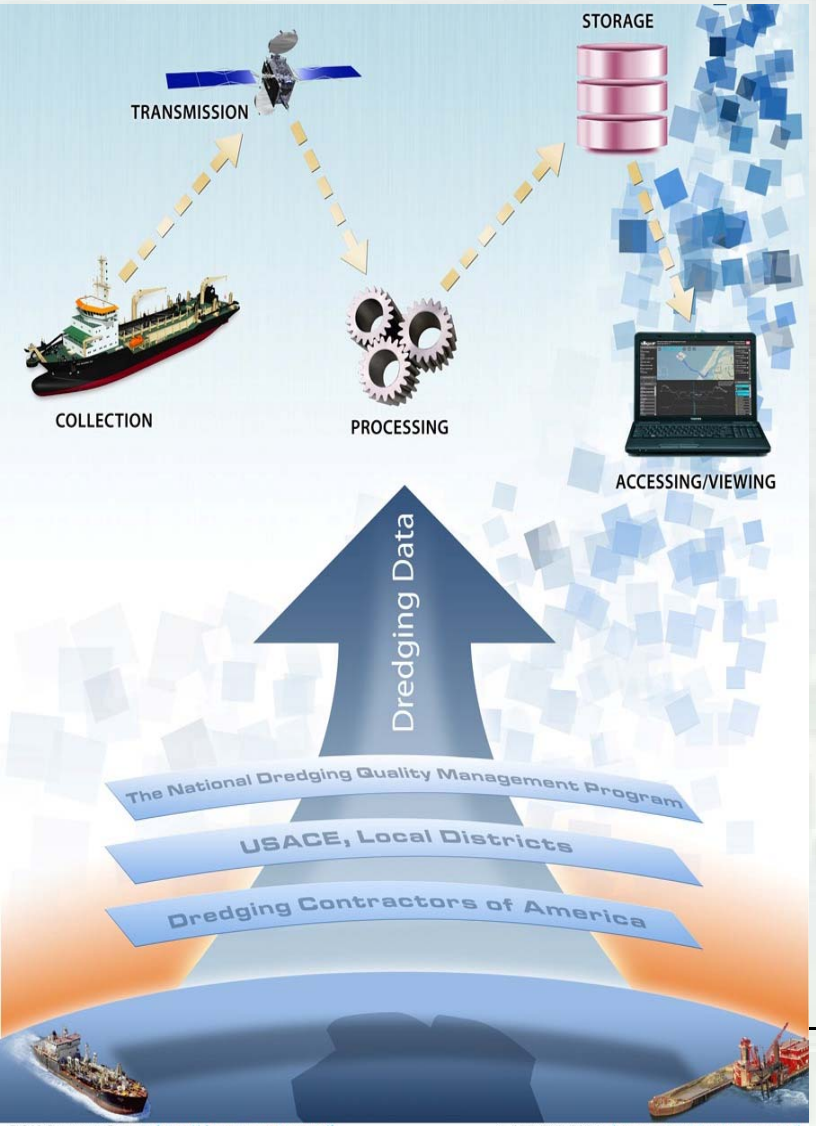
National Dredging Quality Management (DQM) Program

2012 WEDA Pacific Chapter
Seward, Alaska
7 September 2012

Vern Gwin
National DQM Center

DREDGING QUALITY MANAGEMENT

National Dredging Quality Management (DQM) Program



What's New in 2012

- V2.5 Release
- Database Updates
- New On-Board software
- Dynamic Web Site
- Cutterhead PDT
- Mechanical Demo

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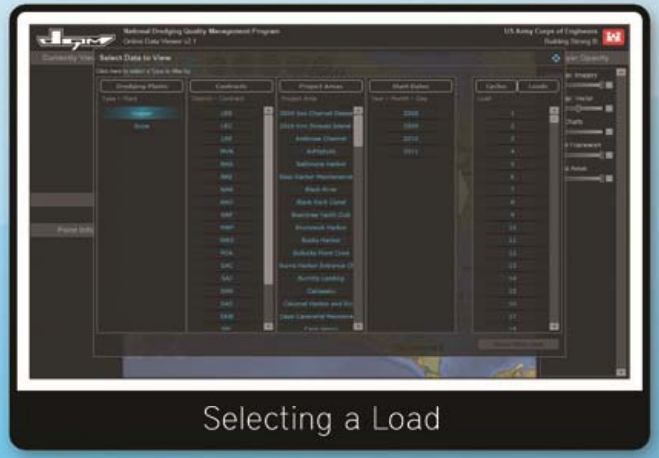
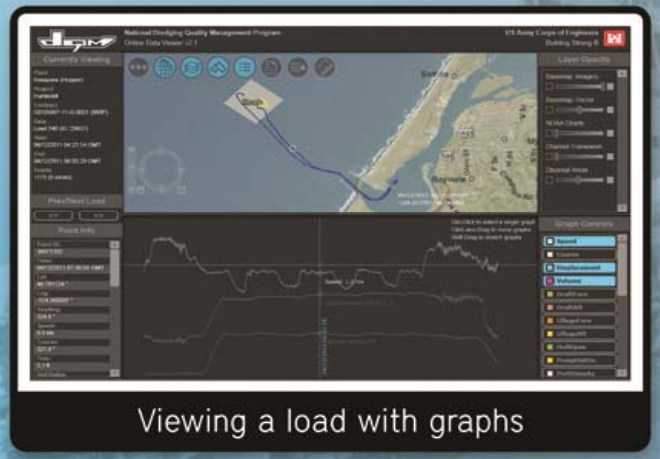
DQM TOOLS

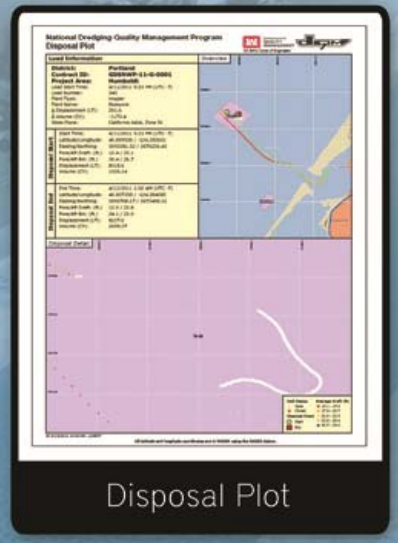
The DQM Viewer is the latest and greatest addition to the USACE dredging tools collection, providing an interactive Silverlight application for selecting dredging projects, graphing load data, managing and requesting disposal plot information, as well as providing data exports.



Selecting a Load



Viewing a load with graphs



Disposal Plot

COMING SOON

- **Email alerts for compliance issues**
- **Viewing/exporting multiple loads**
- **Dredge plots**

DREDGING QUALITY MANAGEMENT

DQM CONSOLE

Below is the list of tools available for viewing and interacting with DQM dredging data. The newest versions of the tools are found under the version 2.5 header.

DQM Console Tools (version 2.0)

