

# REMOTE DREDGE INSPECTION

Steve Straw, P.E.  
Vancouver Resident Office  
Team Lead

CEWNP-ENC-CV  
Date: 29 October 2020



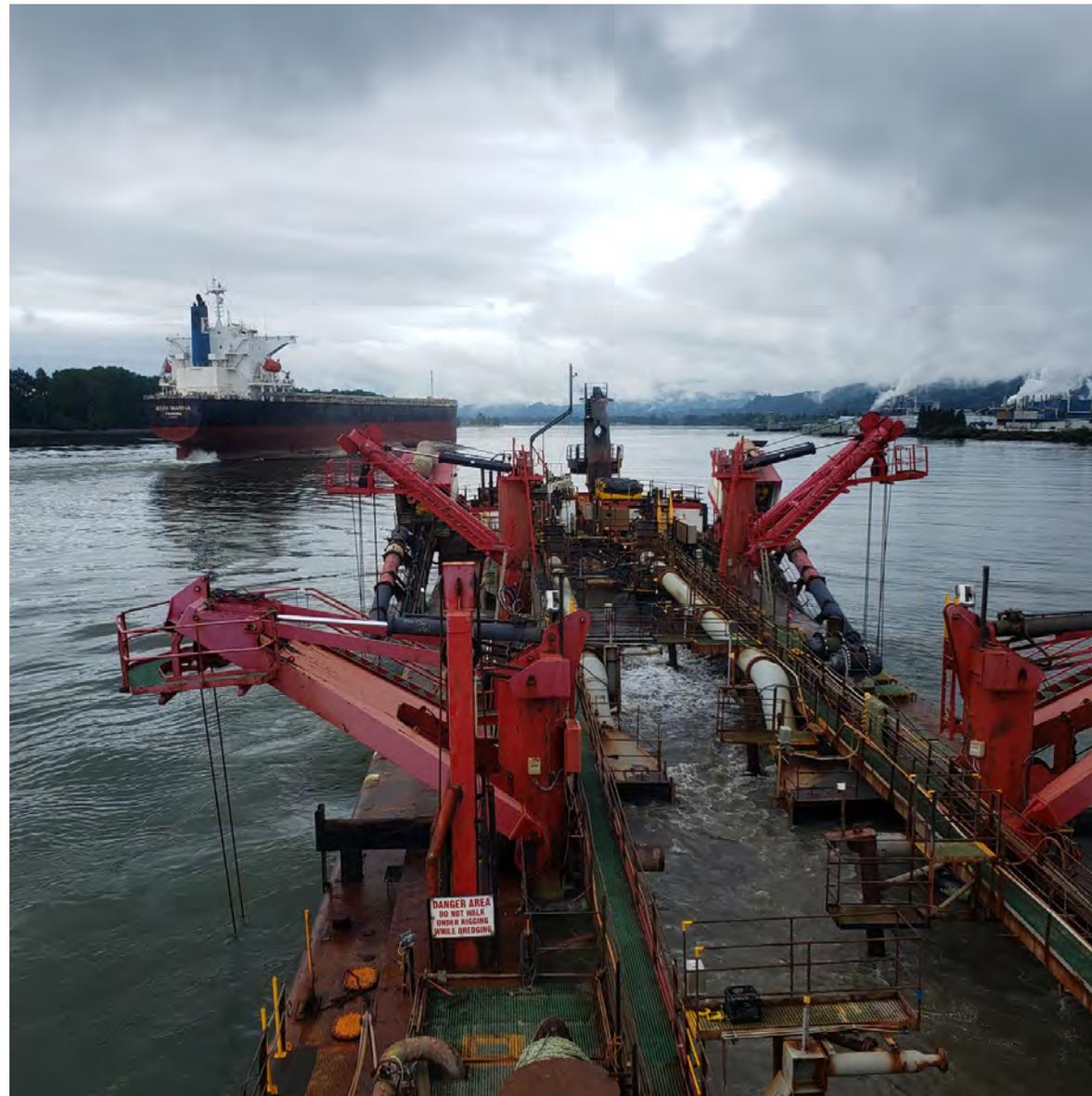
US Army Corps  
of Engineers®



# PRESENTATION OVERVIEW



- FY 20 Dredging Contracts
- Contract adjustments due to COVID
- Remote dredge monitoring





