

NATIONAL DREDGING QUALITY MANAGEMENT (DQM) PROGRAM

*2011 Galveston District
Dredging Conference*
Galveston, TX
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Talking Points

- What is DQM?
- Program Overview, Status & Future
- Open Floor/Questions



What is DQM?

- Formally Silent Inspector Program
- National Program - Mobile District
- Automated Dredge Monitoring
- Onboard Sensors Monitor Dredge Activities, Operations and Efficiency.
- Corps-provided Software to Prepare Summary Reports, Plots or Spreadsheet Compilations of Dredge Operations.
- Dredging Managers can Monitor Performance to Improve Business Practice, Ensure Environmental Compliance, Provide Dredging Information and Data to Support the National Dredging Mission.



Yup...it's a boat.



Program Evolution



May 2006
V1.0

- Mandated R&D to Operations
- SQL Database
- Desktop Client Tools
- Hoppers/Scows



March 2009
V1.5

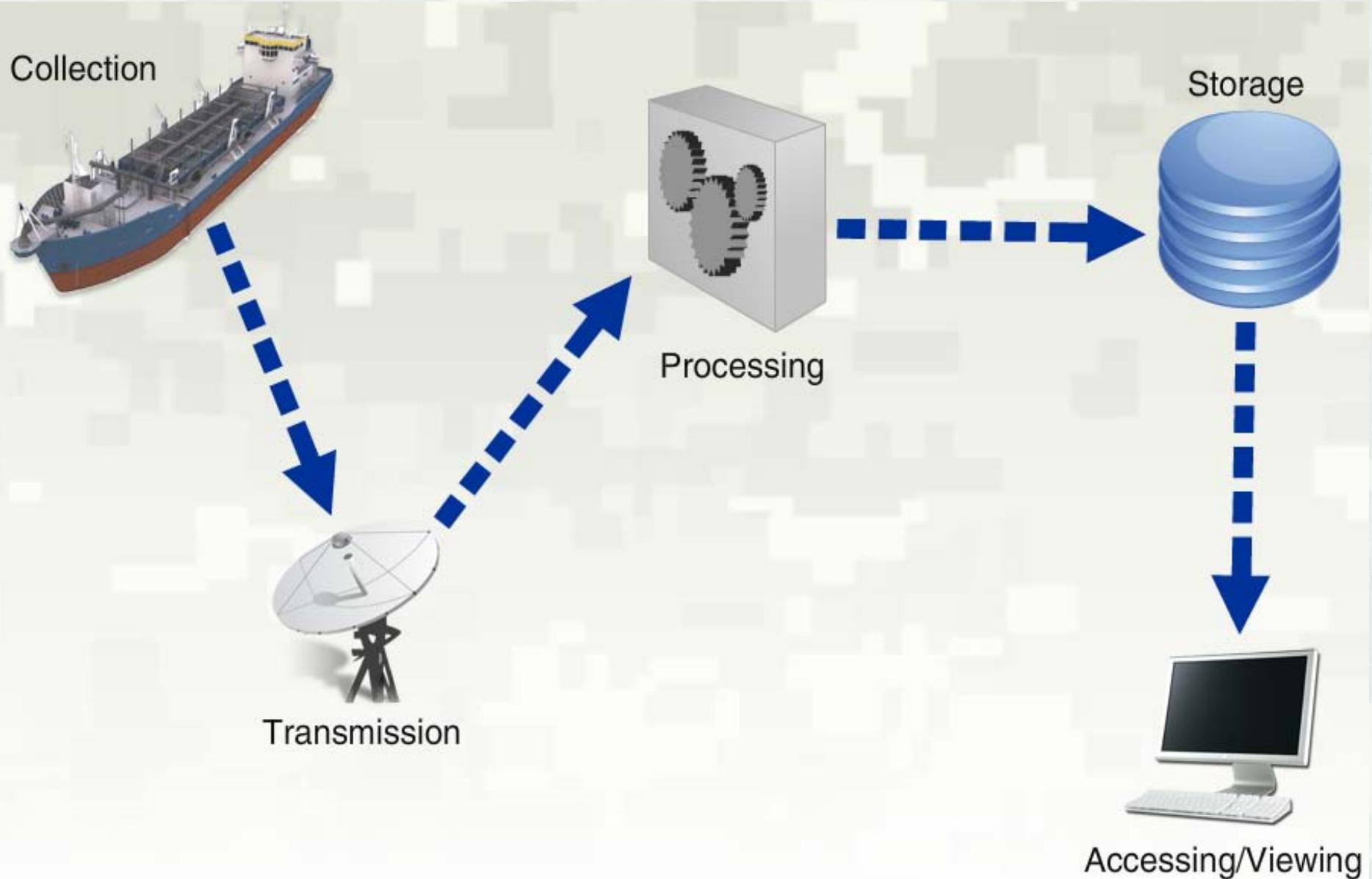
- Automated data import to database
- 1st Gen Web-based Viewer
- Improved data analysis for QA
- Updated Specs