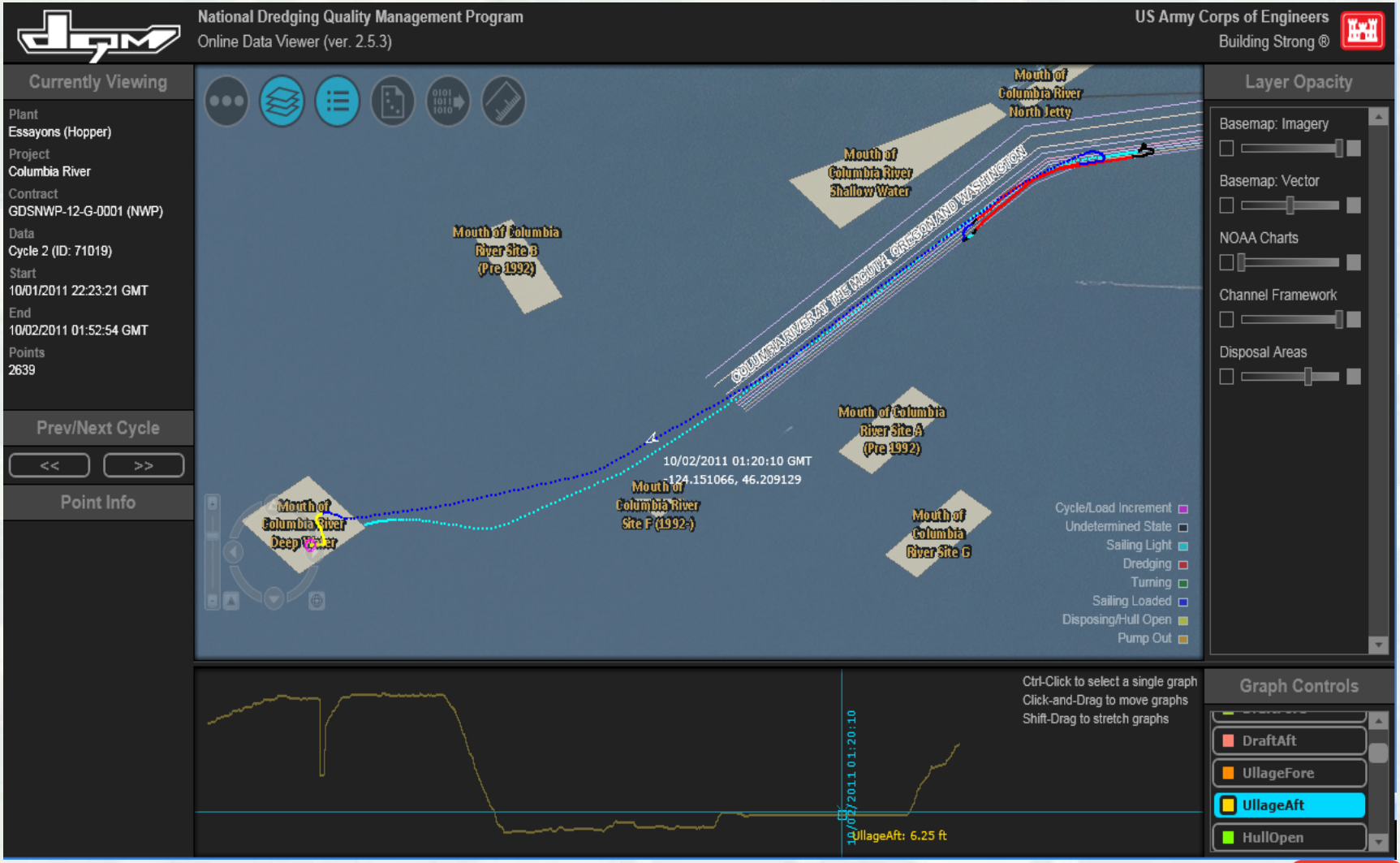
- **Online Data Viewer**

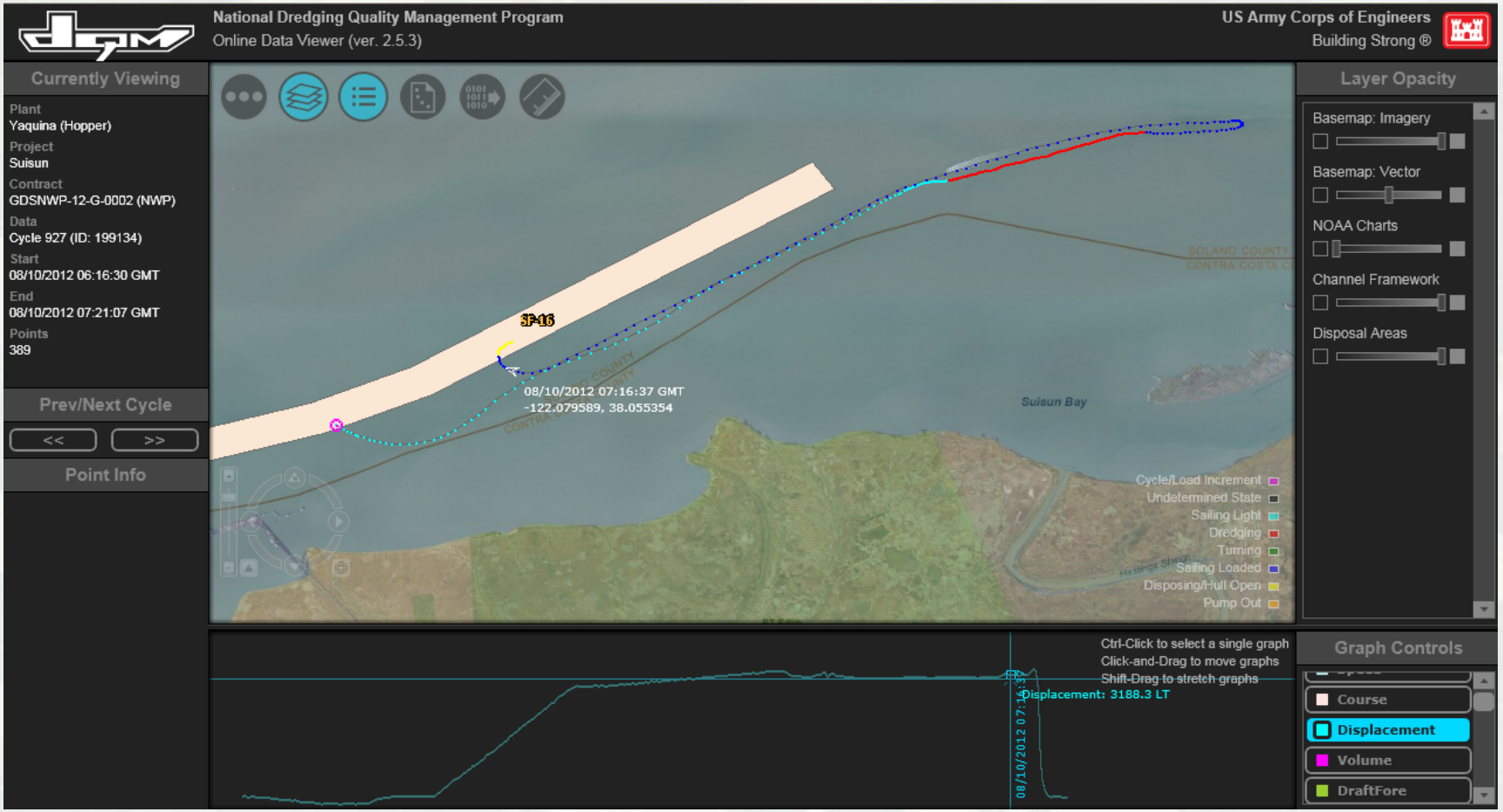
DQM Console Tools (version 2.5)

- Online Data Viewer
- Multi-Load Data and Disposal Plots

NOTE: The version 2.5 links above have been temporarily disabled.

Last updated 14 August 2012


National Dredging Quality Management Program
Online Data Viewer (ver. 2.5.3)
US Army Corps of Engineers
Building Strong ®
Currently Viewing
Plant
Essayons (Hopper)
Project
Columbia River
Contract
GDSNWP-12-G-0001 (NWP)
Data
Cycle 2 (ID: 71019)
Start
10/01/2011 22:23:21 GMT
End
10/02/2011 01:52:54 GMT
Points
2639
Prev/Next Cycle
<<
>>
Point Info
Mouth of Columbia River North Jetty
Mouth of Columbia River Shallow Water
Mouth of Columbia River Site B (Pre 1992)
COLUMBIA RIVER AT THE MOUTH OREGON AND WASHINGTON
Mouth of Columbia River Site A (Pre 1992)
10/02/2011 01:20:10 GMT
-124.151066, 46.209129
Mouth of Columbia River Site F (1992-)
Mouth of Columbia River Site G
Mouth of Columbia River Deep Water
Cycle/Load Increment
Undetermined State
Sailing Light
Dredging
Turning
Sailing Loaded
Disposing/Hull Open
Pump Out
Layer Opacity
Basemap: Imagery
Basemap: Vector
NOAA Charts
Channel Framework
Disposal Areas
Ctrl-Click to select a single graph
Click-and-Drag to move graphs
Shift-Drag to stretch graphs
10/02/2011 01:20:10
UllageAft: 6.25 ft
Graph Controls
DraftAft
UllageFore
UllageAft
HullOpen