# 2020 PORTLAND DIST. DREDGING CONTRACTS



## Washington/Oregon Coast Clamshell

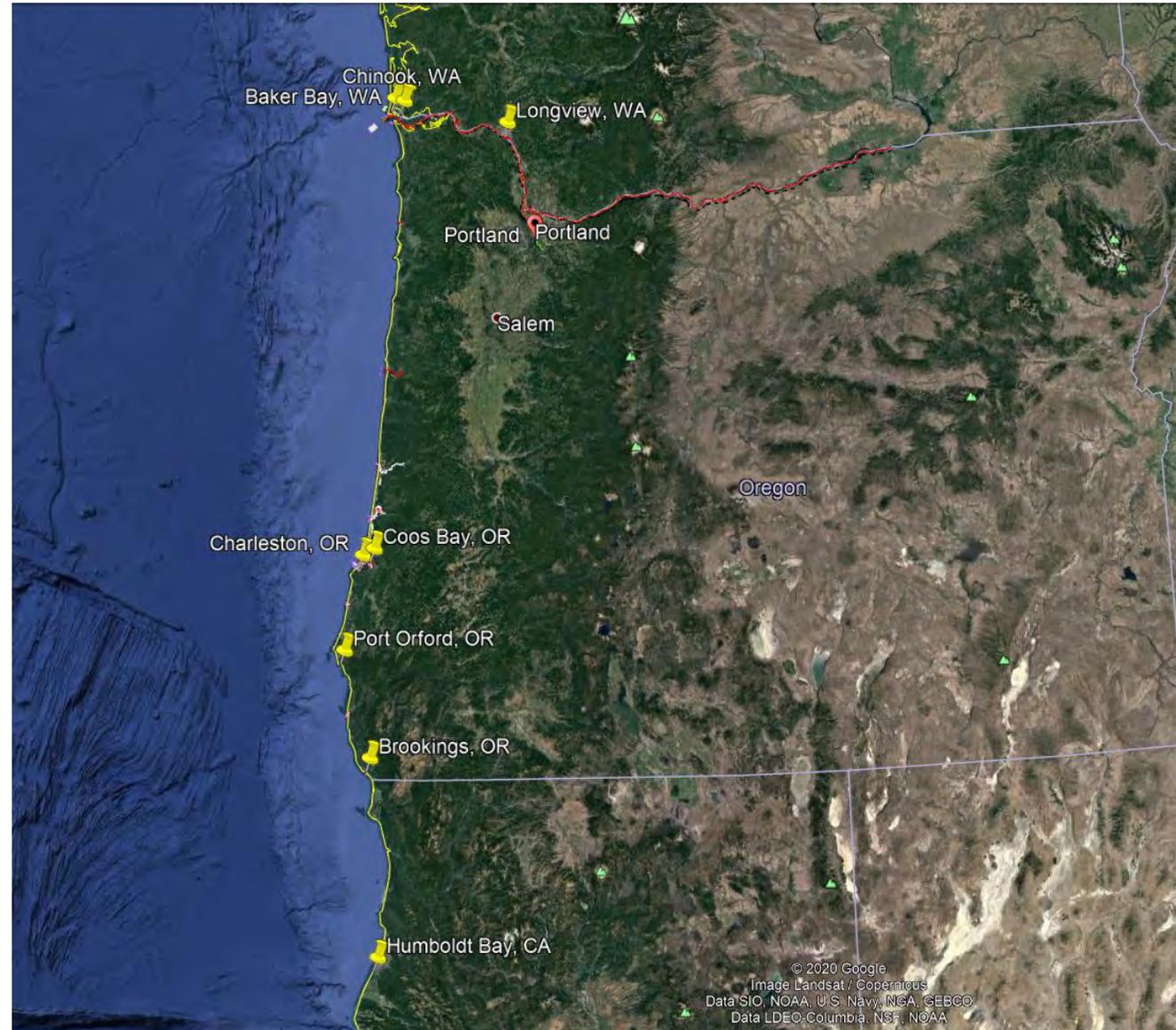
- Brookings, OR - 11,900 CY
- Port Orford, OR - 15,000 CY
- Charleston, OR - 10,000 CY
- Baker Bay, WA - 62,000 CY
- Chinook, WA - 130,000 CY
- Longview, WA - 1,500 CY
- Port of Longview, WA - 15,000 CY

## Coos Bay Clamshell

- Coos Bay, OR - 1,000,000 CY

## West Coast Hopper

- Mouth of the Columbia River (MCR)
- Lower Columbia River (multiple locations)
- Humboldt Bay, CA
  - Total of 4,200,000 CY



