

# **CARPA 2008**

## **Air Quality in Emergency Response**

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**Beyond Data Collection:**

**Data Management  
and  
Decision Making**

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US EPA Region IX  
San Francisco, CA**



# Events that May Require an Emergency Air Response

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# CARPA 2008



# **CARPA: Air Quality in Emergency Response**

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## **Beyond Data Collection: Data Management and Decision Making**



- **Public Expectations**
- **Is it Safe?**
- **Information Beast..**
- **Career Defining Events**
- **Who's in charge.. of what?**
- **Need to know that you care!**

# **CARPA: Air Quality in Emergency Response**

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## **Beyond Data Collection: Data Management and Decision Making**

- Data Collection
- Data to Information
- Information Users and Uses
- Information Sharing (Ownership?)

# **CARPA: Air Quality in Emergency Response**

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**Data Management and Decision Making  
begin before Data Collection.....**

- **Are there generic DQOs for emergency air situations?**
- **Where are they?**
- **Is there an Emergency Air QASP boilerplate?**
- **When is an Air QASP Generated?**

# **CARPA:**

## **Air Quality in Emergency Response**

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- **Do you need a respirator to collect samples?**
- **Who approves the QASP?**
- **Where is the equipment located?**
- **Where is the sampling media located?**
- **Who is responsible for purchasing media?**
- **Who knows how to operate the instruments?**
- **Who knows how to operate the sampling equipment?**

# **CARPA:**

## **Air Quality in Emergency Response**

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- **Where do you collect samples if the wind is coming from the north/south/east/west? What if schools and hospital are located upwind/downwind?**
- **Do you need a weather station?**
- **Do you need weather data?**
- **When do you need a weather station?**

# **CARPA:**

## **Air Quality in Emergency Response**

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- **How long does it take to get air sampling data?**
- **What methods should you use (NIOSH, TO, etc.)?**
- **Who manages the data?**
- **What are the deliverables for air analytical data?**
- **How is data managed?**