National Dredging Quality Management Program
Online Data Viewer (ver. 2.5.3)
US Army Corps of Engineers
Building Strong ®
Currently Viewing
Plant
Yaquina (Hopper)
Project
Suisun
Contract
GDSNWP-12-G-0002 (NWP)
Data
Cycle 927 (ID: 199134)
Start
08/10/2012 06:16:30 GMT
End
08/10/2012 07:21:07 GMT
Points
389
Prev/Next Cycle
<<
>>
Point Info
SF-16
08/10/2012 07:16:37 GMT
-122.079589, 38.055354
Suisun Bay
Cycle/Load Increment
Undetermined State
Sailing Light
Dredging
Turning
Sailing Loaded
Disposing/Hull Open
Pump Out
Layer Opacity
Basemap: Imagery
Basemap: Vector
NOAA Charts
Channel Framework
Disposal Areas
Ctrl-Click to select a single graph
Click-and-Drag to move graphs
Shift-Drag to stretch graphs
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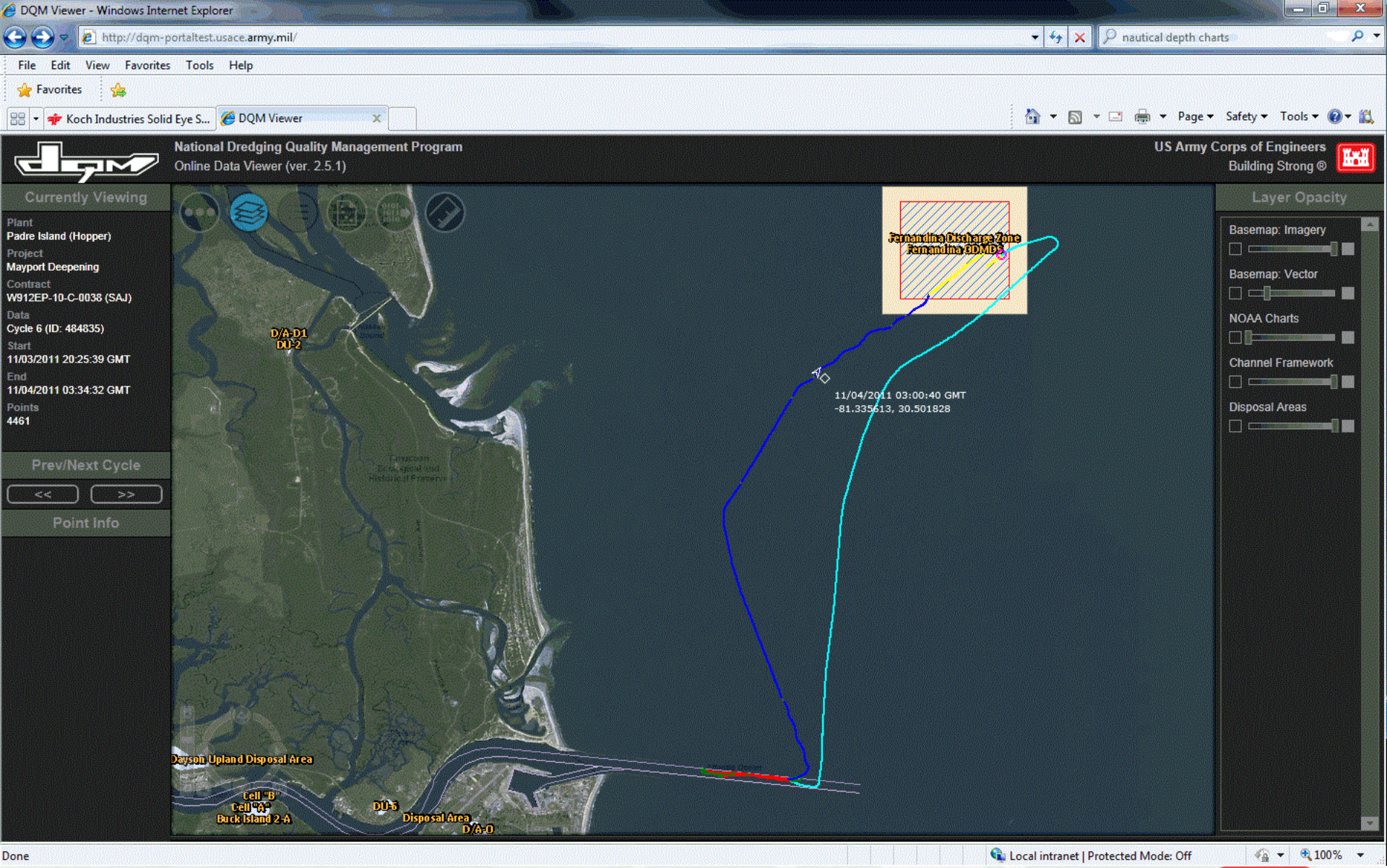
Graph Controls
Course
Displacement
Volume
DraftFore



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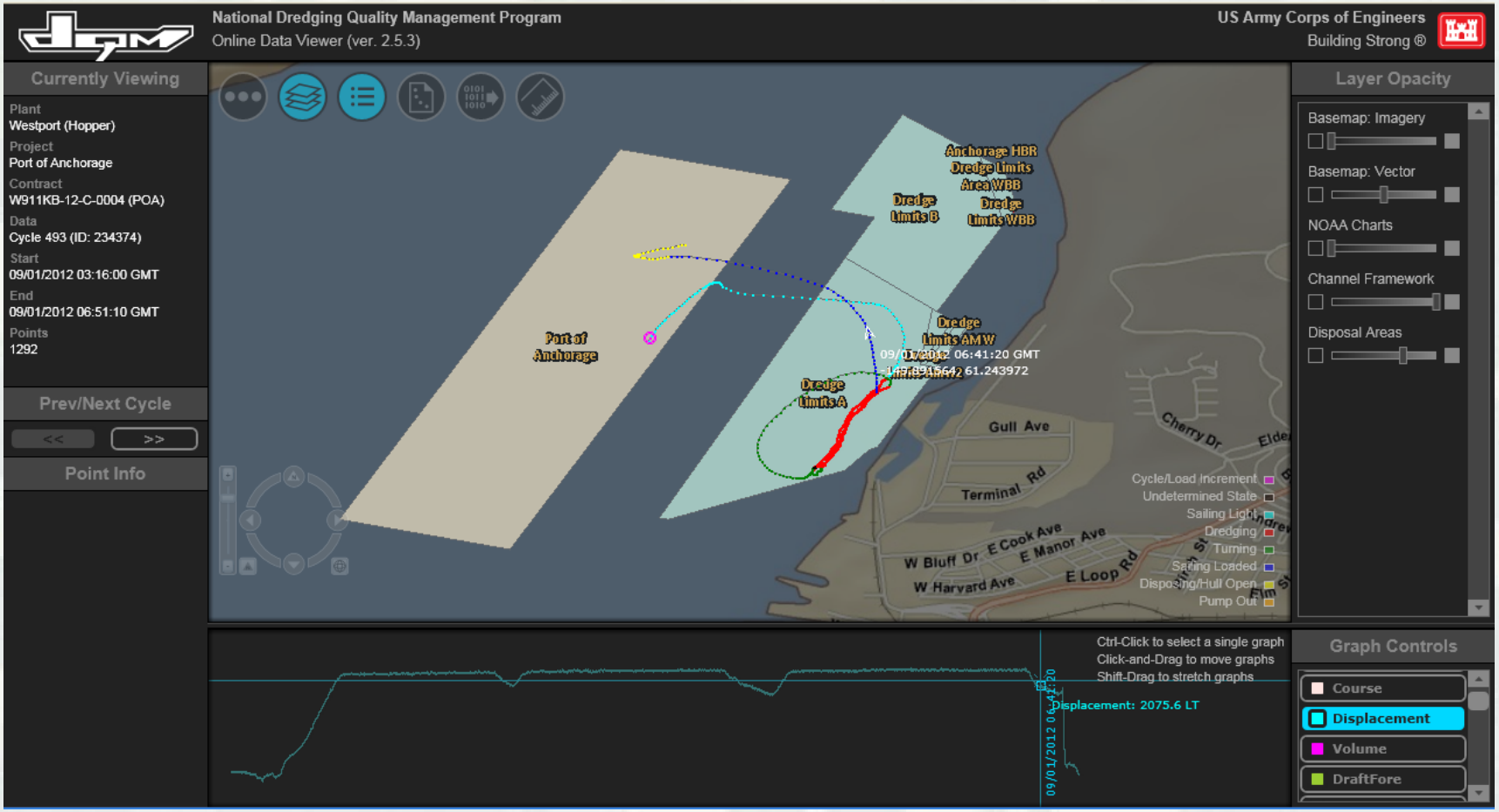
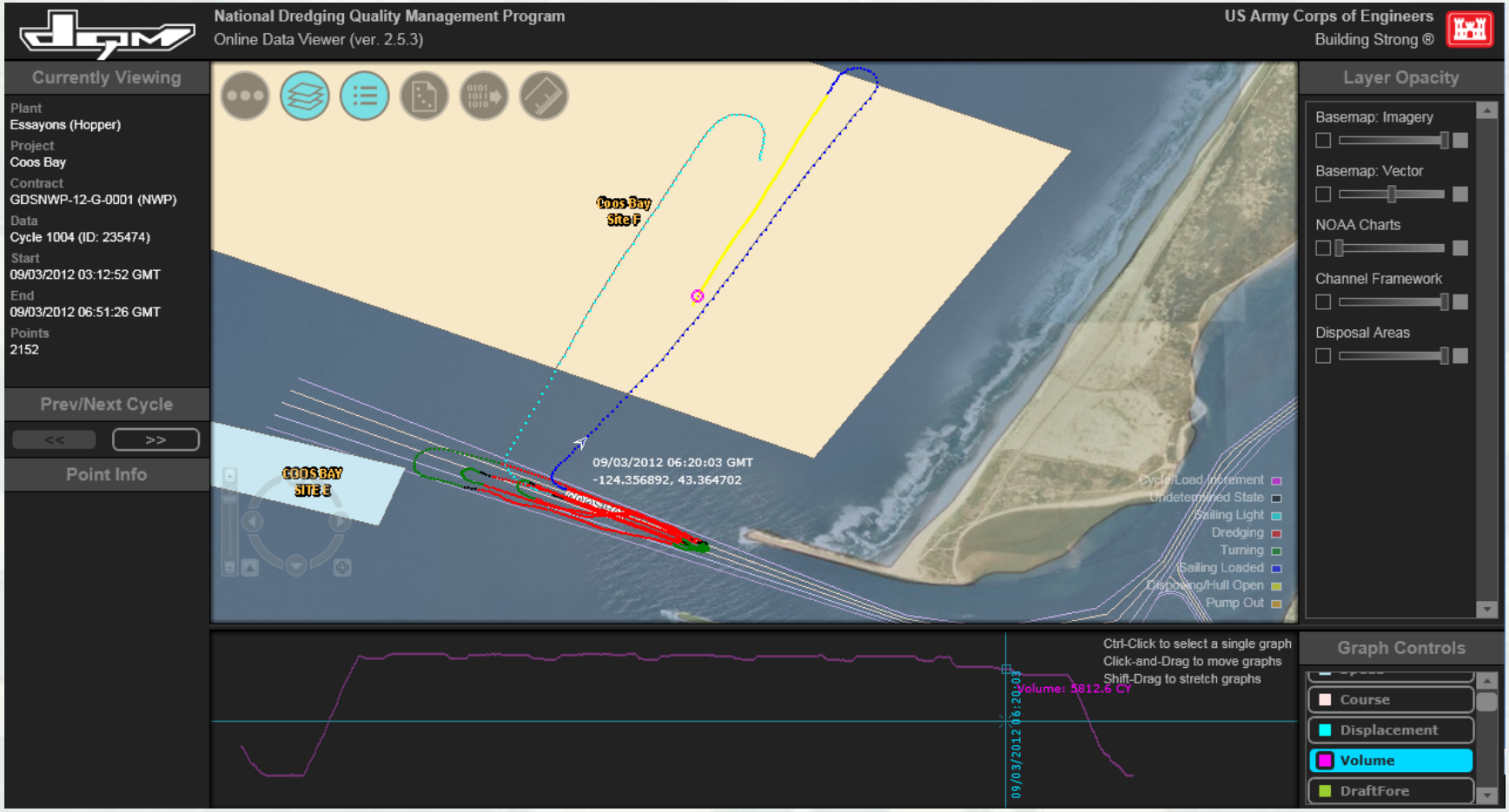

