Deepwater Horizon Rig Explosion Air Sampling & Monitoring Data Management Plan

Prepared by: National DATA Team

0) Executive Summary

This initial plan describes data management procedures for air monitoring, air, water, and sediment sampling, and photo and other incident field documentation for activities related to the Deepwater Horizon Rig Explosion. There are four main EPA data management centers; Venice (R6), Chalmette(R6), Dallas (R6), and Mobile (R4). As the scope of EPA's involvement increases and changes, this plan will be updated to incorporate new data streams and change data management procedures.

1) General Information

1a) Scenario:

Background: Late on Tuesday night, April 20, an explosion and fire occurred on a Mobile Offshore Drilling Unit (MODU) in the Gulf of Mexico about 50 miles offshore of Venice, LA. The rig is owned by Trans Ocean and under contract to BP. On Thursday morning, April 22, the oil rig capsized and sank.

The rig had an estimated 700,000 gallons of diesel on board. An unknown amount burned in the fire. It is unknown if the tanks holding the diesel fuel are intact or leaking underwater. The well, at the seafloor, was also leaking crude oil and natural gas.

Approximately 200,000 gallons of oil per day is leaking from the sea floor well head with no immediate solution to mitigate this leak. A major oil slick is increasing in size in the Gulf of Mexico and has began to impact shoreline areas.

As of 2 May, 2010, EPA's focus is on air monitoring and sampling; water and sediment sampling; and planning for major efforts with Natural Resource Damage Assessments (NRDAs) and shoreline clean-up.

1b) Special Considerations:

This plan involves the management of large amounts, over 350,000 records per day, of real-time monitoring data. It is critical that Data Quality Objectives (DQOs) of this incident are determined for real-time monitoring and appropriate data reduction steps are undertaken to meet those DQOs while maintaining an efficient collection to reporting process. This incident has the potential to involve more than one data management group, either due to geography, or because additional organizations become involved. If that is the case each data management group would maintain their own master Scribe database with those projects being merged through Scribe.NET.

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1c) Privacy Concerns? No

1d) Last Updated:

Document Version	Latest Revision	Author	Description of Changes
V1.6	5/120/10	D. Wainberg, R1 Harvey Simon, R2 David Parrish, R6	- Data Element and EDD Tables updated with new valid values and moved to Appendix B - Added Spatial Data Management info in section 4e - Added Ebam file processing and importing steps to Scribe Coord. Checklist - Revised data flow diagram

For a full list of revisions see section 9

2) Overall Workflow

2a) Data Flow Diagram:

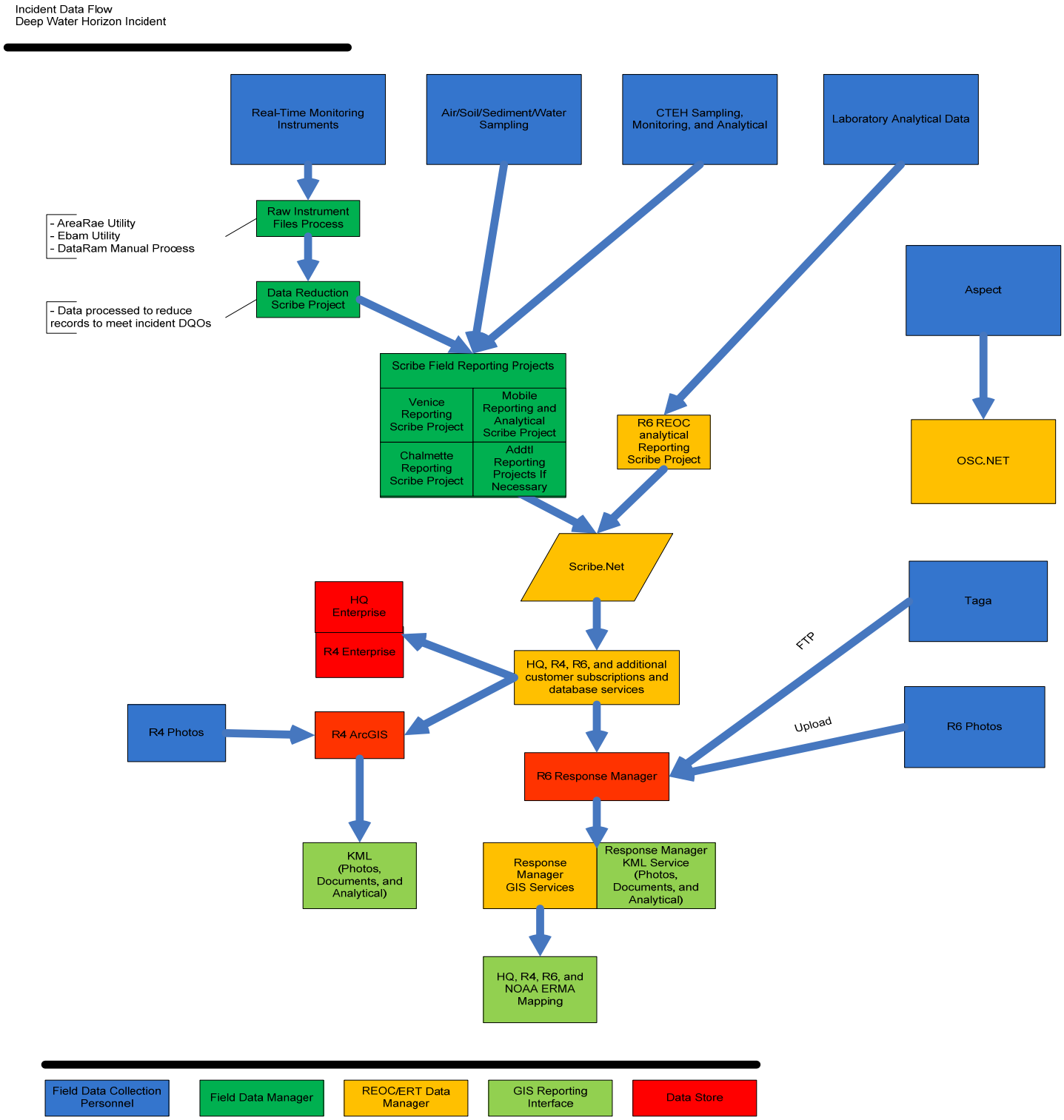


Figure 1. Data Flow Diagram

The flow diagram shown in Figure 1 involves three main types of data streams.

Real-Time Monitoring Data

-Field personnel retrieve the instrument logfile, process that data into a SCRIBE ready/compliant EDD format and load it into a data reduction Scribe project. Queries within the data reduction Scribe project create 8hr and max result records for each parameter, by location and day. This reduced data is then loaded to the master project

Sampling & Analytical Data

-This data stream is imported directly to the master scribe project

TAGA Data

-Due to the unique attributes of the TAGA data, results from the TAGA will be immediately transposed to a GIS environment so that every TAGA run has a corresponding map which uses a defined legend to display the results, as opposed to noting each individual reading. This data will be stored by Response Manager and be made available via SDE.

ASPECT Data

-Due to the unique attributes of the ASPECT data, results from the ASPECT are processed by the ASPECT flight crew and delivered as a KML file.

Photos

-Operational photos related to the incident will be uploaded to Response Manager

Rapid Assessment Tool (RAT) Data

-Field team personnel will collect data from continuously moving MultiRae (for VOCs) and DataRam (for particulates) in the RAT environment. Results from the RAT data will be immediately transposed to a GIS environment so that every TAGA run has a corresponding map which uses a defined legend to display the results, as opposed to noting each individual reading. This data will be stored by Response Manager and be made available via Spatial Database Engine (SDE).