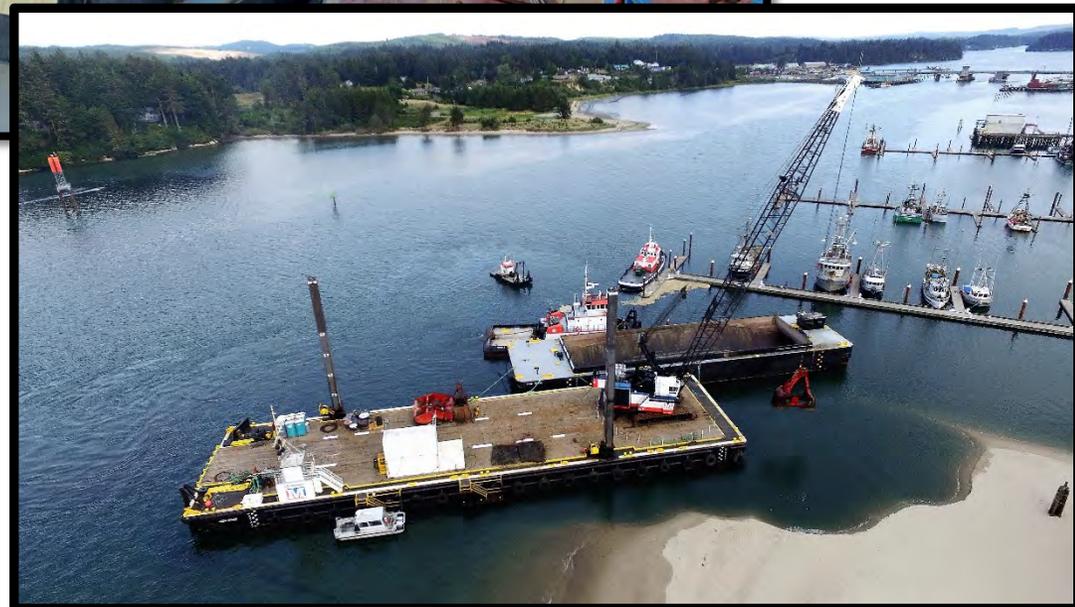
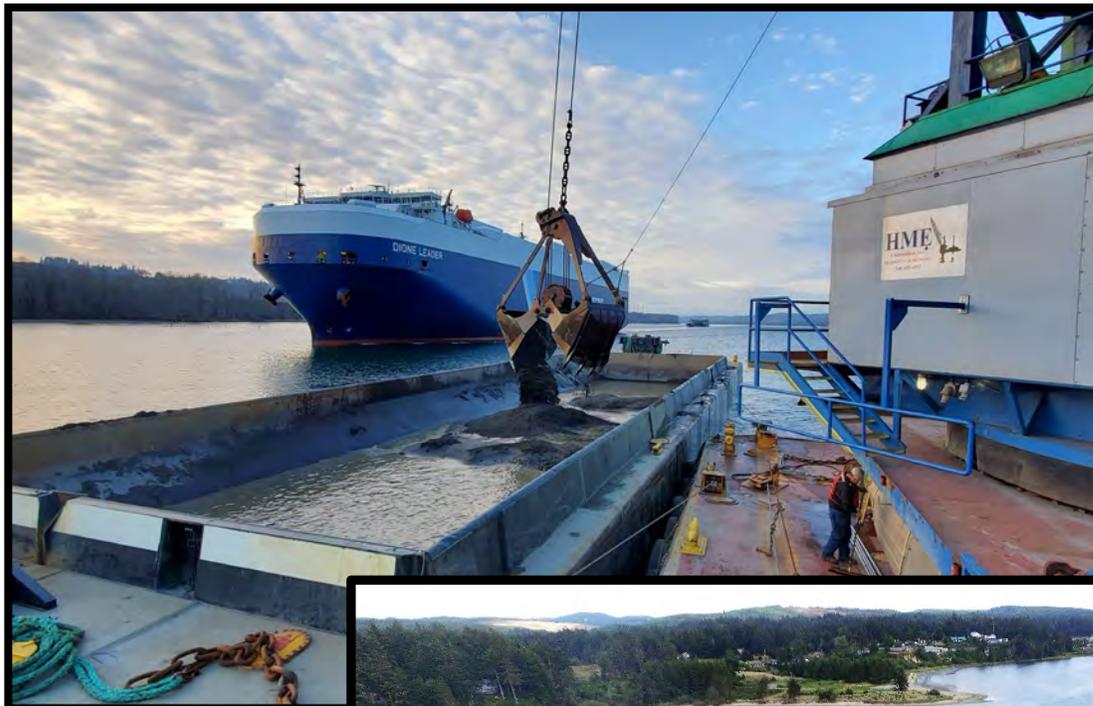
© 2020 Google  
Image Landsat / Copernicus  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Data LDEO-Columbia, NSF, NOAA



# SPECIFICATION CHANGES TO CLAMSHELL CONTRACTS



- Quality Assurance Surveys
- Daily Dig Coordinates
- Floating Plant Video Inspection
- QA Video Inspection
- Scow Photo in QC Reports
- Raw Data Files
- Dual Remote Camera System





# QUALITY ASSURANCE SURVEYS



- Up to two additional surveys may be performed by the Government per acceptance area.
- Used to provide additional data to verify the contractor's quality control is working effectively.