National Dredging Quality Management Program
Online Data Viewer (ver. 2.5.3)
US Army Corps of Engineers
Building Strong ®
Currently Viewing
Plant
Westport (Hopper)
Project
Port of Anchorage
Contract
W911KB-12-C-0004 (POA)
Data
Cycle 493 (ID: 234374)
Start
09/01/2012 03:16:00 GMT
End
09/01/2012 06:51:10 GMT
Points
1292
Prev/Next Cycle
<<
>>
Point Info
Anchorage HBR
Dredge Limits
Area WBB
Dredge
Limits B
Dredge
Limits WBB
Port of
Anchorage
Dredge
Limits AMW
09/01/2012 06:41:20 GMT
Dredge
Limits A
Gull Ave
Terminal Rd
W Bluff Dr
E Cook Ave
E Manor Ave
W Harvard Ave
E Loop Rd
Cherry Dr
Cycle/Load Increment
Undetermined State
Sailing Light
Dredging
Turning
Sailing Loaded
Disposing/Hull Open
Pump Out
Layer Opacity
Basemap: Imagery
Basemap: Vector
NOAA Charts
Channel Framework
Disposal Areas
Ctrl-Click to select a single graph
Click-and-Drag to move graphs
Shift-Drag to stretch graphs
Displacement: 2075.6 LT
09/01/2012 06:41:20
Graph Controls
Course
Displacement
Volume
DraftFore


National Dredging Quality Management Program
Online Data Viewer (ver. 2.5.3)
US Army Corps of Engineers
Building Strong ®
Currently Viewing
Plant
Essayons (Hopper)
Project
Coos Bay
Contract
GDSNWP-12-G-0001 (NWP)
Data
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Start
09/03/2012 03:12:52 GMT
End
09/03/2012 06:51:26 GMT
Points
2152
Prev/Next Cycle
<<
>>
Point Info
Coos Bay Site F
COOS BAY SITE E
09/03/2012 06:20:03 GMT
-124.356892, 43.364702
Cycle/Load Increment
Undetermined State
Sailing Light
Dredging
Turning
Sailing Loaded
Disposing/Hull Open
Pump Out
Layer Opacity
Basemap: Imagery
Basemap: Vector
NOAA Charts
Channel Framework
Disposal Areas
Ctrl-Click to select a single graph
Click-and-Drag to move graphs
Shift-Drag to stretch graphs
Volume: 5812.6 CY
09/03/2012 06:20:03
Graph Controls
Course
Displacement
Volume
DraftFore