2b) Roles and Responsibilities:

Field Personnel: Operate and maintain the monitoring and sampling instrumentation, collect samples, download instrument log files, input air sample metadata into a spreadsheet EDD

Site Data Manager: Process instrument log files, reduce raw data if applicable to meet DQOs, maintain master site database

Field GIS Manager: Create TAGA route maps, create sample results maps, create stationary monitoring maps

Remote Support: Assist with data processing, verification, and reporting queries, provide Scribe support, Subscribe to multiple field reporting projects and republish as a new project

Field Data Management Coordinator: Hold regular calls with the field data managers to discuss any data management issues, Participate in the ER GIS Workgroup coordination calls, Act as a liaison to the HQ Environmental Unit and other major data consumers.

3) Data Collection

3a) Field Data Collection Methodology and Data Deliverables:

Monitoring/ Sampling/Analytical Type	Instrument /Method	Data Collection Tool	Data Collection Instructions	File Type	Comments
Real-time Point Air Monitoring	AreaRae	Instrument Log File	- Set to data-logging mode - Set data-logging frequency per site DQOs - Download monitoring file at a maximum frequency of once per hour, but up to 24 hours assuming sufficient battery life - Rename each file (see comments column) -Store in appropriate folder specific for that day or deliver to Data Manager -Prepare instrument for next operation period and/or put on charge	.rtf	**Filenaming nomenclature:** location_date_timeended_ instrumentID Ex: SE_20100427_1600_247
Real-time Point Air Monitoring	DataRam	Instrument Log File	- Set to data-logging mode - Set data-logging frequency per site DQOs - Data-logging frequency is to be determined by the Ops personnel - Download monitoring file at a maximum frequency of once per hour, but up to 24 hours assuming sufficient battery life - Rename each file (see comments column) -Store in appropriate folder specific for that day or deliver to Data Manager	.csv	**Filenaming nomenclature:** location_date_timeended_ instrumentID Ex: SE_20100427_1600_247
Real-time TAGA Air Monitoring	TAGA	TAGA Instruments	ERT SOPs	.doc reports	Follow ERT SOPs
Real-Time ASPECT Air Monitoring	ASPECT	FTIR, aerial camera	NDT SOPs	.doc reports, kml,	Follow NDT SOPs
Air Sampling	Summa	Scribe Air sampling EDD spreadsheet (electronic/hardcopy)	- Enter data into EDD	xls./ hardcopy	EDD Templates are located in C:/Program Files/Scribe/user guides/EDD Templates
Air Sampling	Tedlar Bag	Scribe Air sampling EDD spreadsheet (electronic/hardcopy)	- Enter data into EDD	xls./ hardcopy	EDD Templates are located in C:/Program Files/Scribe/user guides/EDD Templates
Water Sampling		Scribe Water Sampling EDD Spreadsheet (electronic/hardcopy)	-Enter data into EDD	Xls/ hardcopy	EDD Templates are located in C:/Program Files/Scribe/user guides/EDD Templates
Sediment Sampling		Scribe Soil Sampling EDD Spreadsheet (electronic/hardcopy)	-Enter data into EDD	Xls/ hardcopy	EDD Templates are located in C:/Program Files/Scribe/user guides/EDD Templates
Laboratory Analytical Data	TBD	IREDD and pdf	Result logging/reporting per lab SOPs	xls/csv/ hardcopy	EDD Templates are located in C:/Program

					Files/Scribe/user guides/EDD Templates
Logbooks					
Site Sketches					
Mobile VOC and Particulate Data Collection	MultiaRae/ DataRAM	Rapid Assessment Tool (RAT)	Follow RAT Instructions/SOP	.shp	

3b) Data Collection SOPs & Checklists:

SOPs: See table in section 3a for Data Collection SOPs. Additional Data Streams will be added to the table above as they are identified

Checklists: TBD

4) Data Management

Tabular Data Management:

4a) Data Processing:

Monitoring/ Sampling/Analytical Type	Instrument /Method	Data Collection Tool	Data Processing Instructions	File Type	Comments
Real-time Point Air Monitoring	AreaRae	Instrument Log File	- Convert log file to normalized EDD format using the AreaRae import utility for Scribe - The AreaRAE Utility allows you to identify the location and the EventID for each file it processes -If an AreaRAE was deployed as a stationary monitor, then a single location ID should be used for all observations - Follow Data Point Reduction Steps outlined below & see comments	.csv	Area Import Utility can be found at: www/epaosc.org/scribe -An example of an RTF file that has been processed can be seen in Appendix A See Appendix A
Real-time Point Air Monitoring	DataRam	Instrument Log File	- Convert log file to normalized EDD format by opening the xls file and removing the header information - Follow Data Point Reduction Steps outlined below & see comments	.csv	See Appendix A
Real-time TAGA Air Monitoring	TAGA	TAGA Instruments	- ERT SOPs - Transfer to geospatial env when each run is completed	.shp	
Real-time ASPECT Air Monitoring	ASPECT	FTIR, aerial photography	-NDT SOPs, - Transfer to geospatial env when each run is completed	KML	

Mobile VOC and Particulate Data	RAT	RAT .shp export	-Export from RAT using .shp option - Transfer to geospatial env when each run is completed	.shp	
Air Sampling	Summa	Scribe Air sampling EDD spreadsheet (electronic/hardcopy)	- Enter data into EDD if not done - Import into Scribe using import wizard	xls./ hardcopy	See Appendix A
Air Sampling	Tedlar Bag	Scribe Air sampling EDD spreadsheet (electronic/hardcopy)	- Enter data into EDD if not done - Import EDD into Scribe using import wizard	xls./ hardcopy	See Appendix A
Water Sampling		Scribe Water Sampling EDD Spreadsheet (electronic/hardcopy)	- Enter data into EDD if not done - Import EDD into Scribe using import wizard -Data category=Water Sampling	Xls/ hardcopy	See Appendix A
Sediment Sampling		Scribe Soil Sampling EDD Spreadsheet (electronic/hardcopy)	- Enter data into EDD if not done - Import EDD into Scribe using import wizard -Data category=Soil/Sediment	Xls/ hardcopy	See Appendix A
Laboratory Analytical Data	TBD	IREDD and pdf	- Enter data into EDD if not done - Import EDD into Scribe using import wizard	xls/csv/ hardcopy	For R6 there will be a separate Scribe reporting project for analytical data
Photo/GPS Data	Digital Camer/GPS enabled digital Video/Camers	Response Manager – Response and Recon Modules	- Enter photo data and upload photo information into Response Manager desktop or Web	.jpg	Response Manager photo report and/or export to kml functionality will be used Response Manager gps related record will go into

Data Point Reduction SOP

- For each reporting period a data reduction Scribe project should be created using the specified template (R06 Deep Water Horizon Template). The file should be named and stored in a way that makes it apparent what reporting period the project represents. This project will hold the raw data
- All normalized instrument EDD files should be imported into the data reduction Scribe project using specific import scripts if necessary
- The data reduction Scribe project will contain data reduction SQL queries, these queries will create a single set of 1-hr average data. The Mon_Source field will be used to designate the averaging period.
- The results of these queries will be used as the import source for the master Scribe project.

See Appendix A for detailed checklists

4b) Scribe Import Mappings:
There will be instrument specific mappings for each raw, normalized instrument EDD file. As these are developed they will be added to the data reduction template file. All other data streams will use standard Scribe EDD templates, so all the field names will be native to Scribe

4c) Data Element Dictionary:

A complete listing of all data elements in Scribe, by table, can be found at www.epaosc.org/scribe. The tables listed in Appendix B should be considered the minimum data requirements for the identified data source. These elements may increase or have their description changed as a result of a change in operational requirements. To better assist the field data managers, we are identifying the data elements associated with each data stream.

See Appendix B for data element tables

4d) Entity Relationship Diagram:
See Scribe documentation www.epaosc.org/scribe

4e) Geospatial Data Management

EPA GIS staff and contractors provide geospatial analysis and mapping support to the incident command in the office (EOC, programs) and the field (command posts). Coordination is maintained through the Regional GIS Coordinators. The ER GIS Work Group holds regular conference calls to identify requirements and make assignments. The email group (Notes mail) for the incident is "R6 GIS DWH".

