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	--
OW23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	--
K111	0.50	D	0.75	D	3.50	L/M	0.38	L/M	0.50	D	0.38	LM

Notes:

-- Insufficient free product to ascertain color

D - dark

L - light

M- medium

NA - Not applicable

NO - Color Not Observed

Blue highlight indicates OWs that the NOSC Rep wants to close

Free Product Measurements

Hotel Pier

Date	5/28		6/1		6/2		6/3		6/4		6/7	
Location	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color
OW2	0.75	L/M	1.00	L/M	0.75	L/M	0.63	L/M	0.00	--	0.63	L/M
OW3	1.00	D	4.38	D	2.13	D	2.00	D	2.00	D	1.50	D
OW4	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW5	0.13	L/M	0.00	--	0.00	--	0.00	--	0.25	L/M	0.00	--
OW6	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW7	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW8	0.13		0.25	D	0.25	D	0.50	D	0.00	--	1.00	D
OW9	0.38	D	0.00	--	0.25	D	0.38	D	0.00	--	1.38	D
OW10	0.38	D	1.50	D	0.50	D	0.50	D	0.00	--	1.50	D
OW14	0.25	L/M	0.00	--	0.00		0.00	--	0.00	--	0.75	L/M
OW15	0.75	L/M	5.00	L/M	3.00	L/M	0.75	L/M	3.00	L/M	4.63	L/M
OW16	1.00	D	2.00	D	0.63	D	0.38	D	0.00	--	1.00	D
OW17	0.00	--	0.00	--	0.00	--	0.13	--	0.00	--	0.00	--
OW18	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW19	3.75	L/M	4.50	D	0.25	L/M	0.63	L/M	0.00	--	0.88	L/M
OW20	7.00	L/M	4.50	D	2.50	D	1.00	D	1.50	D	3.00	D
OW21	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW22	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW23	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
K111	1.00	D	0.13	L/M	0.00	--	0.00	--	0.00	--	0.00	--

Notes:

-- Insufficient free product to ascertain color

D - dark

L - light

M- medium

NA - Not applicable

NO - Color Not Observed

Blue highlight indicates OWs that the NOSC Rep wants to close

Free Product Measurements
Hotel Pier

Date	6/8		6/9		6/10		6/11		6/14		6/15	
Location	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color
OW2	0.13	L/M	0.00	--	0.13	L/M	0.00	--	0.25	L/M	0.00	--
OW3	1.38	D	0.75	L/M	1.00	L/M	2.00	L/M	4.50	D	5.00	D
OW4	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW5	0.00	--	0.13	L/M	0.00	--	0.00	--	0.00	--	0.00	--
OW6	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW7	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW8	0.00	--	0.13	D	0.00	--	0.00	--	0.00	--	0.00	--
OW9	0.38	D	1.13	D	0.00	--	0.00	--	1.00	D	0.00	--
OW10	0.25	D	0.75	D	0.75	D	0.13	D	1.00	D	1.00	D
OW14	0.13	L/M	0.00	--	0.00	L/M	0.00	0.00	0.00	--	0.00	--
OW15	1.00	L/M	1.00	L/M	0.25	L/M	0.00	0.00	3.00	L/M	2.50	L/M
OW16	0.38	D	1.00	D	0.63	D	1.00	D	0.25	D	0.00	
OW17	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW18	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW19	0.38	L/M	0.38	L/M	0.00	--	0.25	L/M	0.50	L/M	0.50	L/M
OW20	2.00	D	1.13	L/M	3.00	L/M	3.00	L/M	3.00	L/M	1.50	L/M
OW21	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW22	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW23	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
K111	0.00	--	0.13	L/M	1.00	L/M	0.00	--	0.00	--	0.00	--

Notes:

-- Insufficient free product to ascertain color

D - dark

L - light

M- medium

NA - Not applicable

NO - Color Not Observed

Blue highlight indicates OWs that the NOSC Rep wants to close

Free Product Measurements
Hotel Pier

Date	6/16		6/17		6/21		6/23		6/25		7/14	
Location	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color
OW2	0.00	--	0.50	L/M	0.25	L/M	0.00	--	0.00	--	0.50	L/M
OW3	4.00	D	1.00	D	3.00	D	2.25	D	1.25	D	13.00	D
OW4	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW5	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.75	L/M
OW6	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW7	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW8	0.00	--	0.00	--	1.00	D	0.75	D	0.00	--	0.75	D
OW9	0.00	--	0.00	--	1.50	D	0.38	D	0.00	--	0.00	--
OW10	1.25	D	0.00	--	3.00	D	1.50	D	0.75	D	1.00	L/M
OW14	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW15	3.00	L/M	1.50	L/M	2.00	L/M	1.00	L/M	1.25	L/M	1.50	L/M
OW16	0.00	--	1.00	D	1.00	D	2.50	D	0.00	--	0.00	--
OW17	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.75	L/M
OW18	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.50	L/M
OW19	1.00	L/M	1.00	L/M	0.13	L/M	1.00	L/M	1.00	L/M	0.75	L/M
OW20	0.00		1.50	L/M	2.50	L/M	2.13	L/M	3.50	L/M	1.00	L/M
OW21	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW22	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW23	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
K111	0.00	--	0.00	--	0.13	L/M	0.00	--	0.00	--	0.00	--

Notes:

-- Insufficient free product to ascertain color

D - dark

L - light

M- medium

NA - Not applicable

NO - Color Not Observed

Blue highlight indicates OWs that the NOSC Rep wants to close

Free Product Measurements
Hotel Pier

Date	7/16		7/19		7/21		7/23		7/26		7/28	
Location	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color	Inches	Color
OW2	0.00	--	1.00	L/M	1.00	L/M	0.13	--	0.00	--	0.00	--
OW3	3.00	D	2.25	D	2.25	D	1.50	D	3.50	D	1.50	D
OW4	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW5	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW6	0.00	--	0.00	--	0.00	--	0.13	--	0.00	--	0.00	--
OW7	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW8	0.63	D	1.50	D	0.13	--	0.25	D	0.00	--	0.13	--
OW9	0.00	--	1.00	D	0.00	--	0.00	--	0.00	--	0.00	--
OW10	0.75	D	4.50	D	3.00	D	2.50	D	2.00	D	2.00	D
OW14	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW15	4.63	L/M	6.50	L/M	2.00	L/M	2.50	L/M	2.00	L/M	1.25	L/M
OW16	0.00	--	3.38	D	0.13	D	0.25	D	0.00	--	0.00	--
OW17	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW18	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW19	2.25	L/M	3.50	L/M	2.00	L/M	1.00	L/M	3.50	L/M	1.00	L/M
OW20	1.78	L/M	2.50	L/M	1.50	L/M	1.75	L/M	0.00	--	1.50	L/M
OW21	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW22	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
OW23	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--
K111	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00	--

Notes:

-- Insufficient free product to ascertain color

D - dark

L - light

M- medium

NA - Not applicable

NO - Color Not Observed

Blue highlight indicates OWs that the NOSC Rep wants to close