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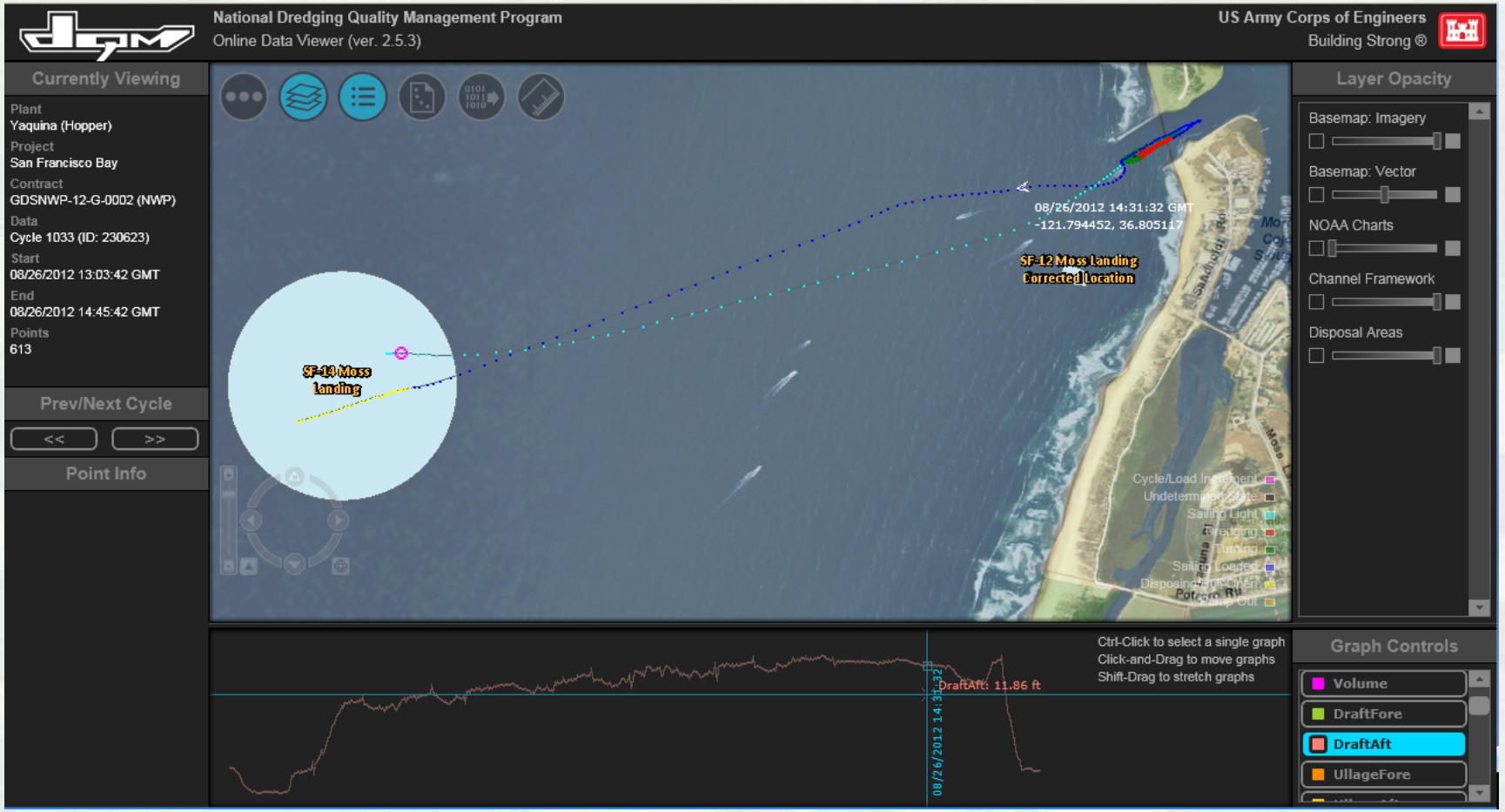
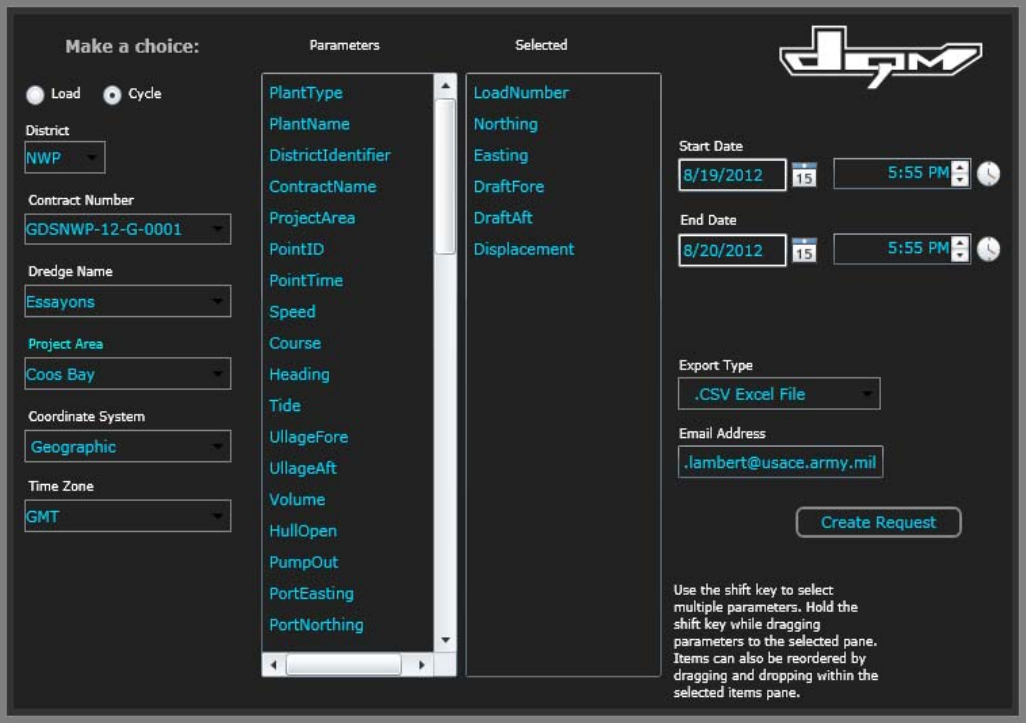
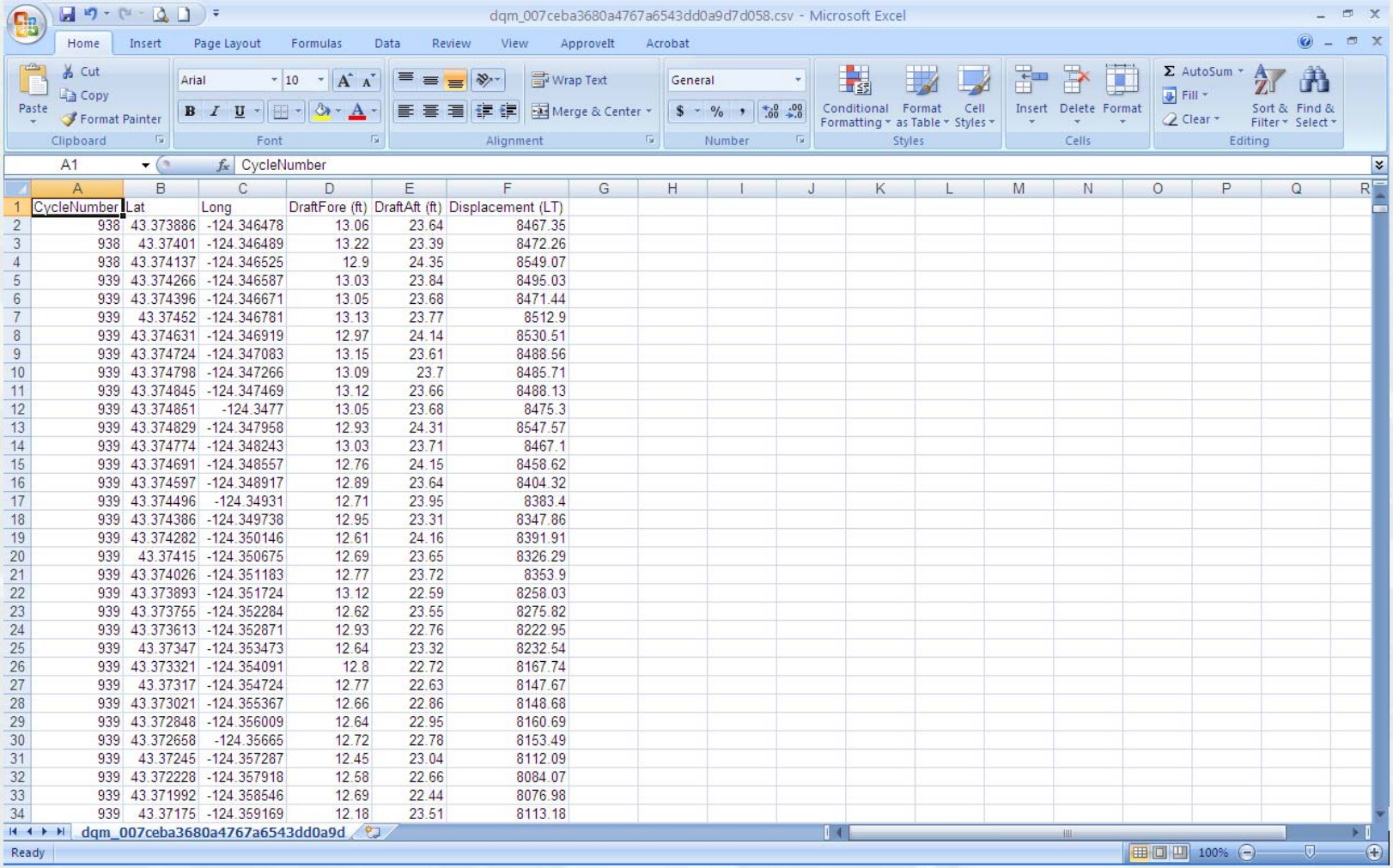

National Dredging Quality Management Program
Online Data Viewer (ver. 2.5.3)
US Army Corps of Engineers
Building Strong ®
Currently Viewing
Plant
Yaquina (Hopper)
Project
San Francisco Bay
Contract
GDSNWP-12-G-0002 (NWP)
Data
Cycle 1033 (ID: 230623)
Start
08/26/2012 13:03:42 GMT
End
08/26/2012 14:45:42 GMT
Points
613
Prev/Next Cycle
<<
>>
Point Info
SF-14 Moss Landing
08/26/2012 14:31:32 GMT
-121.794452, 36.805117
SF-12 Moss Landing
Corrected Location
Layer Opacity
Basemap: Imagery
Basemap: Vector
NOAA Charts
Channel Framework
Disposal Areas
Ctrl-Click to select a single graph
Click-and-Drag to move graphs
Shift-Drag to stretch graphs
DraftAft: 11.86 ft
08/26/2012 14:31:32
Graph Controls
Volume
DraftFore
DraftAft
UllageFore