FGDC Compliant Metadata- EPA GIS uses the EPA Metadata Editor (EME, version 3 ?) to generate metadata for incident data sets and products. For data received from other sources without metadata EPA creates metadata records to the extent possible. The EME is available for download at http://geodata.epa.gov .

Documentation related to EPA GIS Coordination for the spill is maintained in a subsection of the GIS Workgroup site at http://www.gisworkgroup.org/gulfspill/ (open entry page) or https://epaqpx.rtp.epa.gov/QuickPlace/epagisworkgroup/PageLibrary852577190049DE3C.nsf/h_Toc/92BE13FAEC1B58390525670800167238/ (password protected, contact simon.harvey@epa.gov for access). Key information on the site include:

- A list of GIS and Data Management Team contacts for the incident.
- Links (urls) to important data resources.
- A table of data maintained for the incident.

Region 6
Documentation of Work Products:
All email that is Region 6 GIS records for the incident should cc'd to "R6 DWH REOC GIS" or "R6 DWH GIS" (field) and should include the following documentation code "P560". At the end of the incident all data and products will be delivered to the appropriate records managers.

Daily Map Products and schedule (needed):
REOC – situation maps, sampling maps, environmental maps.
Command Post- operations maps, …

Region 4

Documentation of Work Products:

Daily Map Products and schedule (needed):
REOC – situation maps, sampling maps, environmental maps.
Command Post- operations maps, …

Source Data, Working layers, and Map Products

GIS Data Type	Location	Comments
EPA Gathered Source Data	Incident related data is located in the **/Incidents/GoMOilSpill2010** folder of the Secure Emergency Response FTP Server: You will need an FTP client that supports FTPS. FileZilla is the recommended client for this site. Within FileZilla you will need to add a new site to the Site Manager (The "quick connect" only supports traditional FTP, not secure FTPS). You can open the Site Manager from the File menu, or simply click the button. In the Site Manager click New Site, and give the site an appropriate name. Complete the site settings with the following parameters: **Host:** sidewinder.epa.gov **Port:** 990 **Servertype:** FTPES - FTP over explicit TLS/SSL **Logontype:** Ask for password **User:** Your portal ID (see comment at left on gaining access). More detailed instructions are available on the Quickplace site.	Access Instructions for Users that have EPA.GOV mail accounts: send an email requesting access to sidewinder to the following email list (hultgren.torrin@epa.gov , dai.qi@epa.gov , richards.tim@epa.gov , burgess.christopher@epa.gov). Include your LAN ID and your region or branch in the request. Your account should be provisioned within one business day. Access Instructions for Users that do not have EPA.GOV mail accounts External users who have already registered for EPA portal accounts should follow the procedures above, specifying their portal.epa.gov username and EPA sponsor in the email request. To expedite the portal registration and sidewinder account provisioning process for external users, we have created a new dedicated portal community called the "ER FTPS External Registration Community". If you have a new external partner who needs an account on sidewinder, please instruct them to register at http://oaspub.epa.gov/portal/page/portal/GENERAL_PAGE_GROUP/IAM_Self_Registration_Page specifying you as the EPA contact and "ER FTPS External Registration Community" as the desired community. When they register, you should receive an email requesting your approval for their registration. Please follow the instructions in the email as quickly as possible, so we can continue the rest of the registration process as quickly as possible. This will route them around the traditional portal registration bureaucracy, and we will work to ensure that the total turnaround is 1-2 business days. Important: External users have read-access to all folders, but write access only to the "dropbox" folder. Please let us know if this proves confusing or cumbersome. For support for the FTP service, contact: Torrin Hultgren | hultgren.torrin@epa.gov | 919.767.7312 | 206.388.4809 Qi Dai | dai.qi@epa.gov | 919.767.7285 | 919.345.5594 Tim Richards | richards.tim@epa.gov | 919.541.5307 | 919.368.9055
NOAA Data and web maps	Operational data published via ArcGIS Server connections: In ArcMap, set up ArcGIS Server connection with the following parameters: Server URL: https://12.9.112.206/arcgis/services User Name: bpmc252 Password is: BpGi$010	Secure server established by BP and managed by ESRI. Contact George Graettinger of NOAA for additional information: 425-891-7817 (cell) (206) 526-4660 (office) George.Graettinger@noaa.gov

	ERMA (Emergency Response Mapping Application) https://gomex.erma.unh.edu	Request secure access by clicking login link on main page and following instructions.
NOAA Maps		
Field and EOC created layers		
Field and EOC created maps		

GIS File Structure for the Incident

GIS File structure for incident **File Datasets or other files available in the EPA ftp site as of 5/13/2010. *Note additional files added to the EPA ftp after 5/13/10 will not be reflected bellow.** **Structure and data are replicated on r6gis1 (Region 6 GIS server) for use by Regional staff.**		
Folder	Layer/File Name	Description
Site: OEI/		
ESRI	multiple files	ArcGIS and ArcSDE installation files
HSIP_Freedom	multiple files	HSIP Data
Navteq	multiple files	NAVTEQ Streets data, available for each EPA region in a zip'd file
Site: Incidents/GoMOilSpill2010/		
ArcMXDs		ArcGIS project files
Data/Admin	CWPPRA.gdb, tl_2009_22_place.shp	CWPPRA and TIGER/Line 2009 city/place boundaries
Data/Baselayers	ESRIData931	ESRI feature layers released with ArcGIS 9.3.1
Data/Biologic/ESI		Environmental Sensitivity Index data from NOAA
Data/Event_Data	DeepwaterHorizonBaseFeatures.gdb	File geodatabase with platform location, "Asset" towns, coastal parishes
Data/Event_Data	AirMonitorLocations_Coast_AIRNow.zip	Shapefile of air monitor stations in response area from AIRNow.
Data/Event_Data	EPA6_DeepwaterHorizon_Parishes.shp	LA Parishes along the Gulf Coast
Data/Event_Data/SpillExtent	multiple files	NOAA's extent boundaries for the oil spill. (Downloaded from EROS HDDS site)
Data/Landmarks	GNIS.gdb	1996 and 2007 GNIS points for DWH parishes
Data/Facilities	industrialwaterintakes.mdb	Industrial Water Intakes from LDEQ
Data/Landmarks	FwsCadastral.gdb	National Wildlife Refuge boundaries
Data/LandUse	LA_wetlands.gdb	National Wetlands Inventory databases for LA and TX
Data/SampleData/TAGA		TAGA File Geodatabases (backups of the TAGA GIS data service)
Data/SampleData/Water_Sampling	LouisianaWaterSamplingLocations.gdb	Water Sampling locations
Data/Transportation	GoMOilSpillNavteq.zip	Selected layers from NAVTEQ (put up prior to NAVTEQ files in OEI/Navteq site listed above.
Documents		Miscellaneous document files
GoogleEarthKML		kml and kmz files from multiple sources
Imagery/NOAA		Imagery
Jpg_pdf_files		Maps in jpg and pdf format
Photos/ASPECT		Photos from ASPECT
Support/Drivers		Printer drivers
Support/IMS_Services		IMS Services
Support/Logos		Agency logos
Support/ProjectionFiles		Projection Files

Support/Software		Xtools Pro and registration
Support/Websites		Websites supporting the incident
Templates/LayerFiles		ArcGIS Online layer files (Bing Maps, World Maps)
Templates/MapTemplates		ArcGIS map templates
Templates/Symbols		Standard symbol sets

Critical Linkages between Tabular and Spatial Data

-The Scribe dataset will contain only point data so there are no linkages required with GIS, having the latitude/longitude stored within the project as decimal degrees will suffice

-All TAGA routes will have the standard report information as well as a GIS .shp file

-SCRIBE data to be published through SCRIBE.net from all regions responding. For multi region data management consistency regional databases are to be combined and pushed back down for upload into one established SDE. Web mapping services and SQL views for analytical data will be established out of single SDE for consistent mapping purposes. The ArcGIS Server Web Service will include the SCRIBE monitoring and sampling data as well as the TAGA data. The URL for the service is https://gis.westonproject.net/ags_ex22/rest/services you must have the secure login information to access these services. To gain access please route your request to Eric or Paige Delgado in Region 6 and Randy Nattis in Region 4.