Fall 2010
V2.0

- Oracle 10g Database
- All Web Based Env.
- Viewer
 - Disposal Plot
 - Data Export in csv
 - Near Real-time data Receipt
- DQM Website 

Data Management Process



DQM Tools

Dredging data can be accessed using the web-based DQM data viewer. Authorized Corps personnel and Corps contractors can interact with maps, graphs and reports in order to monitor on-going dredging activities, as well as to review historical data.

Maps:

- Dredge tracks
- Borrow and disposal areas
- Navigation channel boundaries
- Shoreline boundaries

Graphs:

- Data from each dredge sensor over the course of the selected dredging cycle(s)

Reports:

- Summary and detail production reports
- EPA reports
- Inspection and certification reports



Alerts:

When and if the system identifies potential problems, automated emails are immediately sent to designated individuals.





US Army Corps of Engineers



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DQM Home

About DQM

- About DQM Home
- Benefits
- Authorization
- Roles/Responsibilities
- Contact Us/Support Center

Reference Links

[Support Center](#) >

Have a problem or question, contact our DQM Support Center

[How to Set-Up a Project](#) >

Instructions on how to begin a new DQM project...

National Dredging Quality Management Program

The DQM Program is a Corps-Dredging Industry partnership for automated dredging monitoring of Corps dredging projects. Onboard sensors monitor dredge activities, operations and efficiency. Data is routed to the DQM Support Center for data retrieval and storage. Districts may utilize Corps-provided software to prepare summary reports, plots or spreadsheet compilations of dredge operations. In addition to assisting dredge inspectors for monitoring performance, the data can be used to improve business practice, ensure environmental compliance, provide dredging information and data to support the National Dredging Mission, and increase our understanding of dredging science and technology.



Training

Manuals, software guidance and training plans/schedules for data collection, analysis and more



[Go Now](#) >

DQM Viewer 2.0

Interactive Silverlight application for selecting dredging projects, graphing load data, etc.



[Go Now](#) >

Support Center

Do you have questions, concerns or comments or need help from the support center?