CUSTOMIZED DATA EXPORT

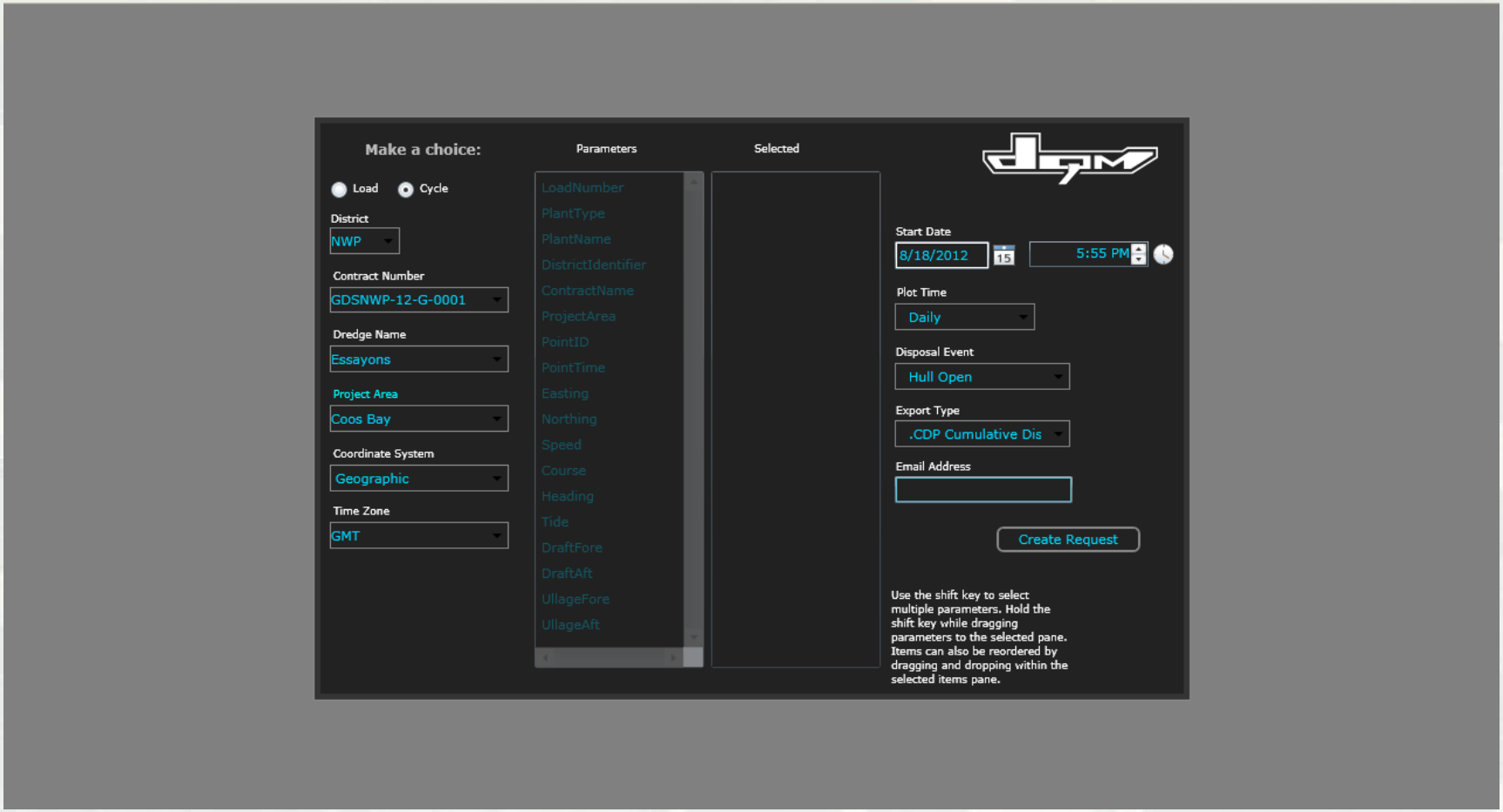




dqm_007ceba3680a4767a6543dd0a9d7d058.csv - Microsoft Excel

CycleNumber	Lat	Long	DraftFore (ft)	DraftAft (ft)	Displacement (LT)
938	43.373886	-124.346478	13.06	23.64	8467.35
938	43.37401	-124.346489	13.22	23.39	8472.26
938	43.374137	-124.346525	12.9	24.35	8549.07
939	43.374266	-124.346587	13.03	23.84	8495.03
939	43.374396	-124.346671	13.05	23.68	8471.44
939	43.37452	-124.346781	13.13	23.77	8512.9
939	43.374631	-124.346919	12.97	24.14	8530.51
939	43.374724	-124.347083	13.15	23.61	8488.56
939	43.374798	-124.347266	13.09	23.7	8485.71
939	43.374845	-124.347469	13.12	23.66	8488.13
939	43.374851	-124.3477	13.05	23.68	8475.3
939	43.374829	-124.347958	12.93	24.31	8547.57
939	43.374774	-124.348243	13.03	23.71	8467.1
939	43.374691	-124.348557	12.76	24.15	8458.62
939	43.374597	-124.348917	12.89	23.64	8404.32
939	43.374496	-124.34931	12.71	23.95	8383.4
939	43.374386	-124.349738	12.95	23.31	8347.86
939	43.374282	-124.350146	12.61	24.16	8391.91
939	43.37415	-124.350675	12.69	23.65	8326.29
939	43.374026	-124.351183	12.77	23.72	8353.9
939	43.373893	-124.351724	13.12	22.59	8258.03
939	43.373755	-124.352284	12.62	23.55	8275.82
939	43.373613	-124.352871	12.93	22.76	8222.95
939	43.37347	-124.353473	12.64	23.32	8232.54
939	43.373321	-124.354091	12.8	22.72	8167.74
939	43.37317	-124.354724	12.77	22.63	8147.67
939	43.373021	-124.355367	12.66	22.86	8148.68
939	43.372848	-124.356009	12.64	22.95	8160.69
939	43.372658	-124.35665	12.72	22.78	8153.49
939	43.37245	-124.357287	12.45	23.04	8112.09
939	43.372228	-124.357918	12.58	22.66	8084.07
939	43.371992	-124.358546	12.69	22.44	8076.98
939	43.37175	-124.359169	12.18	23.51	8113.18

MULTI-LOAD DISPOSAL PLOTS



DREDGING QUALITY MANAGEMENT

US Army Corps of Engineers

Phone: (877)840-8024

Email: DQM-Support@usace.army.mil

Cumulative Disposal Plot

Plant: Essayons

7-Day Tracking: 8/26/2012 - 9/1/2012

Project: Coos Bay

Contract: GDSNWP-12-G-0001

All latitude and longitude coordinates are in WGS84 using NAD83 datum or Geographic.