4f) Data Management SOPs & Checklists:

Developing these will be the responsibility of the initial site data manager

5) Data Communication

Data Source	Owner	Contains	Communication Method	Data Release Frequency	Comments
Field Reporting Projects	Field Data Manager	Sample information, Average Stationary Monitoring Data, Analytical Data	Scribe.NET	At a minimum, published by noon each day	-Each organization (R4,R6, other) will use a unique site id for their reporting projects -It is possible that an organization may have multiple reporting projects depending on their own unique operational and logistical requirements -No two reporting projects will contain the same information.
Reporting Scribe project	ERT Software Support	All field reporting Projects -ERT will remove all prelim analytical data & QC Sample data	Scribe.NET	Data will be published after incoming dataset has gone through initial field QA to confirm parameter names, location IDs and sample information matches the field personnel's hardcopy information.	-The Reporting Scribe project will be the only project in the HQ data subscription service - Data will be published by 1:00pm EST every day containing, at a minimum, all data associated with the prior midnight to midnight reporting period -For subscription information please contact ERT Software Support, 1-800-999-6990

Operations Scribe project	ERT Software Support	All field reporting Projects	Scribe.NET	Data will be published after incoming dataset has gone through initial field QA to confirm parameter names, location IDs and sample information matches the field personnel's hardcopy information.	-The Operations Scribe project will be available in the Region 6 and Reion 4 database service and as a Scribe client subscription - Data will be published by 1:00pm EST every day containing, at a minimum, all data associated with the prior midnight to midnight reporting period -For subscription information please contact ERT Software Support, 1-800-999-6990
TAGA	TAGA Operations Crew	TAGA Run	Email/Website Posting/SDE	After each TAGA run has gone through post-processing, data reduction and graphic display, it will be posted to ERT's ERT-IMS secure website	
Rapid Assessment Tool (RAT)	Field Operations Personnel	Mobile VOC/Particulate Data	FTP	After each completed route	-RAT data will be managed as a spatial object and not as tabular data -If necessary this data can be delivered to R6 so that it can be made available as an SDE layer
Real-time ASPECT Air Monitoring	ASPECT Flight Crew	ASPECT	FTIR, aerial photography	After each ASPECT run has gone through post-processing, data reduction and graphic display, it will be managed and distributed by the ASPECT team	
SDE	GIS Manager	Geospatial link between SCRIBE and Response Manager tabular data	Published ARCGIS Web Service	As Operational Periods requires.	https://gis.westonproject.net/ags_ex22/rest/services Please contact Paige or Eric Delgado in Region 6 for access to the webservice

5a) Scribe.NET

Scribe.NET is a service oriented subscription service for enabling a connected system of Scribe clients and distributed systems such as IT forum Enterprise Tools. Scribe.NET uses Web services to connect Scribe clients and other distributed systems including Enterprise Tools and services. Figure 2. identifies the publishing and subscription configuration.

Figure 2. Scribe & Scribe.NET Implementation Configuration
Sub

Project Ownership

Each field reporting project is owned by a specific individual's computer. That person may only publish from that computer. Any changes to a data record must be made by the owner of the field reporting project, otherwise they will not persist in Scribe.Net. If a project owner needs to relinquish ownership they should follow the below steps.

1. Current project owner releases ownership (File, Scribe.Net, Setup, System, Release Project Ownership)
2. Current project owner backs-up Scribe project (File, backup project)
3. Current project owner delivers backed-up project to new owner (via USB drive, e-mail, etc) **** IMPORTANT STEP
4. New owner restores backed up project and immediately publishes

When the new owner publishes, the transfer is complete. The new project owner is the only one who can add data publish the project from that point on. These procedures need to be implemented each time there is a transition in publishers.
In addition, ERT Software Support can remotely clear ownership of a project.

Subscription Information
There are two ways to access the subscriptions setup in Figure 2. The first is to use the Scribe client to subscribe to the data. This is done by entering a subscription name and a password in Scribe. When the user initiates the subscription, Scribe will check to see if there is any new data and download it to the users machine. When using the Scribe client subscription, it is the responsibility of the user to refresh the subscription. The other type of subscription is a database service. This is installed on a properly configured server (SQL or ORACLE) and is then accessible by users connecting directly to the server. This type of subscription automatically checks for new data on a schedule defined by the user. For information on accessing Scribe data via a subscription please contact ERT Software Support

6) Data Verification

6a) Verification SOPs & Checklists:
See Appendix A

6b) SQL Verification Queries:
Orphan Locations

```
SELECT Location.Location

FROM (Location LEFT JOIN Samples ON Location.Location=Samples.Location) LEFT JOIN
Monitoring ON Location.Location=Monitoring.Location

WHERE (((Samples.Location) Is Null) And (Monitoring.Location Is Null));
```

Samples without Lab Results

```
SELECT Samples.Samp_No, Samples.EventID, Samples.SampleDate, Samples.Location,
Samples.Matrix
```

FROM Samples LEFT JOIN LabResults ON Samples.Samp_No = LabResults.Samp_No

WHERE (((LabResults.Samp_No) Is Null));

Lab Results without Samples

SELECT LabResults.Samp_No, LabResults.Date_Analyzed, LabResults.Matrix_ID, LabResults.Analysis, LabResults.Analyte, LabResults.Result, LabResults.Result_Units, LabResults.Result_Qualifier

FROM LabResults LEFT JOIN Samples ON LabResults.Samp_No = Samples.Samp_No

WHERE (((Samples.Samp_No) Is Null));

7) Data Reduction

7a) Reduction SOPs & Checklists:

See Appendix A

7b) SQL Reduction Queries:

Reducing Raw Monitoring data to 1-hour averages: (NEED UPDATED VERSION)

SELECT MonitoringDateTimeParts.Location, MonitoringDateTimeParts.Mon_Date, MonitoringDateTimeParts.Mon_Parameter, Avg(MonitoringDateTimeParts.Mon_Measurement) AS Mon_Measurement, MonitoringDateTimeParts.Mon_Meas_Units, '1-Hour Avg' AS Mon_Source, Right("0" & MonHour,2) & ":00" AS Mon_time, MonitoringDateTimeParts.MonHour, 'R06 START' AS Mon_Operator, MonitoringDateTimeParts.EventID, MonitoringDateTimeParts.InstrumentID

FROM MonitoringDateTimeParts

GROUP BY MonitoringDateTimeParts.Location, MonitoringDateTimeParts.Mon_Date, MonitoringDateTimeParts.Mon_Parameter, MonitoringDateTimeParts.Mon_Meas_Units, '1-Hour Avg', Right("0" & MonHour,2) & ":00", MonitoringDateTimeParts.MonHour, 'R06 START', MonitoringDateTimeParts.EventID, MonitoringDateTimeParts.InstrumentID

ORDER BY MonitoringDateTimeParts.Mon_Date, Right("0" & MonHour,2) & ":00";

8) Data Analysis & Reporting

8a) Who is using the data being reported?