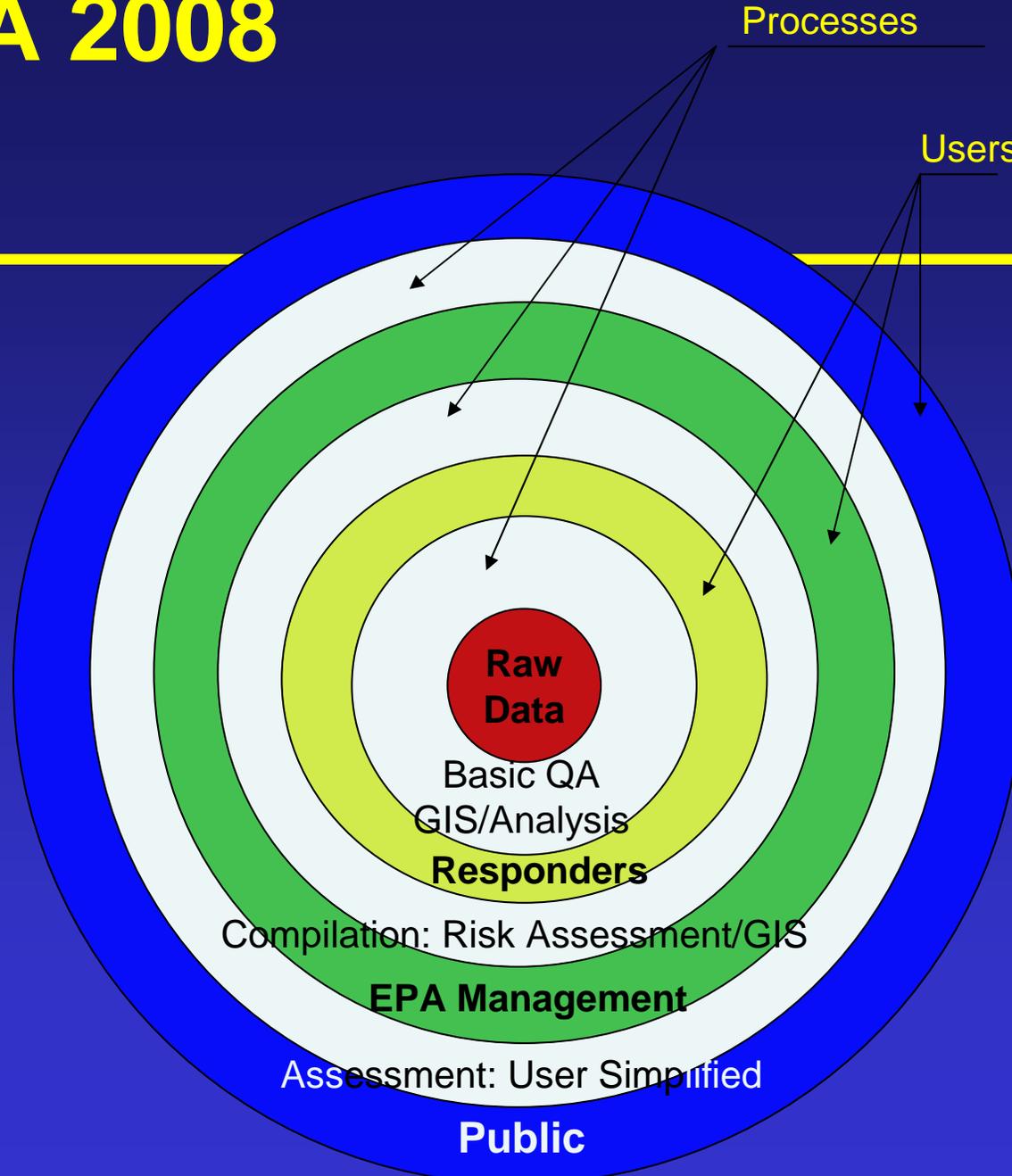
# **CARPA:**

## **Air Quality in Emergency Response**

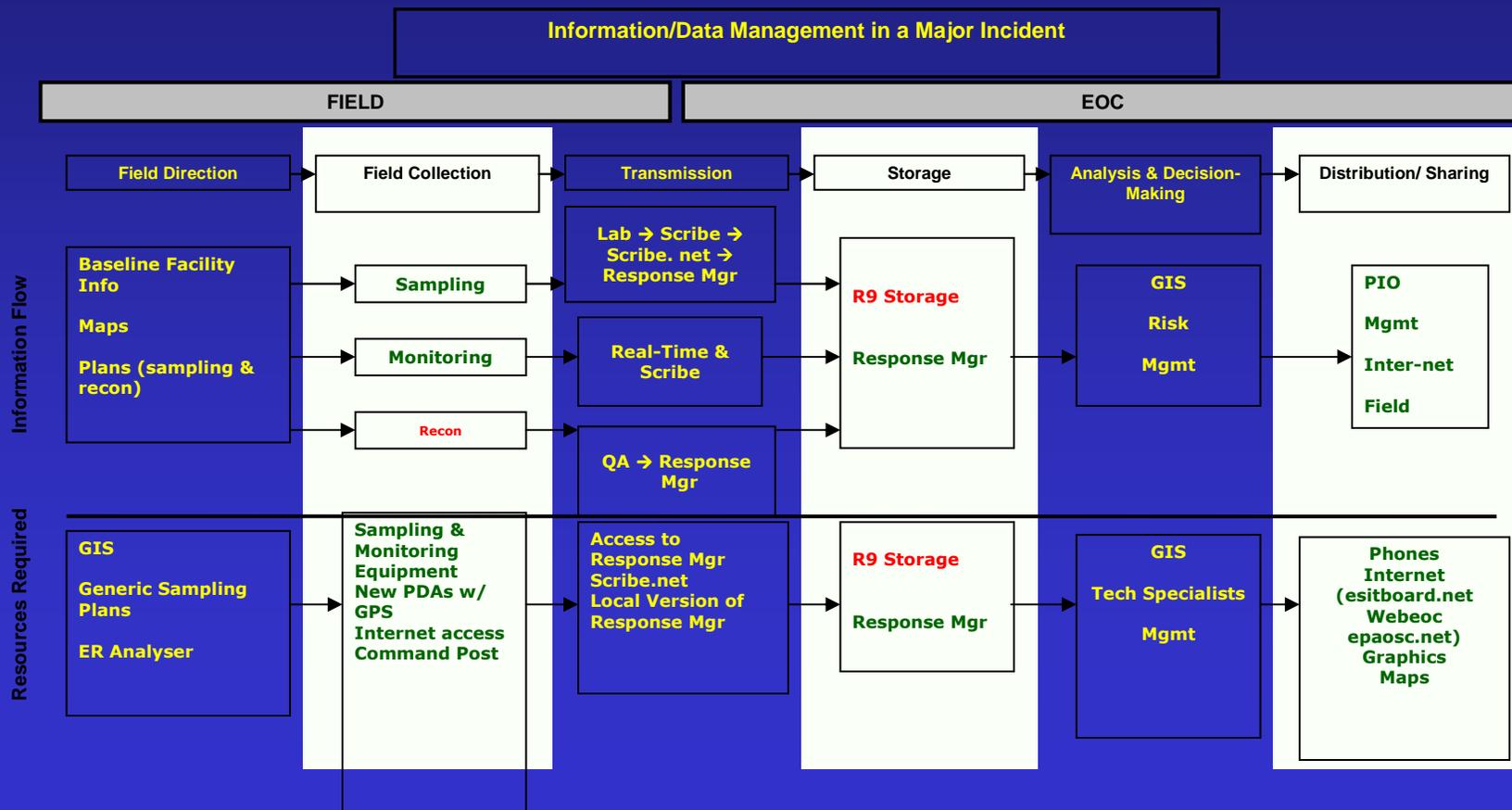
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- **What air data is considered definitive?**
- **Who makes decisions based on the data?**
- **What is the agreed-upon flow of data?**
- **Is there a Unified Command?**
- **Can the Unified Command agree upon a Unified Message?**

