National Dredging Quality Management (DQM) Program

Western Dredging Association, Eastern Chapter
October 7, 2010

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Program Manager

DREDGING QUALITY MANAGEMENT

US Army Corps of Engineers
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Briefing Summary

- Program Overview
- Advancements
- New Capabilities
- EPA Reporting
- V2.0 Tools

Program Evolution

May 2006
V1.0

Mandated R&D to Operations
MSQL Database
Desktop Client Tools
Hopper dredges/Scows

March 2009
V1.5

Automated data import to database
New Web-based Viewer
Improved data analysis for QA
Updated Specs

Fall 2010
V2.0

Oracle e-standard Database
Web based tools
•Viewer
•Disposal Plot
•Data Export in csv
•Near Real-time data receipt

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Recent Program Advancements

- Industry Partnership and Relationship
  - ► Addressed proprietary concerns
  - ► Prepared parameter justification list
  - ► Discussed technical issues
- Customer Focus - COE Districts Needs
- Technology Exchange with Dutch MARS Program
- Generated specialized report formats
  - ► EPA
  - ► Turtle Take Analysis

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Program Advancements (cont'd)

- Implemented V1.5
  - ► Web-based Viewer
  - ► Hopper Dredge Automated Backup Script
  - ► All plant reporting in geographic coordinates & GMT
- Development of V2.0
  - ► Customer input and testing
  - ► Purchased new server and set up new Oracle database
  - ► Expanded capabilities of web-based viewer
  - ► Automated production of Disposal Plot pdf's
  - ► Simplified user data export to csv . file
  - ► Developing logic for automatic cycle and dredge state determination

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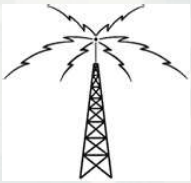

Telemetry

Improving the timeliness to the Dredging Manager

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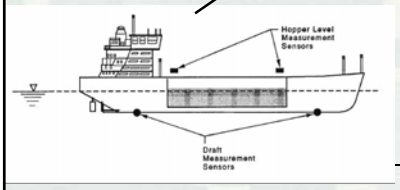
Near Real-Time Hopper Dredge Data Transmittal

DQM Center

Dredging Manager



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Database

Flexibility for the future

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V2.0 Database

- •E-Standard Oracle database - Speed
- •Flexibility for future tools, capabilities, ect.
- •Raw data storage only
- •Automated e-mail alerts
- •Calculated cycle analysis
- •Enhanced web-based data processing capabilities

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Tools for the Modern Dredging Manager

Web Based Real-time Access

- Disposal Plots
- Data Export
- Web-Based Viewer

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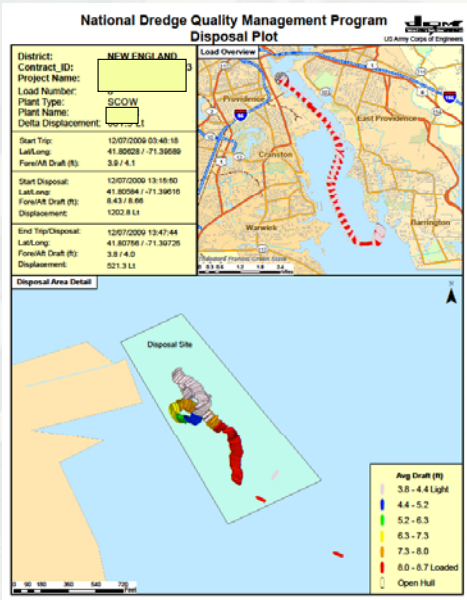
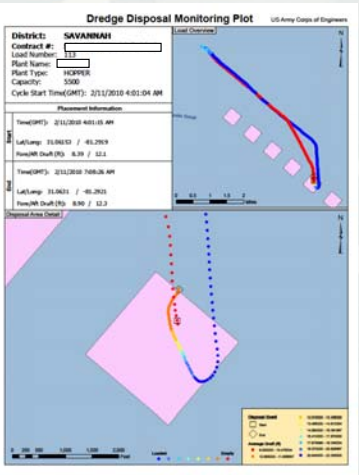
Disposal Plot pdf's





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Data Export Capability

- Spreadsheet/GIS Integration
- EPA Standard Format
- MMS Requirement
- Daily Reports