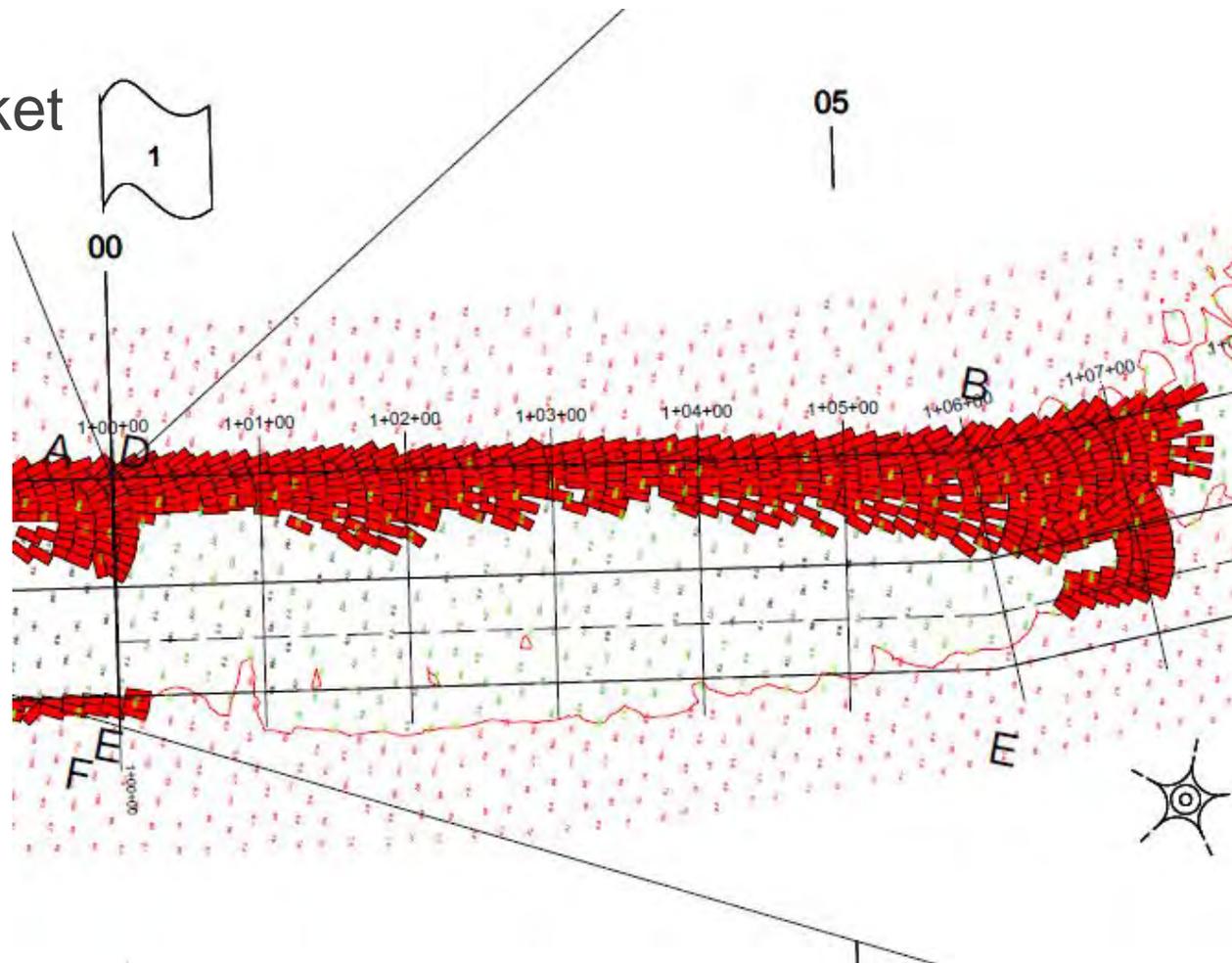




# DAILY DIG COORDINATES



- Provide the coordinates of the dig area(s) each day based on the bucket location along with a plot of the coordinates shown on a map of the acceptance area.
- Used to accurately show the dig location daily.





# FLOATING PLANT VIDEO INSPECTION



- At the Government's discretion, the Joint Equipment Inspection may be completed from a distance using electronic methods such as a video chat or live-time video call (compatible with Government cell phones or computer).





# QA VIDEO INSPECTION



- At the Government's discretion, if the GQAR or other Government designated representative is unable to be physically present on the Contractor's plant to verify the CQC procedures, the Contractor must provide real time video capability for the Government to perform inspections, witness tests, participate in meetings, and other tasks of a similar nature. Anticipate these efforts may take up to 10 hours each week



# SCOW PHOTOS IN QC REPORTS



- Include a photo(s) of each scow load prior to departing for the disposal site. Photos must be a minimum of 2 megapixels, be properly illuminated, be taken at a slight downward angle into the scow, and the interior of the scow must comprise a majority of the image.





# RAW DATA FILES



- Provide the full raw data file documenting the data collected by required sensors during the requested period of time for the requested piece of equipment. The raw data file must include all data points collected for the requested piece of equipment. Instructions for transmitting the data will be provided at the time the preconstruction conference.
- Raw data files include denser data than what is provided from the Dredge Quality Management (DQM) database.



# DUAL REMOTE CAMERA SYSTEM



- Provide two robotic, high definition webcams for the Government to remotely view the project on a secure connection via a network connection. One camera must provide a full view of the dredge deck and the other camera must provide a view of the digging operation.

- Internet Based Interface
- Still photos every 5 minutes
- Maintenance
- End of Project Digital File





# CLAMSHELL CAMERAS



EarthCam

JE McAmis / Harbor Cleaning / Camera 1 / Longview, WA US

3 Admin Support

Panorama



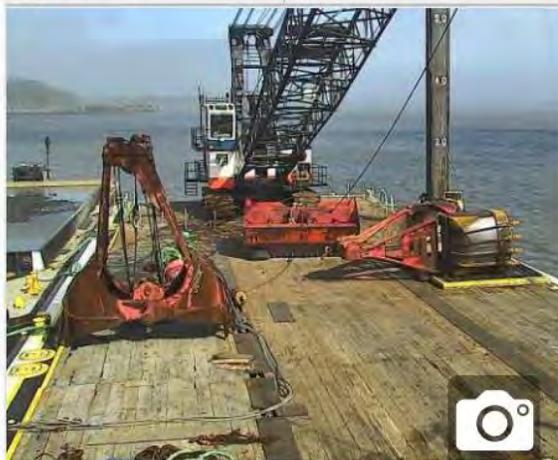
Archives

Events

Hall of Fame

Time-Lapse Movie

Current Data 2nd Month of 6 Month Pro...