Unified Command (UC), Regional Emergency Operations Centers (REOCs)

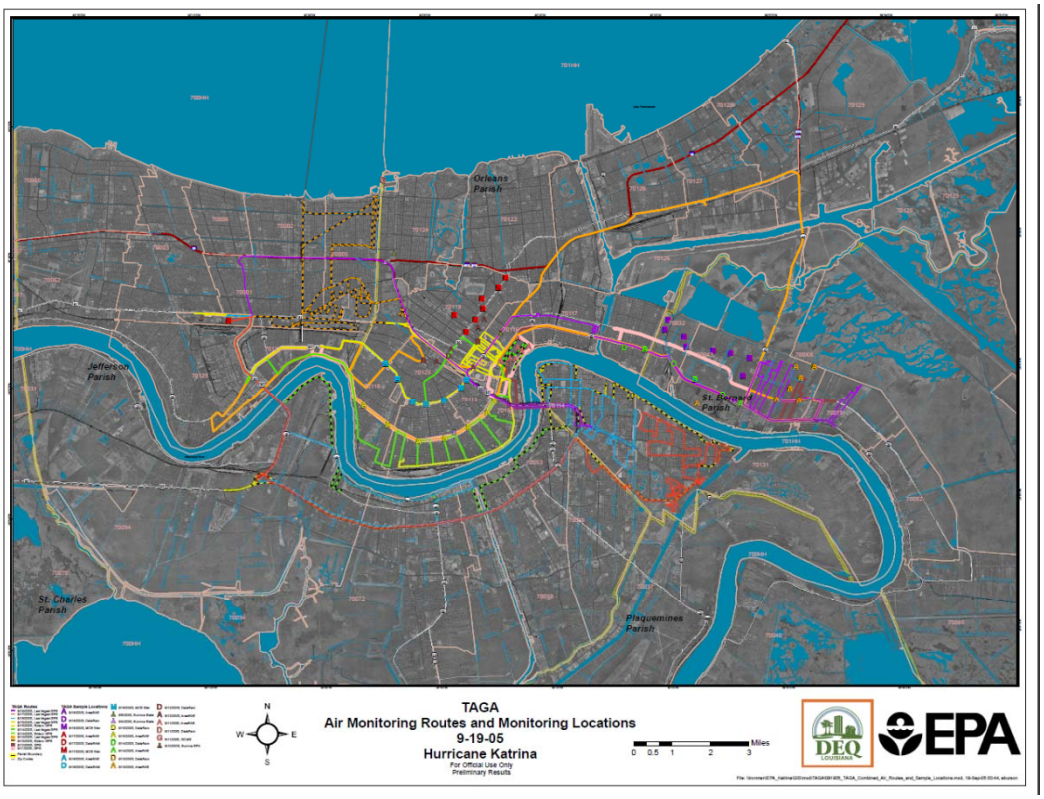
8b) Reporting Requirements:

Data will be reduced so that there will be a 1 hour average value for each monitoring instrument located at a stationary location. Sampling and analytical data will be stored in a normal fashion. All report and map products will use a common set of threshold values for the reported monitoring and analytical results.

8c) Reporting SOPs & Procedures:
Developing these will be the responsibility of the initial site data manager and remote support personnel.

8d) SQL Reporting Queries:
Developing these will be the responsibility of the initial site data manager

8e) GIS / Spatial Data Visualization Requirements
The TAGA operations crew should establish the workflow for delivering TAGA monitoring observations and spatial coordinates to the GIS manager.



Site Specific Requirements:

Required Tools:
-Scribe
-AreaImport Utility
-ArcGIS
-Microsoft Excel

Reference Files:
-Scribe Air Sampling EDD Template
-Scribe Analytical Results EDD Template
-Scribe Water Sampling EDD Templae
-Scribe Data Reduction Template file

9 Revision History

Document Version	Date of Revision	Author	Description of Changes
Initial Release (V1.0)	4/27/10	J. Schaefer, ERT	N/A
V1.1	4/28/10	D. Wainberg, R1	Added Scribe.NET, ASPECT information
V1.2	4/28/10	B. Morgan, R6 START	Added GIS Mgmt, Reporting, and Photo Mgmt
V1.3	4/28/10	J. Schaefer, ERT	Added data elements
V1.4	5/3/10	J. Schaefer, ERT and B. Morgan Region 6 START	Data Processing SOPs, Scribe.NET, Removed EventID/Desc information and added GIS Web Services information.
V1.5	5/5/10	J. Schaefer, ERT	Data Elements
V1.6	5/12/10	D. Wainberg, R1 Harvey Simon, R2 David Parrish, R6	- Data Element and EDD Tables updated with new valid values and moved to Appendix B - Added Spatial Data Management info in section 4e - Added Ebam file processing and importing steps to Scribe Coord. Checklist

Appendix A.

R06 DeepWater Horizon Scribe Coordinator Checklist

R06 DeepWater Horizon Scribe Coordinator Checklist

Date:	Collection Period: (i.e., 08:00, 16:00, 24:00):
Staging Database Name:	Scribe Coordinator Name

Monitoring Instruments

Process AreaRae files with Scribe's AreaRae Export Utility	Complete
Use Date Collected for EventID (e.g. 05/05/2010) **Name Export File "Location_Date_TimeEnded_InstrumentID"** (eg V01_20100428_1500_RFW23713.csv) **When prompted, open the exported file and sort by Mon_Parameter** **Delete all NONE parameter rows** **Add a column called Mon_Operator and fill with R06 START** **Add a column called Instrument_Type and fill with AreaRae**	

Import AreaRae Files Into STAGING Database		
Current Number of Records in Staging DB Monitoring Table:		
File ***Import*** ***Custom Import*** ***Monitoring Data*** (data category – Monitoring Data) (import data file – Browse to exported file) (script name – Default) Add New Data Records	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records

Process DataRam Export files	
Import comma delimeted file into Excel **Delete First 20 or so Rows so column headings are row 1** **Rename Date Column – Mon_Date** **Rename Time Column – Mon_Time** **Rename (MASS)ug/m3 – Mon_Measurement** **Open the Blank DataRam spreadsheet & copy & paste all columns to data spreadsheet** **Complete remaining columns & make sure standard text is copied down all rows**	

Import DataRam Export files		
File ***Import*** ***Custom Import*** ***Monitoring Data*** (data category – Monitoring Data) (import data file – Browse to exported file) (script name – Default) Add New Data Records	File Name:	# of Records:
	File Name:	# of Records:
	File Name:	# of Records:
	File Name:	# of Records:
	File Name:	# of Records:

	File Name:	# of Records:
	File Name:	# of Records:

Process Ebam files with Scribe's Ebam Export Utility	**Complete**
Open Ebam Export Utility **Add Event ID using Date Collected for EventID** (for example – 05/05/2010) **Add Operator** (R06 START, R04 START) ?? Change Parameter Field to "PM10" **When prompted, open the exported file and QC**	

Import Ebam Files Directly Into Reporting Database (not staging)		
Reporting Database Name:		
Current Number of Records in Staging DB Monitoring Table:		
File ***Import*** ***Custom Import*** ***Monitoring Data*** (data category – Monitoring Data) (import data file – Browse to exported file) (script name – Default) Add New Data Records	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records
	File Name:	# of Records

Import 1 Hour Averages from Staging DB into Reporting DB

Open Reporting Database – File, Open, R06 Deep H2O Horizon Reporting.MDB

Number of records currently in Monitoring table:

File ***Import*** ***Custom Import*** ***Backup Project with date/time in name*** ***Monitoring Data*** (data category – Monitoring Data) (import data file – Browse to Staging Database) (table name – _Mon 1 Hour Avg) (script name – 1 Hour Avg Monitoring Import) Add New Data Records	# of Records Imported:	Comments:
	# of Records Imported:	Comments:
	# of Records Imported:	Comments:

Create Summa and PQ200 Air Sample Import Spreadsheets

Use the Air Sampling Import.CSV for Summa and PQ200 Samples

Name Spreadsheet EDD Air Sampling_StBernard or Venice_date (yyyy-mm-dd)