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Data QA so we can…

SUMMARY REPORT
Hopper Dredge Type

Dredge Name

Dodge Island: 03/25/2010 04:04:33 - 03/25/2010 18:45:29

Contract ID

SAW-W91200-09-B-0033

Time Jump Issues

Start Time Jump	End Time Jump	Length of Jump (Seconds)
03/25/2010 18:37:30	03/25/2010 18:38:31	61

Load Number Issues

Time of Load Change	Previous Load	Current Load
03/25/2010 06:57:29	169	0
03/25/2010 06:57:33	0	169
03/25/2010 10:41:54	170	0
03/25/2010 10:42:00	0	170

DAILY LOAD SUMMARY

Load Num	Date/Time Loaded	X Pos	Y Pos	Volume	Date/Time Empty	X Pos	Y Pos	Volume	Δ Volume
169	3/25/10 7:05	-78.0214	33.71211	2656.4	3/25/10 7:10	-78.0229	33.7074	1123.8	1431.6
170	3/25/10 11:52	-78.0284	33.70396	2613.4	3/25/10 11:59	-78.0297	33.70061	1123.4	1490
171	3/25/10 11:59	-78.0298	33.70043	1123.4	3/25/10 15:42	-78.0256	33.70352	1247	-123.6
172	3/25/10 15:42	-78.0255	33.70355	1247	3/25/10 15:43	-78.0245	33.70413	1094.1	152.9

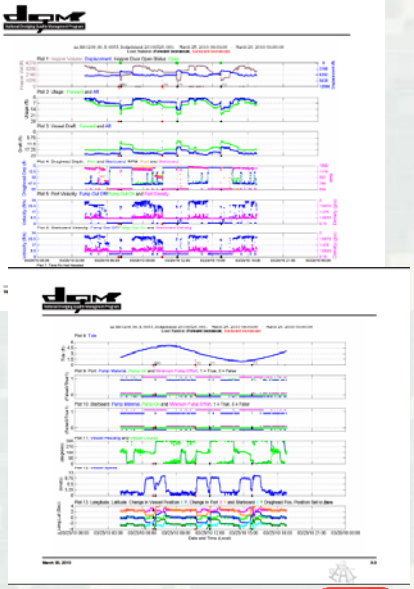
RESULTS OF VISUAL CHECK

Field	Status

No apparent issues.

March 30, 2010 1-3

DRAFT



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EPA Vessel Monitoring Data

Project Information

Contract: SAC-W912HN-10-C-0006
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: Glenn Edwards * 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	25.55	25.28		5.4	191	181	Closed
03/07/10 00:00:15	-79.754684	32.654633	25.56	25.28		5.3	191	193	Closed
03/07/10 00:00:26	-79.754745	32.654366	25.53	25.32		5.3	192	190	Closed