Online 62 °F

Light Rain

1 Mb/s

Share Progress & Connect

Progress Updates

Weekly Emails

Scheduled for: Sep. 28, 2020

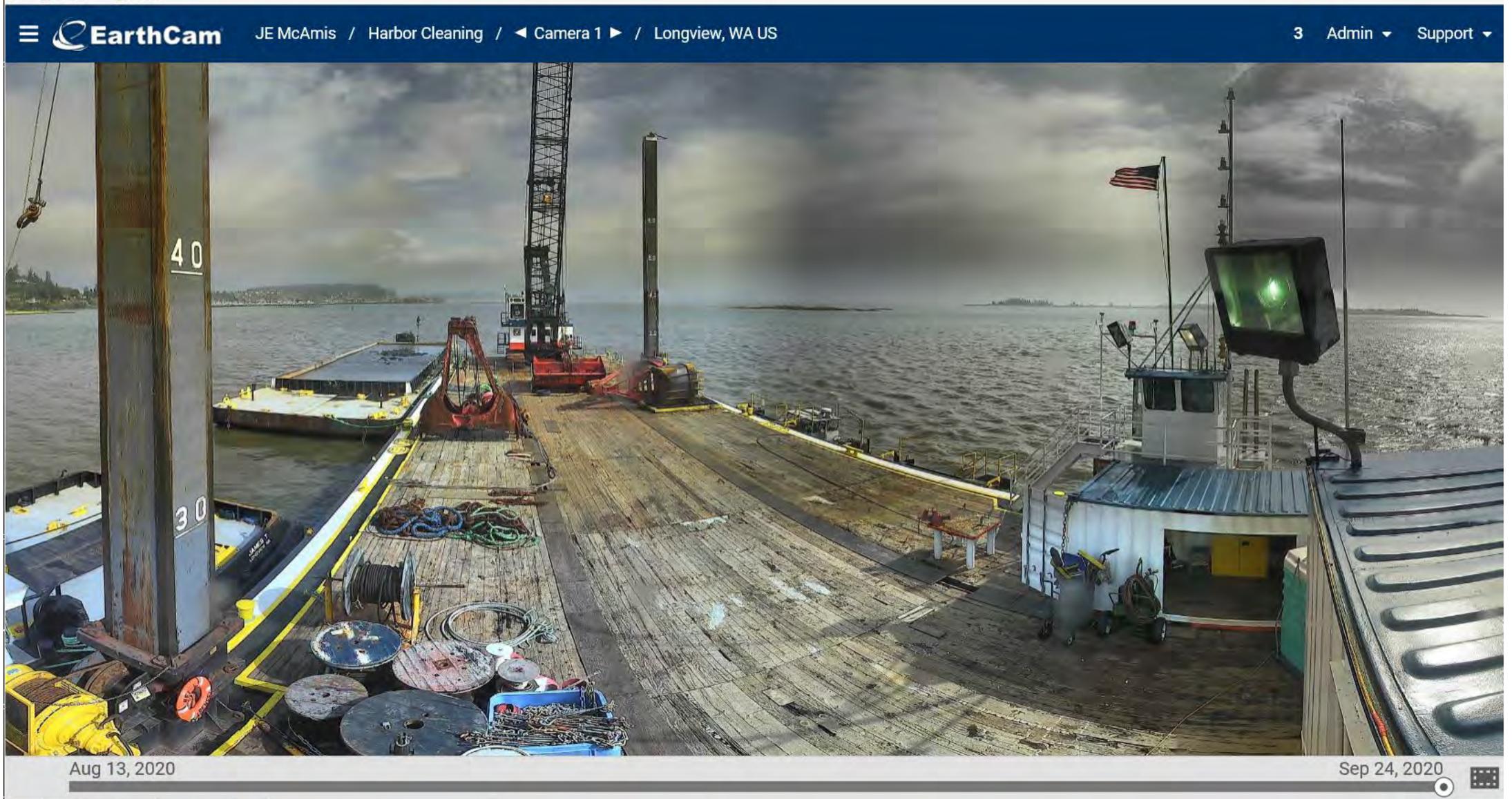
Public Outreach

Engage through social media





# CLAMSHELL CAMERAS





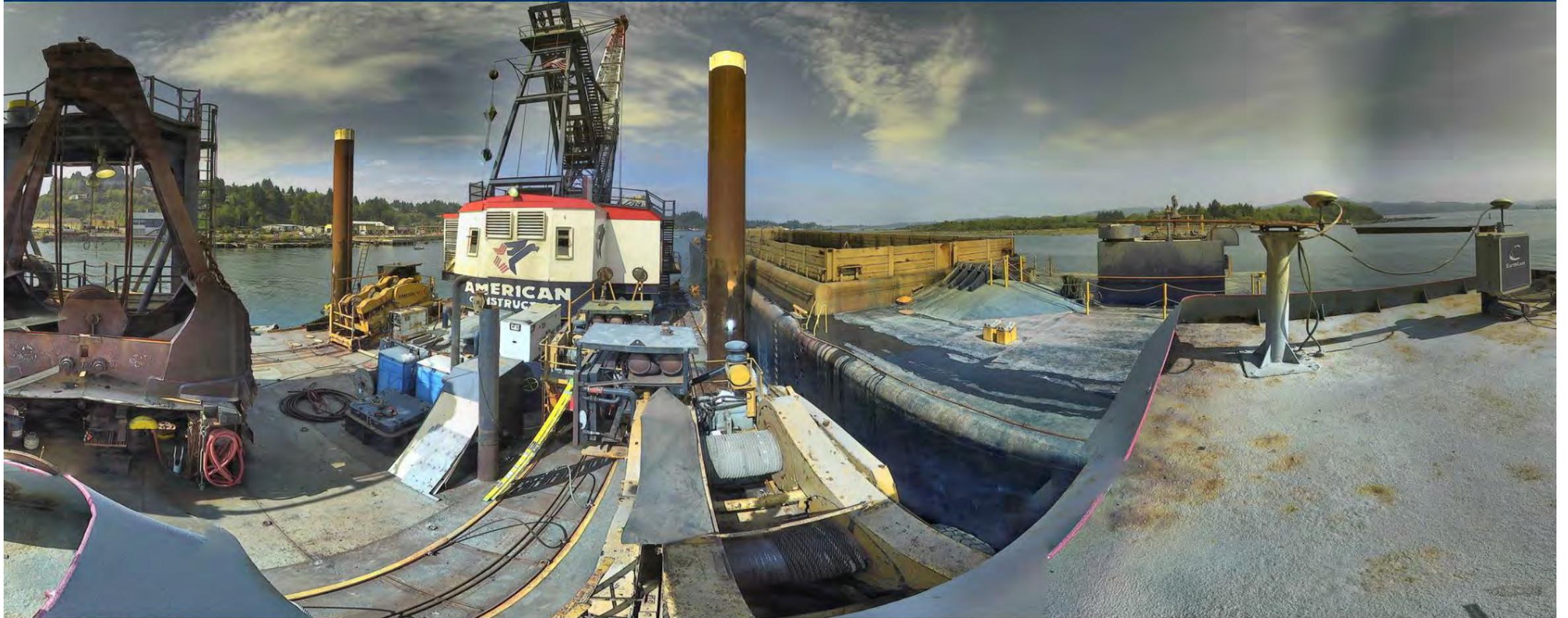
# CLAMSHELL CAMERAS



EarthCam

American Construction / Coos Bay Dredging / Camera 1 / Tacoma, WA US

7 Admin Support



Jul 6, 2020

Sep 26, 2020

Sep 15, 2020 12:03 PM 72°F





# HOPPER CONTRACT



Partnering effort to reduce COVID-19 impacts to the Contractor and Government personnel to have no live aboard QA's.

- Remote viewing of the dragtender's "eTrac" screen.
- Remote viewing of the mate's screen/dredge location with recent survey
- Time stamped photos depicting the weekly draghead calibrations.
- Collection of hand soundings at the end of each load (to coincide with mechanical ullage sensor measurements) during daylight hours.
- Infrequent real-time video observations of daily ullage sensor bar checks.
- Infrequent real-time video observations of safety inspections.
- Infrequent real-time video observations of specific issues or concerns that arise.
- Live camera viewing of the hopper/dragarms view from bridge (24/7).





# HOPPER CAMERA



Select Project: **Dredge Stuyvesant** ▼ Timelapse [Logout](#)