Complete the following fields for Summa Canisters	Samp_No, Location, EventID, SampleMedia, SampleDate, SampleTime, SamplerID, SampleType, Matrix, Sampler, Start_Pressure, Stop_Pressure, Analyses, Volume, Volume_Units, Tag(Tag is always A)
Compoete the following fields for the PQ200	Samp_No, Location, EventID, SampleMedia, SampleDate, SamplerID, SampleType, Matrix, Sampler, Analyses, Volume, Volume_Units, Tag(Tag is always A), Volume, Volume_Units

Import Summa and PQ200 Air Samples

File ***Import*** ***Custom Import*** ***Backup Project with date/time in name*** (data category – Air Sampling) (import data file – Browse to import CSV) (script name – Default) Add New Data Records	File Name:	# Records:
	File Name:	# Records:
	File Name:	# Records

Create Air Sample Chain-of-Custodies

Create Water Sample Import Spreadsheets

Use the Water Sampling Import.CSV for Summa and PQ200 Samples

Name Spreadsheet EDD Water Sampling_StBernard or Venice_date (yyyy-mm-dd)

Complete the following fields for water samples	Samp_No, EventID, Location, SampleDate, SampleTime, SampleCollection, SampleType, Matrix, Sampler, Tag, Container, No_Container, Analyses, Coll_Method

Import Water Samples

File ***Import*** ***Custom Import*** ***Backup Project with date/time in name*** (data category – Water Sampling) (import data file – Browse to import CSV) (script name – Default) Add New Data Records	File Name:	# Records:
	File Name:	# Records:
	File Name:	# Records:

Create Water Sample Chain-of-Custodies	
Publishing Log	
Date – Time & Files Included:	
Date – Time & Files Included:	
Date – Time & Files Included:	

Appendix B

Data Element Dictionaries

Monitoring Data Elements and EDD

EDD	Primary Scribe Table	Scribe Fields	Field Description	Data Type	Field Size	Primary Key	Required	Valid Values	Remarks Field
Monitoring Data	Events	EventID	The daily reporting period that the sample or monitoring result is associated in the format MM/DD/YYYY.	Text	50	No	No		
Monitoring Data	Instruments	Instrument_Type	Instrument Type (i.e. PID/FID)	Text	50	No	Yes	AreaRae, MultiRae, DataRam 4, EBAM, pDR	
Monitoring Data	Instruments	InstrumentID	Instrument ID, must be unique for each Region/Organization (Required)	Text	50	PK	Yes		
Monitoring Data	Location	Coord_Sys_Desc	Sampling location coordinate system. i.e UTM NAD83	Text	70	No	No	WGS 84	
Monitoring Data	Location	Latitude	Latitude	Numeric	0	No	No		
Monitoring Data	Location	Location	Monitoring Location Code, must be unique for each Region/Organization (Required)	Text	30	PK	Yes		
Monitoring Data	Location	LocationComment	Comments about or location, or if available the historic location ID the location is associated with.	Text	250	No	No	NCA10-###	
Monitoring Data	Location	LocationDescription	Sampling or monitoring activity type. (e.g. sediment sampling, water sampling, particulate monitoring)	Text	100	No	Yes		
Monitoring Data	Location	LocationZone	A brief description of where a sample is collected or a monitoring result is collected (e.g. Bay St. Louis, MS; Dauphin Island, AL; Gulf Shores, AL)	Text	25	No	No		
Monitoring Data	Location	Longitude	Longitude	Numeric	0	No	No		
Monitoring Data	Monitoring	Mon_Date	Monitoring Date (Required)	DateTime	0	PK	Yes		

Monitoring Data	Monitoring	Mon_Meas_Units	Monitoring Measurement Units	Text	40	No	Yes	%, mg/m3, ppm, ug/m3	
Monitoring Data	Monitoring	Mon_Measurement	Monitoring Measurement	Numeric	0	No	Yes		
Monitoring Data	Monitoring	Mon_Operator	Monitoring/Sampler Name	Text	50	No	Yes	R06 START, R04 START	
Monitoring Data	Monitoring	Mon_Parameter	Monitoring Parameter. i.e. Mercury (Required)	Text	30	PK	Yes	CO, H2S, LEL, OXY SO2, VOC, PM 10, Total Particulates	
Monitoring Data	Monitoring	Mon_Qualifier	Monitoring Criteria such as detection limit; action limit or other criteria	Text	10	No	No		
Monitoring Data	Monitoring	Mon_Remark	Monitoring Data Remark	Text	255	No	No		
Monitoring Data	Monitoring	Mon_Source	The source of the monitoring measurement.	Text	30	No	Yes	1-Hour Avg	
Monitoring Data	Monitoring	Mon_Time	Monitoring Time (hh:mm:ss) (Required)	Text	30	PK	Yes		
Monitoring Data	PropertyInfo	PropertyID	Description of the basecamp a sample or monitoring result is associated with	Text	50	No	Yes	Venice, Chalmett, Mobile	
Monitoring Data	Site	Site_No	Designates the organization a sample or monitoring result belongs to	Text	12	No	Yes	R06DW, R04DW, LDEQDW	

Air Sampling Data Elements and EDD									
EDD	**Primary Scribe Table**	**Scribe Fields**	**Field Description**	**Data Type**	**Field Size**	**Primary Key**	**Required**	**Valid Values**	**Remarks Field**
Air Sampling	COC	COC	Chain of Custody Number (FK)	Text	30	No	No		
Air Sampling	Events	EventID	The daily reporting period that the sample or monitoring result is associated in the format MM/DD/YYYY.	Text	50	No	No		
Air Sampling	Location	Coord_Sys_Desc	Sampling location coordinate system.(i.e UTM NAD83)	Text	70	No	No	WGS 84	
Air Sampling	Location	Latitude	Latitude	Numeric	0	No	No		
Air Sampling	Location	Location	Sampling Location Code (Required)	Text	30	No	Yes		
Air Sampling	Location	LocationDescription	Sampling or monitoring activity type. (e.g. sediment sampling, water sampling, particulate monitoring)	Text	100	No	Yes	-	
Air Sampling	Location	LocationZone	A brief description of where a sample is collected or a monitoring result is collected (e.g. Bay St. Louis, MS; Dauphin Island, AL; Gulf Shores, AL)	Text	25	No	No		
Air Sampling	Location	Longitude	Longitude	Numeric	0	No	No		
Air Sampling	PropertyInfo	PropertyID	Description of the basecamp a sample or monitoring result is associated with	Text	50	No	Yes	Venice, Chalmett, Mobile	
Air Sampling	Samples	Matrix	Sample Matrix (i.e. Air; Vapor)	Text	40	No	No	Air	
Air Sampling	Samples	Remarks	Description of any issues related to the sample or monitoring result that would affect the data interpatation	Text	250	No	No		
Air Sampling	Samples	Samp_No	Sample Number. Scribe requires a unique sample number (Required)	Text	25	PK	Yes		
Air Sampling	Samples	SampleCollection	Sample Collection Method (i.e. Grab, Composite, Discrete Interval, 8hr, 24 hr)	Text	30	No	Yes	Grab, Composite, Discrete Interval, 8hr, 24 hr	