[Go Now](#) >

New Project Set-up

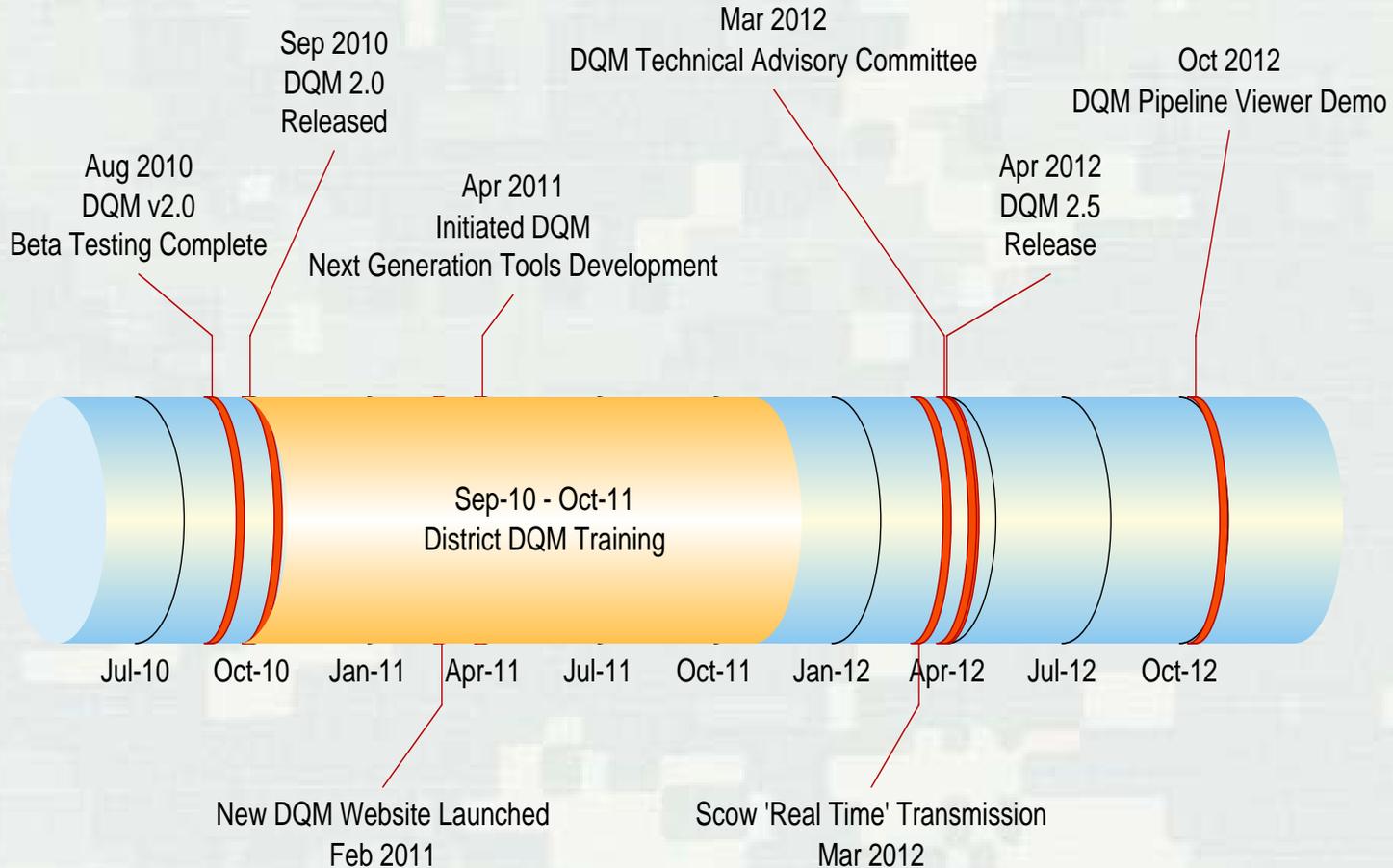
Do you need information on how to setup a new DQM project?