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

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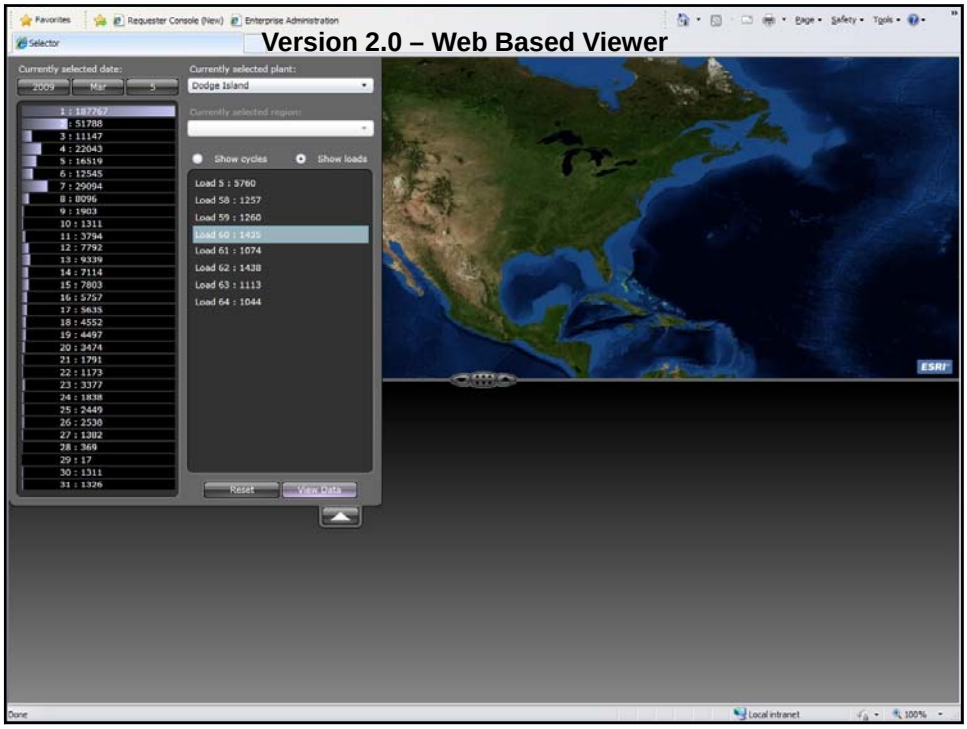
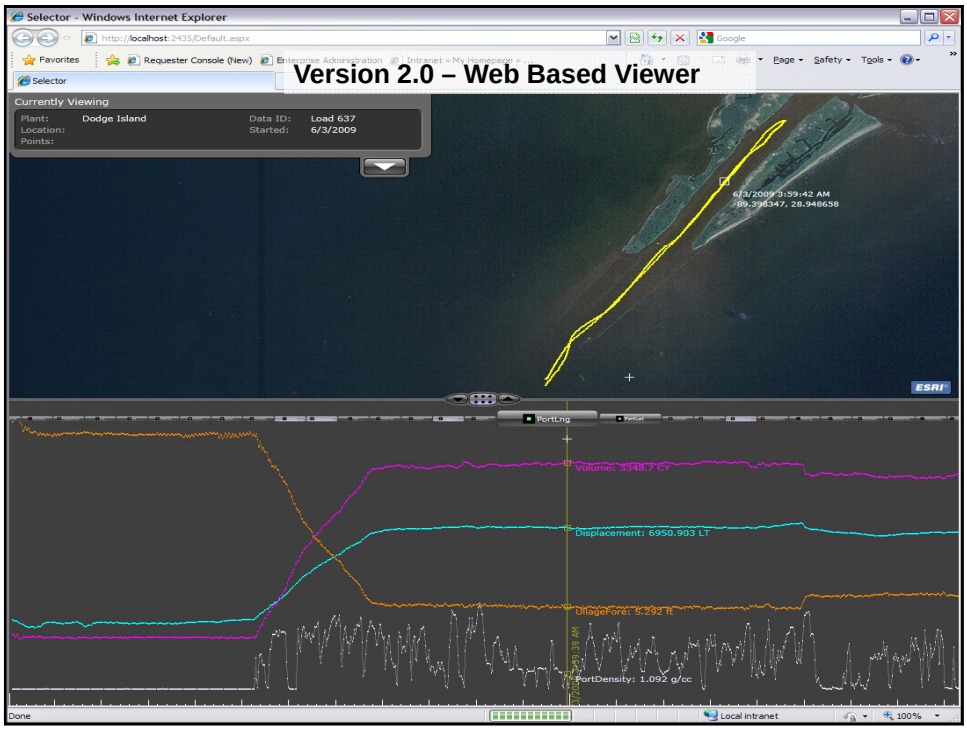

Version 2.0 – Web Based Viewer
Selector
Currently selected date:
2009
Mar
5
Currently selected plant:
Dodge Island
Currently selected region:
Show cycles
Show loads
Load 5 : 5760
Load 58 : 1257
Load 59 : 1260
Load 60 : 1435
Load 61 : 1074
Load 62 : 1438
Load 63 : 1113
Load 64 : 1044
Reset
View data
ESRI


Selector - Windows Internet Explorer
Version 2.0 – Web Based Viewer
Currently Viewing
Plant: Dodge Island
Location:
Points:
Data ID: Load 637
Started: 6/3/2009
6/3/2009 3:59:42 AM
-89.398347, 28.948658
ESRI
PortLng
Volume: 3348.7 CY
Displacement: 6950.903 LT
DiffageFore: 5.292 ft
PortDensity: 1.092 g/cc

Summary

- Total New System, V2.0
  - Real-Time Hopper Data
  - Oracle Database
  - All new Web based tools
  - Two-way hopper communicaton
- EPA/MMS Data Reports
- Future – TDS/Cycle Analysis

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