Dredge Stuyvesant - 2020-09-24 13:26:41



+

-



Bureau of Land Management, Es... Powered by



+

-



4G





**Preset Four Available**



**Preset Five Available**



**Preset Six Available**



**69°**  
2 mph NNE  
0% humidity

Fri	Sat	Sun	Mon	Tue
				
H: 59° L: 55°	H: 60° L: 56°	H: 60° L: 55°	H: 66° L: 57°	H: 65° L: 59°



# HOPPER CAMERA



Select Project: **Dredge Stuyvesant** Live View Logout

Camera Select: **Camera 1**

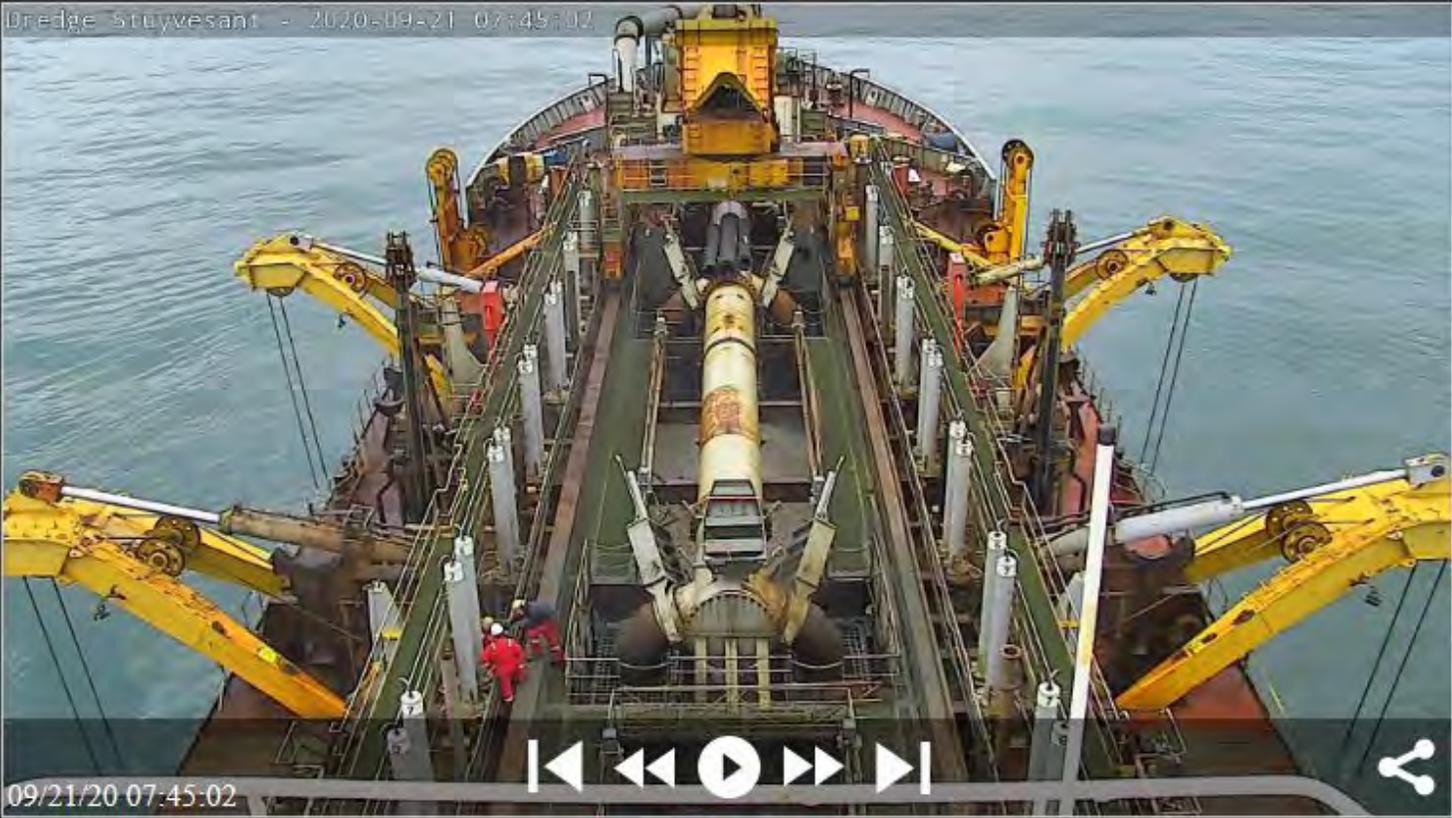
Start Date: **09/21/2020**

End Date: **09/22/2020**

**Update Timelapse**



Dredge Stuyvesant - 2020-09-21 07:45:02



09/21/20 07:45:02



Preset 1



# HOPPER CAMERA



Select Project: Dredge Stuyvesant Live View Logout

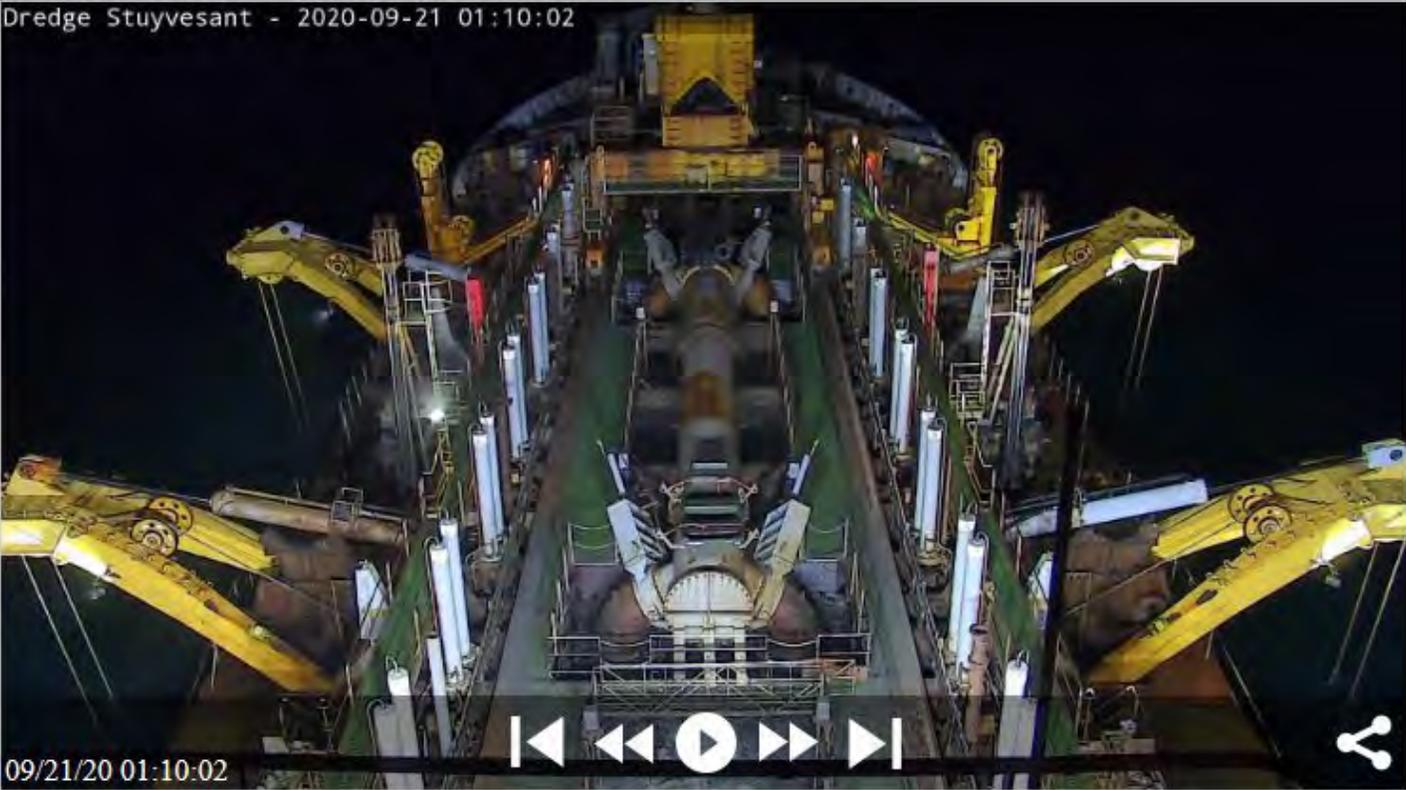
Camera Select: Camera 1

Start Date: 09/21/2020

End Date: 09/22/2020

**Update Timelapse**

Dredge Stuyvesant - 2020-09-21 01:10:02



09/21/20 01:10:02



Preset 1



# MATES SCREEN



Stuyvesant Bridge Computer | Stuyvesant Hypack Computer

stuyvesant.etracinc.com:889

ACE-IT SERVICETRACK | AMRDEC SAFE | App Portal | CEFMS | Citi® GCC | Construction Branch | CP-18 News | DAU | DOD WBDG | DTS | Fedrooms | Google | MyBiz+ | GoArmyEd | myPay | NWP Intranet | Software Request | U-PASS | Most Visited | \_USACE

DredgePack

Logging Line Chart Vessels Matrix Targets Tide Options Window Help

Map(1)

Settings Output View Matrix Tools

Range: None