Air Sampling	Samples	SampleDate	Date Sample Collected	DateTime	0	No	Yes		
Air Sampling	Samples	SampleMedia	(i.e. Summa Cannnister)	Text	30	No	Yes	Summa Cannister, PQ200 2.5	
Air Sampling	Samples	Sampler	Sampler Name	Text	30	No	No	R04 START R06 START	
Air Sampling	Samples	SampleTime	Time Sample taken. Format used is hh:mm	Text	5	No	No		
Air Sampling	Samples	SampleType	Sample Type (i.e. Field Sample, Field Duplicate, Lab QC, Spike, Trip Blank)	Text	30	No	No	Equipment Rinsate, Field Blank, Field Duplicate, Field Sample, Trip Blank	
Air Sampling	Samples	Volume	Air Sampling Volume.	Numeric	0	No	No		
Air Sampling	Samples	Volume_Units	Volume Units	Text	20	No	No	m3	
Air Sampling	SamplesAir	Avg_Flow	Average Flow Rate	Numeric	0	No	No		
Air Sampling	SamplesAir	Pump_Fault	Pump Fault (Y;N)	Text	1	No	No		
Air Sampling	SamplesAir	SamplerID	Air Sampler Equipment ID - Pump #	Text	50	No	No		
Air Sampling	SamplesAir	Start_Count	Air Sampler Start Counter	Numeric	0	No	No		
Air Sampling	SamplesAir	Start_Date	Air Sampling Start Date	DateTime	0	No	No		
Air Sampling	SamplesAir	Start_Pressure	Start Pressure (Hg)	Numeric	0	No	No		
Air Sampling	SamplesAir	Start_Time	Air Sampler Start time (hh:mm)	DateTime	0	No	No		
Air Sampling	SamplesAir	Stop_Count	Air Sampler Stop Counter	Numeric	0	No	No		
Air Sampling	SamplesAir	Stop_Date	Air Sampling Stop Date	DateTime	0	No	No		
Air Sampling	SamplesAir	Stop_Pressure	Stop Pressure	Numeric	0	No	No		
Air Sampling	SamplesAir	Stop_Time	Air Sampler Stop time (hh:mm)	DateTime	0	No	No		
Air Sampling	SamplesAir	Total_Time	Total Sampling time	Numeric	0	No	No		
Air Sampling	SamplesTags	Analyses	Lab Analyses for this sample (FK)	Text	64	No	No		
Air Sampling	SamplesTags	No_Container	Number of Containers associated with the sample tag	Numeric	0	No	No		
Air Sampling	SamplesTags	Tag	Identifer for each allequot of the original sample that is to be analyzed by a lab (Required. Defaults to A)	Text	15	PK	No		
Air Sampling	Site	Site_No	Designates the organization a sample or monitoring result belongs to	Text	12	No	Yes	R06DW, R04DW, LDEQDW	

Water Sampling Data Elements and EDD									
EDD	**Primary Scribe Table**	**Scribe Fields**	**Field Description**	**Data Type**	**Field Size**	**Primary Key**	**Required**	**Valid Values**	**Remarks Field**
Water Sampling	COC	COC	Chain of Custody Number (FK)	Text	30	No	No		
Water Sampling	Events	EventID	The daily reporting period that the sample or monitoring result is associated in the format MM/DD/YYYY.	Text	50	No	No		
Water Sampling	Location	Coord_Sys_Desc	Sampling location coordinate system. (i.e UTM NAD83)	Text	70	No	No	WGS 84	
Water Sampling	Location	Latitude	Latitude	Numeric	0	No	No		
Water Sampling	Location	Location	Sampling Location Code (Required)	Text	30	No	Yes		
Water Sampling	Location	LocationComment	Comments about or location, or if available the historic location ID the location is associated with	Text	250	No	No		
Water Sampling	Location	LocationDescription	Sampling or monitoring activity type. (e.g. sediment sampling, water sampling, particulate monitoring)	Text	100	No	Yes	-	
Water Sampling	Location	LocationZone	A brief description of where a sample is collected or a monitoring result is collected (e.g. Bay St. Louis, MS; Dauphin Island, AL; Gulf Shores, AL)	Text	25	No	No		
Water Sampling	Location	Longitude	Longitude	Numeric	0	No	No		
Water Sampling	PropertyInfo	PropertyID	Description of the basecamp a sample or monitoring result is associated with	Text	50	No	Yes	Venice, Chalmett, Mobile	
Water Sampling	Samples	Matrix	Surface Water = Surface water with sheen Product = Pure Product Dispersant = Pure Dispersant	Text	40	No	No	SW = Surface Water PD = Product DP = Dispersant	SW add details of sheen or oil within the water
Water Sampling	Samples	Color	Color or Product/liquid condition	Text	25	No	No	Product = Pure Product	
Water Sampling	Samples	Samp_Depth	Sampling Depth	Numeric	0	No	No	Dispersant = Pure Dispersant	

Water Sampling	Samples	Samp_Depth_To	Sampling Depth	Numeric	0	No	No		
Water Sampling	Samples	Samp_Depth_Units	Sampling Depth Units	Text	20	No	No		
Water Sampling	Samples	Samp_No	Sample Number. Scribe requires a unique sample number (Required)	Text	25	PK	Yes		
Water Sampling	Samples	SampleCollection	Sample Collection Method (i.e. Grab, Composite, Discrete Interval)	Text	30	No	Yes	Grab, Composite, Discrete Interval, 8hr, 24 hr	
Water Sampling	Samples	SampleDate	Date Sample Collected	DateTime	0	No	Yes		
Water Sampling	Samples	Sampler	Sampler Name	Text	30	No	No	R04 START R06 START	
Water Sampling	Samples	SampleTime	Time Sample taken. Format used is hh:mm	Text	5	No	No		
Water Sampling	Samples	SampleType	Sample Type (i.e. Field Sample, Field Duplicate, Lab QC, Spike, Trip Blank)	Text	30	No	No	Equipment Rinsate, Field Blank, Field Duplicate, Field Sample, Trip Blank	
Water Sampling	SamplesTags	Analyses	Lab Analyses for this sample (i.e. VOCs) (FK)	Text	64	No	No		
Water Sampling	SamplesTags	Container	Sample Container	Text	30	No	No		
Water Sampling	SamplesTags	MS_MSD	Matrix Spike/Matrix Spike Duplicate (Y or N)	Text	1	No	No		
Water Sampling	SamplesTags	No_Container	Number of Sample Containers	Numeric	0	No	No		
Water Sampling	SamplesTags	Preservation	Sample Preservation	Text	30	No	No	HCl, None,	
Water Sampling	SamplesTags	Tag	Samples Tag (Required. Defaults to A)	Text	15	PK	No		
Water Sampling	Site	Site_No	Designates the organization a sample or monitoring result belongs to	Text	12	No	Yes	R06DW, R04DW, LDEQDW	
Water Sampling	Samples	Remarks	Remarks	Text	250	No	No		

Soil/Sediment Sampling Data Elements and EDD

EDD	Primary Scribe Table	Scribe Fields	Field Description	Data Type	Field Size	Primary Key	Required	Valid Values	Remarks Field
Soil/ Sediment Sampling	COC	COC	Chain of Custody Number (FK)	Text	30	No	No		
Soil/ Sediment Sampling	Events	EventID	The daily reporting period that the sample or monitoring result is associated in the format MM/DD/YYYY.	Text	50	No	No		
Soil/ Sediment Sampling	Location	Coord_Sys_Desc	Sampling location coordinate system. (i.e UTM NAD83)	Text	70	No	No	WGS 84	
Soil/ Sediment Sampling	Location	Latitude	Latitude	Numeric	0	No	No		
Soil/ Sediment Sampling	Location	Location	Sampling Location Code (Required)	Text	30	No	Yes		
Soil/ Sediment Sampling	Location	LocationComment	Location Comment	Text	250	No	No		
Soil/ Sediment Sampling	Location	LocationDescription	Sampling or monitoring activity type. (e.g. sediment sampling, water sampling, particulate monitoring)	Text	100	No	Yes	-	
Soil/ Sediment Sampling	Location	LocationZone	A brief description of where a sample is collected or a monitoring result is collected (e.g. Bay St. Louis, MS; Dauphin Island, AL; Gulf Shores, AL)	Text	25	No	No		
Soil/ Sediment Sampling	Location	Longitude	Longitude	Numeric	0	No	No		
Soil/ Sediment Sampling	PropertyInfo	PropertyID	Description of the basecamp a sample or monitoring result is associated with	Text	50	No	Yes	Venice, Chalmett, Mobile	