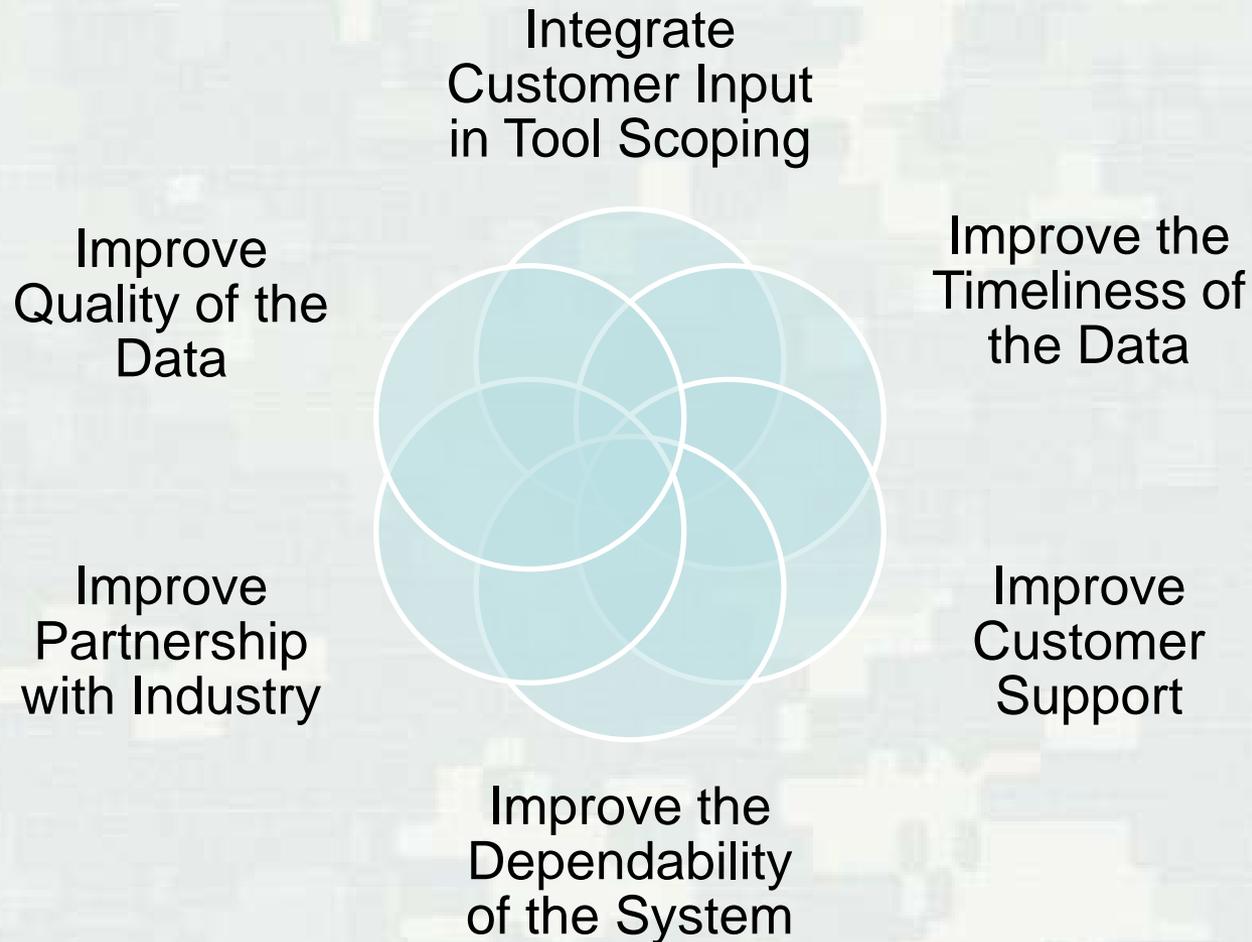
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Program Status & Future



Annual Goals





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.