7518769.220 ft 082.9 46d08'54.269" N 123d17'50.608" W 46d08'54.269" N 123d17'50.608" W

Data Display(1)

Font... Configure... Style

**(0) GPS Mode Fixed RTK**

Time 11:47:35

Hdg 78.99°

Speed(kt) 0.83

Fwd speed(kt) ^0.8

Stbd speed(kt) >0.1

(0) GPS NSat 13

East 7497244.01

North 916752.26

GPS Invert Tide Cor1.49

Stuyvesant OPC2

Head Depth	Info	Sensor Cl	Head Depth
46.4			47.0
	Draft Readings		
	32.2 32.4		
	32.3		
	32.4 32.4		
	18415.6		
	Ullage Readings		
	14.7 14.7		
	14.5		
	14.3 14.3		
	9133.2		
	HULL Closed		
Pump Depth			Pump Depth
27.0	1.49		26.0

11:47 AM 7/22/2020



# DREGETENDER'S SCREEN



Stuyvesant Bridge Computer x Stuyvesant Hypack Computer x +

stuyvesant.etracinc.com:888

ACE-IT SERVICETRACK AMRDEC SAFE App Portal CEFMS Citi GCC Construction Branch CP-18 News DAU DOD WBDG DTS Fedrooms Google MyBiz+ GoArmyEd myPay NWP Intranet Software Request U-PASS Most Visited \_USACE

## PORT STBD

# 47.0 46.4

Limit 47.0 Limit 47.0

Map UWT Level System UWT History

## Dredging

70

2020-07-22 11:48:13

Displacement (Tons)

11991.9

Cancel End of Trip eTrac

Snooze Alarm Preview Site

Cancel Volume Alarm Setting

Force Open Now

Slide to Mark end of Trip

Blank Screen

11:48 AM 7/22/2020



# CONCLUSION



- Utilization/effectiveness
  - Utilization tied to payment method.
  - Evaluation on effectiveness to be conducted after dredging season to determine suitability for future QA.

- Questions?