Soil/ Sediment Sampling	Samples	Matrix	Tar = Tarballs, Tar, Tar Patties Mousse = Any color type of Mousse Oily Debris = Containers, Twigs, rocks, ect covered in oil to be submitted for a sample Sediment = Sediment with oil residue mixed in	Text	40	No	No	TAR = Tar, MU = Mousse, OD = Oily Debris, SD = Sediment,	-Tar add Size and Consistency -Mousse add Color and consistency -Oily Debris color and type of debris -Sediment add comments on oil within the sediment
Soil/ Sediment Sampling	Samples	Remarks	Remarks	Text	250	No	No		
Soil/ Sediment Sampling	Samples	Samp_Depth	Sampling Depth	Numeric	0	No	No		
Soil/ Sediment Sampling	Samples	Samp_Depth_To	Sampling Depth	Numeric	0	No	No		
Soil/ Sediment Sampling	Samples	Samp_Depth_Units	Sampling Depth Units	Text	20	No	No		
Soil/ Sediment Sampling	Samples	Samp_No	Sample Number. Scribe requires a unique sample number (Required)	Text	25	PK	Yes		
Soil/ Sediment Sampling	Samples	SampleCollection	Sample Collection Method (i.e. Grab, Composite, Discrete Interval)	Text	30	No	Yes	Grab, Composite, Discrete Interval, 8hr, 24 hr	
Soil/Sediment Sampling	Samples	SampleDate	Date Sample Collected	DateTime	0	No	Yes		
Soil/ Sediment Sampling	Samples	Sampler	Sampler Name	Text	30	No	No	R04 START R06 START	
Soil/ Sediment Sampling	Samples	SampleTime	Time Sample taken. Format used is hh:mm	Text	5	No	No		
Soil/ Sediment Sampling	Samples	SampleType	Sample Type (i.e. Field Sample, Field Duplicate, Lab QC, Spike, Trip Blank)	Text	30	No	No	Equipment Rinsate, Field Blank, Field Duplicate, Field Sample, Trip Blank	-
Soil/ Sediment Sampling	SamplesTags	Analyses	Lab Analyses for this sample (i.e. VOCs) (FK)	Text	64	No	No		

Soil/ Sediment Sampling	SamplesTags	Container	Sample Container	Text	30	No	No		
Soil/ Sediment Sampling	SamplesTags	MS_MSD	Matrix Spike/Matrix Spike Duplicate (Y or N)	Text	1	No	No		
Soil/ Sediment Sampling	SamplesTags	No_Container	Number of Sample Containers	Numeric	0	No	No		
Soil/ Sediment Sampling	SamplesTags	Preservation	Sample Preservation	Text	30	No	No	HCl, None,	
Soil/ Sediment Sampling	SamplesTags	Tag	Samples Tag (Required. Defaults to A)	Text	15	PK	No		
Soil/ Sediment Sampling	Site	Site_No	Designates the organization a sample or monitoring result belongs to	Text	12	No	Yes	R06DW, R04DW, LDEQDW	

Lab Results Data Elements and EDD

EDD	Primary Scribe Table	Scribe Fields	Field Description	Data Type	Field Size	Primary Key	Required	Valid Values	Remarks Field
Lab Results	LabResults	Analysis	Lab Analysis (i.e VOCs) (Required PK)	Text	100	PK	Yes		
Lab Results	LabResults	Analyte	Analyte/Paramater name (i.e. Lead; Arsenic; etc.) (Required PK)	Text	60	PK	Yes		
Lab Results	LabResults	Analytical_Method	Lab Analytical Method (i.e. 8270M)	Text	100	No	No		
Lab Results	LabResults	Basis	"Wet" for wet_weight basis reporting; "Dry" for dry_weight reporting	Text	10	No	Yes	Wet, Dry	
Lab Results	LabResults	Cas_no	Chemical Abstract Number (CAS)	Text	50	No	No		
Lab Results	LabResults	Comments	Result Comments	Text	250	No	No		
Lab Results	LabResults	Date_Analyzed	Date Analysis was performed by Lab	DateTime	0	No	No		
Lab Results	LabResults	Date_Collected	Date Sample Collected as reported by the Lab	DateTime	0	No	No		
Lab Results	LabResults	Date_Extracted	Date Samples Extracted by Lab	DateTime	0	No	No		
Lab Results	LabResults	Detected	Detected or Not Detected. i.e. "Y" for detected analytes or "N" for non_detects.	Text	20	No	Yes		
Lab Results	LabResults	Dilution_Factor	Effective test dilution factor.	Numeric	0	No	No		
Lab Results	LabResults	Dilution_Factor	Effective test dilution factor.	Numeric	0	No	No		
Lab Results	LabResults	Extraction_Method	Lab Extraction Method (i.e. MEP; TCLP; SPLP; EP)	Text	100	No	No	-	
Lab Results	LabResults	Lab_Coc_No	Chain of Custody Number as reported by the Lab	Text	50	No	No		
Lab Results	LabResults	Lab_Name	Laboratory that performed the analysis	Text	50	No	No		
Lab Results	LabResults	Lab_Result_Qualifier	Result Qualifier as Reported by the Lab	Text	10	No	No		
Lab Results	LabResults	Lab_Samp_No	Lab Sample Number	Text	25	No	No		
Lab Results	LabResults	Matrix_ID	Lab Matrix. (i.e. Soil; Water; Air; etc.)	Text	20	No	No		
Lab Results	LabResults	MDL	Method Detection Limit (MDL)	Numeric	0	No	No		

Lab Results	LabResults	MDL_Units	MDL Units	Text	20	No	No	%, mg/kg, mg/L, ug/Kg, ug/L, ug/m3	
Lab Results	LabResults	QA_Comment	QA Comment	Text	250	No	Yes	Final, Prelim	
Lab Results	LabResults	QAFlag	QAFlag (Values: 0 = Not QAed 1=Final)	Numeric	0	No	No		
Lab Results	LabResults	QC_Type	Laboratory_Control_Sample; Method_Blank	Text	40	No	No		
Lab Results	LabResults	Quantitation_Limit	Quantitation Limits as determined by the lab.	Numeric	0	No	No		
Lab Results	LabResults	Quantitation_Limit_Units	Quantitation Limit Units	Text	20	No	No	%, mg/kg, mg/L, ug/Kg, ug/L, ug/m3	
Lab Results	LabResults	Reportable_Result	"Yes" for results which are considered to be reportable; or "No" for other results	Text	5	No	No		
Lab Results	LabResults	Reporting_Limit	Reporting Limits as determined by the lab.	Numeric	0	No	No		
Lab Results	LabResults	Reporting_Limit_Units	Reporting Limit Units	Text	20	No	No	%, mg/kg, mg/L, ug/Kg, ug/L, ug/m3	
Lab Results	LabResults	Result	Result (number) returned from lab	Numeric	0	No	No		
Lab Results	LabResults	Result_Qualifier	Final/Validated Result qualifier/flag (i.e. J;U;ND;<;>)	Text	10	No	No	J,U,UJ	
Lab Results	LabResults	Result_Type_Code	"TRG" for a target or regular result; "TIC" for tentatively identifed compounds; "SUR" for surrogates; "IS" for internal standards; or "SC" for spiked compounds.	Text	10	No	No		

Lab Results	LabResults	Result_Units	Result Unit of measurement (Required PK)	Text	20	PK	Yes	mg/kg, mg/L, ug/Kg, ug/L, ug/m3	
Lab Results	LabResults	Samp_No	Scribe/Field Sample Number (Required PK)	Text	25	PK	Yes		
Lab Results	LabResults	Test_Type	Type of test (i.e. "initial"; "reextract1"; "reextract2"; "reextract3"; "reanalysis"; "dilution1"; "dilution2"; and "dilution3")	Text	10	No	No	initial	