DREDGING QUALITY MANAGEMENT

US Army Corps of Engineers

Phone: (877)840-8024

Email: DQM-Support@usace.army.mil

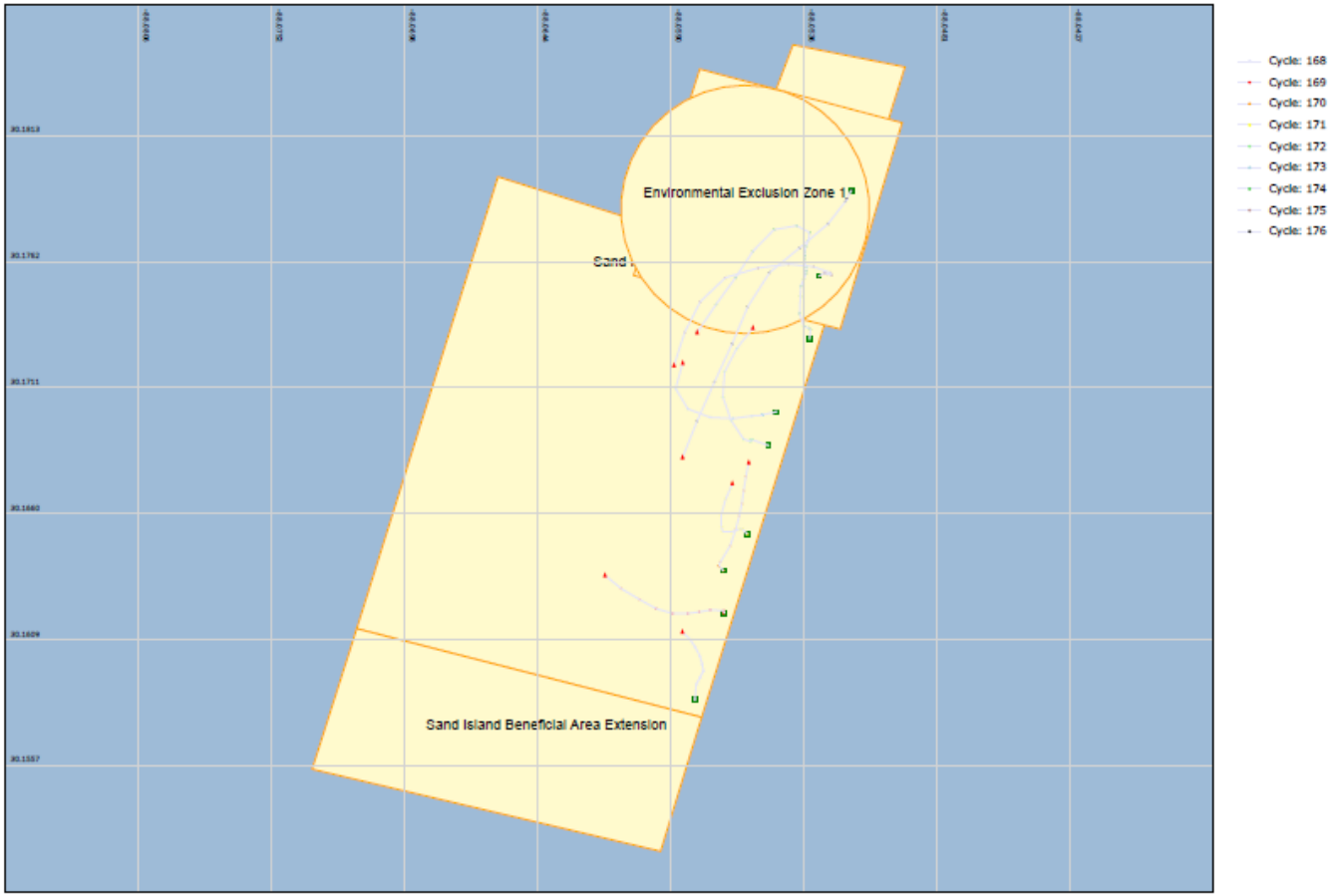
Cumulative Disposal Plot

Plant: GL 63

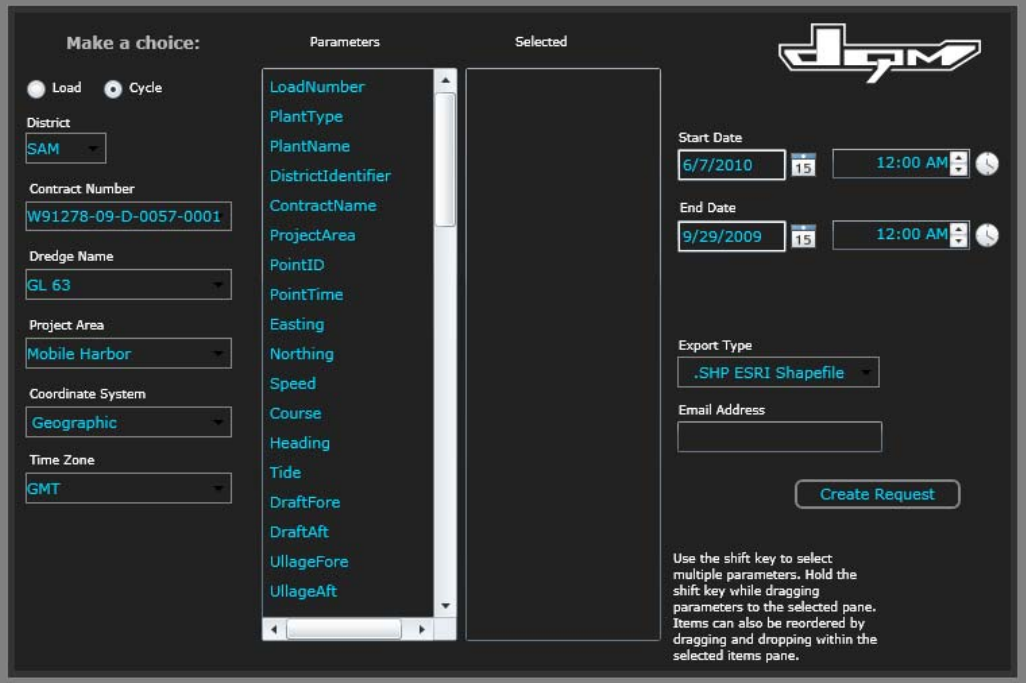
7-Day Tracking: 6/7/2010 - 6/13/2010

Project: Mobile Harbor

Contract: W91278-09-D-0057-0001

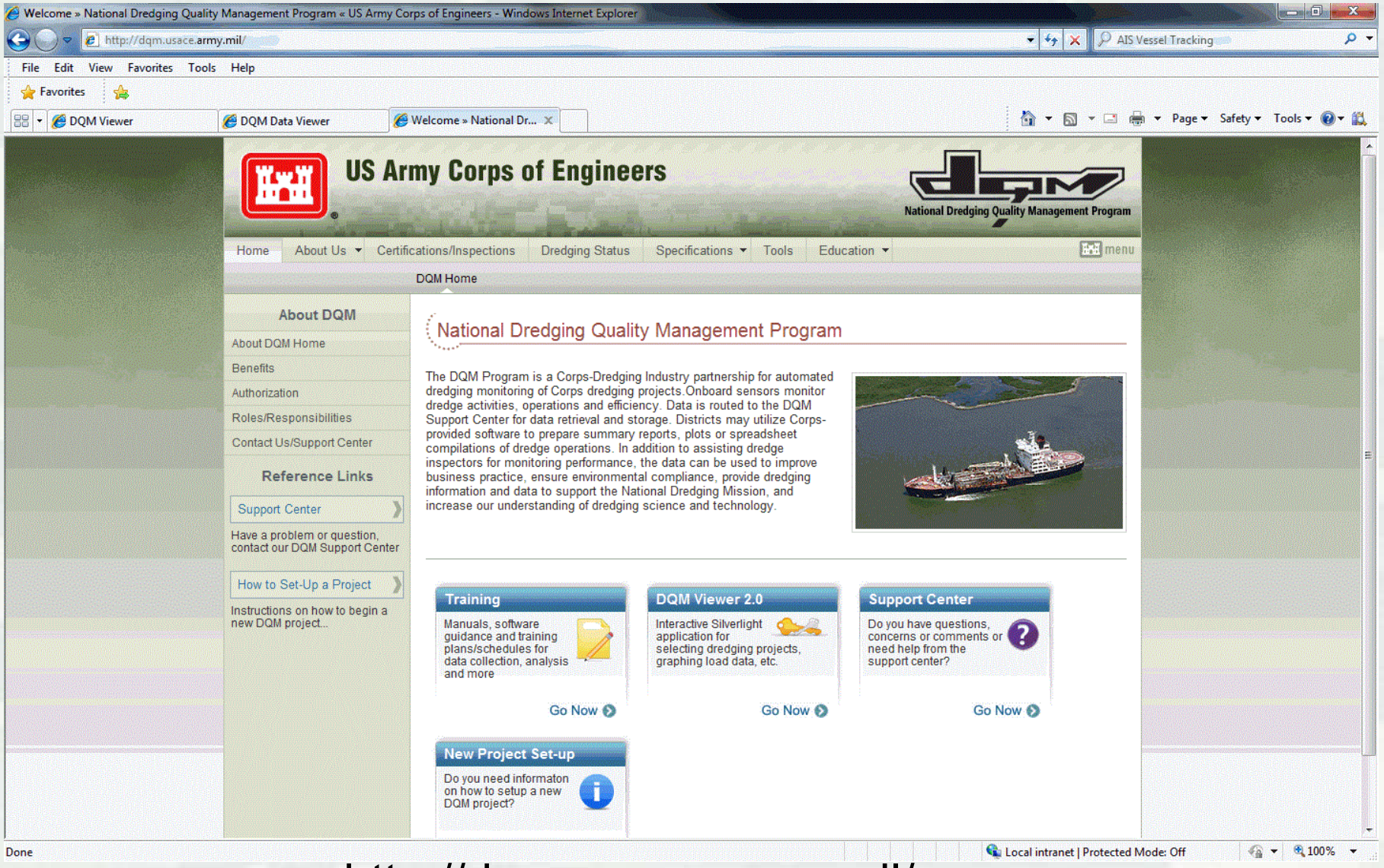


All latitude and longitude coordinates are in WGS84 using NAD83 datum or Geographic.


Make a choice:
Load
Cycle
District
SAM
Contract Number
W91278-09-D-0057-0001
Dredge Name
GL 63
Project Area
Mobile Harbor
Coordinate System
Geographic
Time Zone
GMT
Parameters
LoadNumber
PlantType
PlantName
DistrictIdentifier
ContractName
ProjectArea
PointID
PointTime
Easting
Northing
Speed
Course
Heading
Tide
DraftFore
DraftAft
UllageFore
UllageAft
Selected
Start Date
6/7/2010
12:00 AM
End Date
9/29/2009
12:00 AM
Export Type
.SHP ESRI Shapefile
Email Address
Create Request
Use the shift key to select multiple parameters. Hold the shift key while dragging parameters to the selected pane. Items can also be reordered by dragging and dropping within the selected items pane.

DQM On-Board Software (DQMOBS)

New DQM Dynamic Website



http://dqm.usace.army.mil/

Cutterhead PDT Agenda

May 2012

- *Purpose*: HQ has directed DQM with implementing the monitoring of cutterhead pipeline dredges. The purpose of this initial PDT meeting is to formalize an implementation plan. Discuss the details of monitoring which include data, data transmission, specifications, pilot projects, contractor coordination, etc.