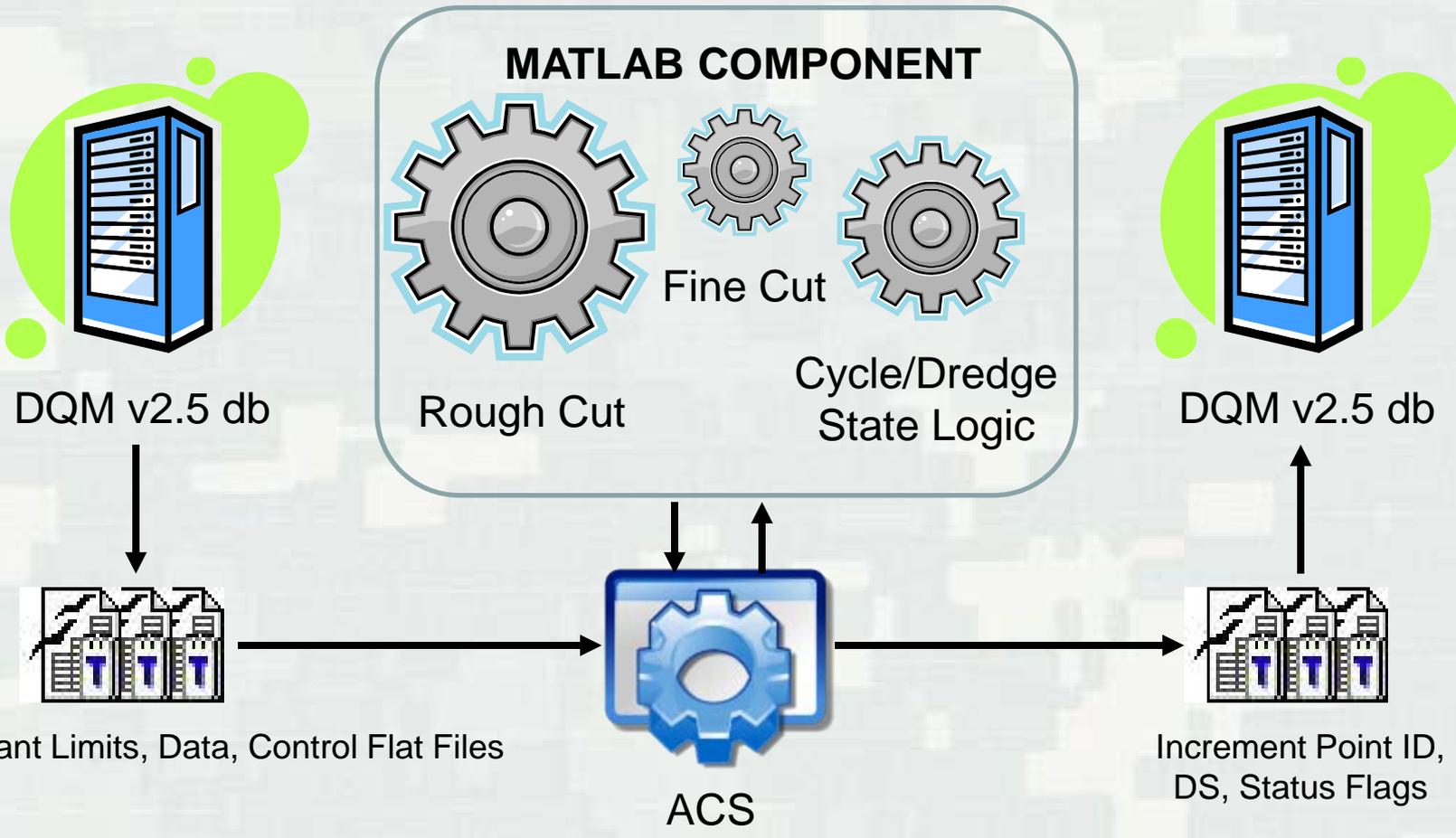
Onboard sensors provide near-real-time data that allows for immediate response to emerging situations.

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.



CN/DS MATLAB Integration (Conceptual)



EPA Report

EPA Vessel Monitoring Data

Project Information

Contract: xxxxxx
 Placement Area: Fernandina Site Type: 102
 * Profile:
 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: 63

Vessel Name: xxxxxx * Type: Hopper * Technique: Bottom Dump
 * Tow Vessel Name:
 * Vessel Captain:
 Estimated Volume: 6315
 Material Description: sand and silt
 Material Source: Turning Basin
 Disposal Start Time: 05/18/11 13:45:58
 Disposal End Time: 05/18/11 14:12:49
 Disposal Start X: -81.275539
 Disposal Start Y: 30.546944
 Disposal End X: -81.24929
 Disposal End Y: 30.565082
 * 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
05/18/11 13:33:32	-81.296258	30.530604	12.34	21.42	16.9	3.5	46	50	Closed
05/18/11 13:34:37	-81.295206	30.531391	13.41	21.95	17.7	4.5	47	50	Closed
05/18/11 13:35:42	-81.293691	30.532519	14.64	22.27	18.5	6.6	46	50	Closed

- Automatically fills in contract number/name, dredge plant and load number
- Disposal times/locations based on dredge state analysis of sensors
- Estimated volume based on ullage change during disposal event
- Position/Sensor Data
 - Hopper: Every minute outside DA, every 10 sec during disposal event
 - Scow: Every 4-6 minutes transit, every 6 sec in DA, every hour stationary
- Default values/manual inputs DA, site type, material