- DQM Overview
- Review Past Evaluations
  - Illinois – Folly Beach, SC
  - Goetz – Fountain City, WI
- Review Surveys - Data Parameters
- Discuss Draft Specification
- Future Evaluations (PDT Discussion)
- Implementation Plan

Standardized Environmental Protection Agency (EPA) Reporting

EPA Vessel Monitoring Data

Project Information

Contract:
Placement Area: Example Norfolk Site Type: 102
* Profile: Monitoring
Coordinate Type: LL
** State Plane Datum:

* Optional field, data may not be required for project.
** State Plane Datum not required when Coordinate Type is LL

Load Number: 62

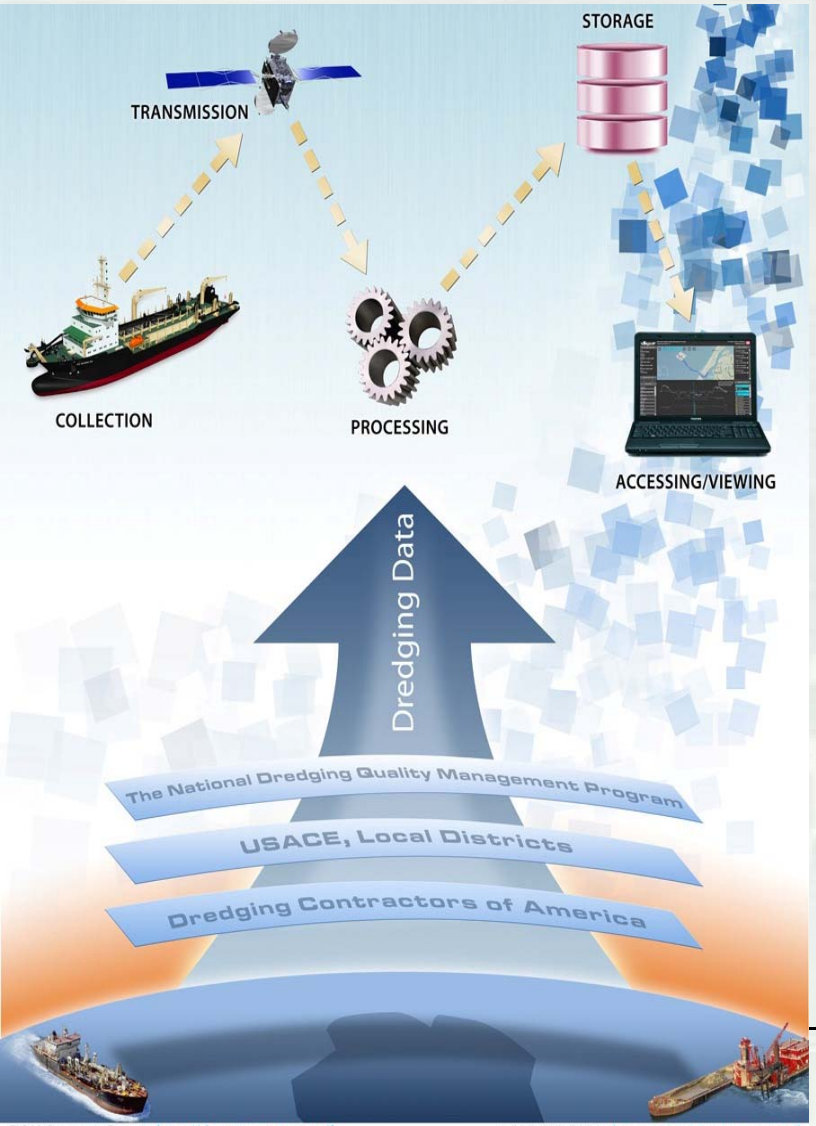
Vessel Name: * Type: Hopper * Technique: Bottom Dump
* Tow Vessel Name:
* Vessel Captain:
Estimated Volume: 10850
Material Description: sand
Material Source: North Turning Basin
Disposal Start Time: 03/08/10 00:07:13
Disposal End Time: 03/08/10 00:10:09
Disposal Start X: -79.757454
Disposal Start Y: 32.645969
Disposal End X: -79.757896
Disposal End Y: 32.64558
* Observed Water Depth:
* Comments:

Position/Sensor Data

Sample Date Time	Vessel X	Vessel Y	*Fore Draft	Aft Draft	*Avg Draft	*Vessel Speed	*Vessel Heading	*Vessel Course	*Hull Status
03/07/10 00:00:04	-79.754631	32.6549	23.55	25.28		5.4	191	181	Closed
03/07/10 00:00:15	-79.754684	32.654633	23.56	25.28		5.3	191	193	Closed
03/07/10 00:00:26	-79.754745	32.654366	23.53	25.32		5.3	192	190	Closed

QC Legend: OK, *Error*, *Range Error*, *Suspect*, QC

National Dredging Quality Management (DQM) Program



Plans For 2013

- Cutterhead Monitoring
- Desk-top Tools
- TDS Testing
- Near Real-time Scow Telemetry

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THE NATIONAL
DREDGING QUALITY MANAGEMENT
PROGRAM

The DQM Program is a partnership between the Corps and the dredging industry for automated monitoring of dredge activities.

Onboard sensors provide near-real-time data that allows for immediate response to emerging situations.

Districts can use the web-based DQM software to view, analyze, report on, and export dredging data.

The data can be used to improve business practice, ensure environmental compliance, and increase our understanding of dredging science and technology.

http://dqm.usace.army.mil

1-877-840-8024

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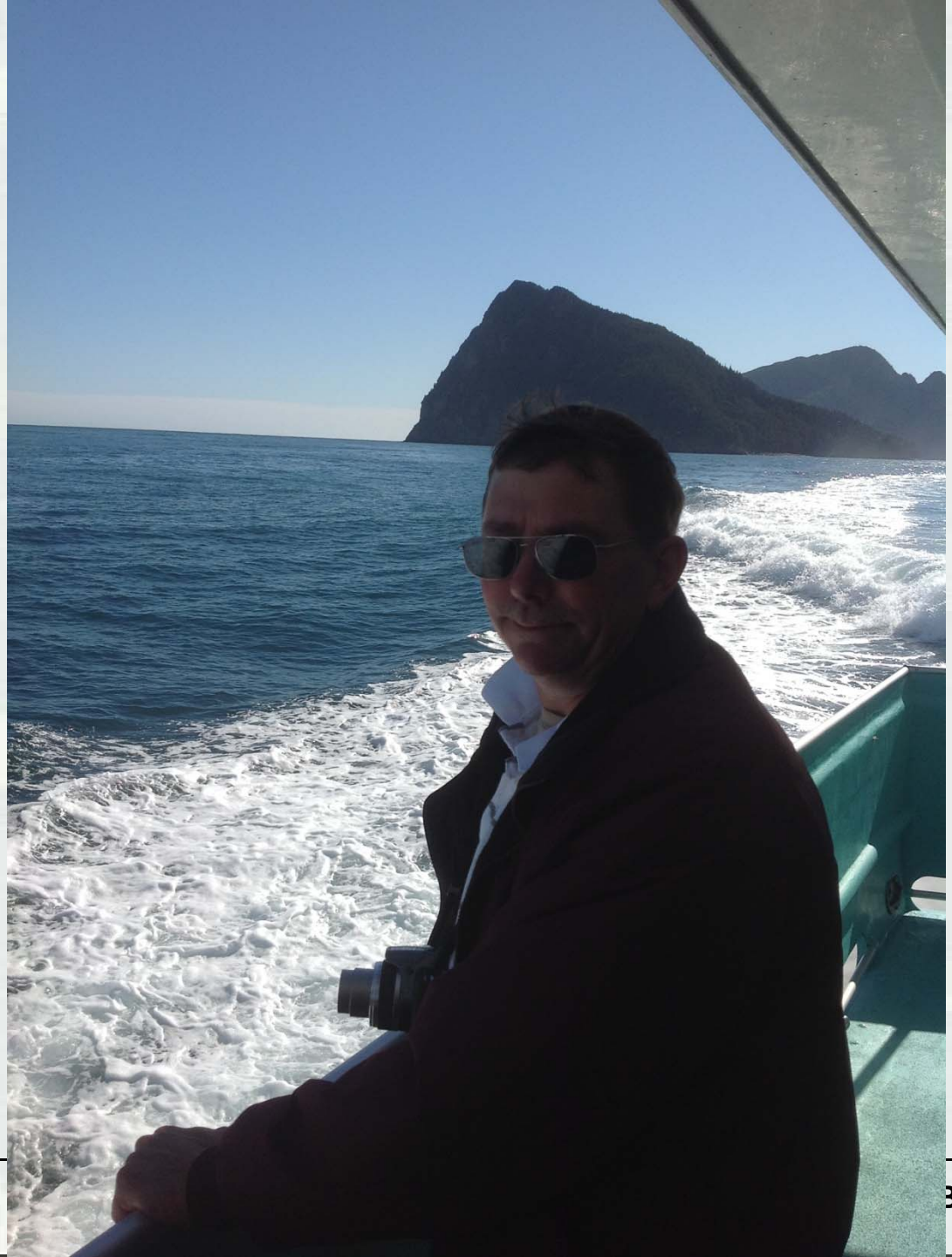

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Thanks Allen….
for a great meeting and being a wonderful host!