# CARPA 2008



# CARPA: Air Quality in Emergency Response



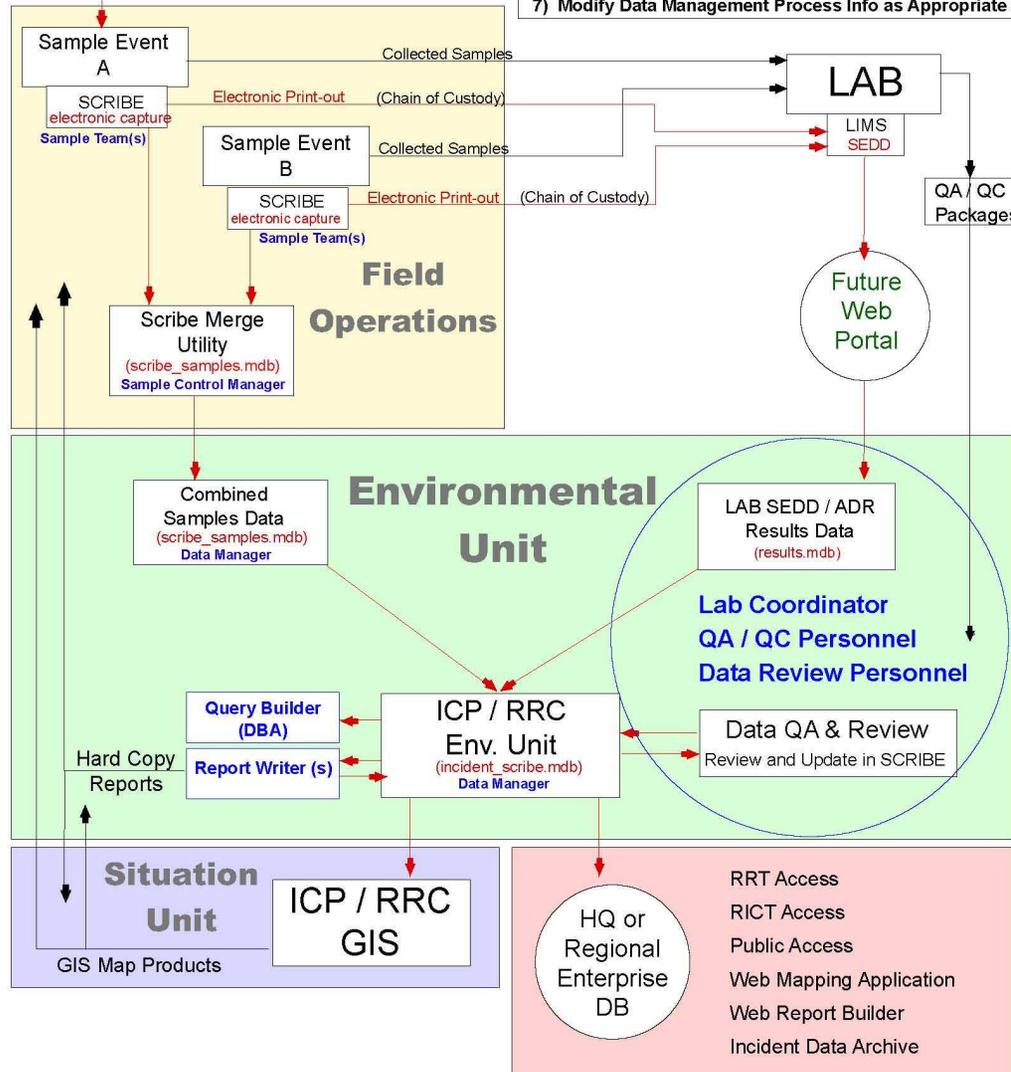
# Incident Sample Data Flow Process

## Data Management Starts HERE

### Identify & Develop DQOs and Sample Planning

### Plan Outline

- 1) Identify Necessary Skillset for Required Positions
- 2) Identify Personnel with Appropriate Skillsets, Build Team
- 3) Develop SOGs, Plans, and Job Aids for Data Mngmt
- 4) Develop Exercise(s) for Data Management
- 5) Implement Exercise for Data Management
- 6) Evaluate Data Management Exercise
- 7) Modify Data Management Process Info as Appropriate



# Beyond Data Collection: Data Management & Decision-Making

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## Activities

- **DQOs**
- **Sampling Plans**
  - **Start with QASP**
- **Reasons for samples?**
  - **Answers for what (right) question?**
  - **Degree of Certainty**
  - **Management Objectives to be considered.. (e.g., 30 samples at a school)**
- **End-Game is critical**
- **PISS – Political Incident Screening Samples??**

## Participants

- **IMT EAB / EU, OSCs, START**
- **HDQs EU role?..**
  - **Coord with IMT**
- **NIC to Region DD to RIC to..**
  - **Tells IMT what they want and let the Field decide how to do it**
  - **Daily OPS: Give Management Objectives to EU and EAB and have them produce DQOs and Sampling Plan**

# Beyond Data Collection: Data Management & Decision-Making

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- Objectives drive IAP
- IAP to achieve daily objectives
  - Applies DQOs within the Operational Period
- Env. Sampling / Monitoring
- Haz Debris v.s. Contaminated
- RECON (+ RNA):
  - Assessment
    - Collection/Disposal
  - Situational Awareness
    - Triage
    - Next Steps
- Facilities RECON
  - ER?
  - Major Spill Response?
  - Removal?
  - No Action?
- Drinking Water/Waste Water

# Beyond Data Collection: Data Management & Decision-Making

<u>Raw ... From</u>	<u>... VIA ...</u>	<u>To.. Uses</u>
<ul style="list-style-type: none"> <li>• Info/Data</li> <li>• Field Recon</li> <li>• Field Data Collection</li> <li>• Lab Results</li> </ul>	<ul style="list-style-type: none"> <li>• OPS</li> <li>• SIT Unit</li> <li>• Env Unit</li> </ul>	<ul style="list-style-type: none"> <li>• Responder</li> <li>• EPA Mngt – RIC</li> <li>• PIO/PAO/RIC/RA</li> <li>• Public (Crisis Comm Plan)               <ul style="list-style-type: none"> <li>– Public Affairs Centric</li> </ul> </li> <li>• Tactical/RIC/RIC</li> <li>• Trusted Other Agencies               <ul style="list-style-type: none"> <li>– +Other Agency data to EPA</li> </ul> </li> <li>• Raw data / Refined</li> <li>• Pre-MOU Re               <ul style="list-style-type: none"> <li>– Who Releases</li> <li>– How far going to go?</li> <li>– Leave to Tactical?</li> </ul> </li> <li>• Vetting               <ul style="list-style-type: none"> <li>– As low as you can get it!</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• DQO – to generate data of known quality that meets you objectives</li> <li>• Regional EOC               <ul style="list-style-type: none"> <li>– RIC plus                   <ul style="list-style-type: none"> <li>• Deputy Field OPS</li> <li>• Deputy EOC Mgr</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Data QA / Review and Validation</li> <li>• Answers DQO question</li> <li>• Combine Field data to Lab data</li> <li>• Risk Asses.</li> </ul>	

# SCRIBE Overview

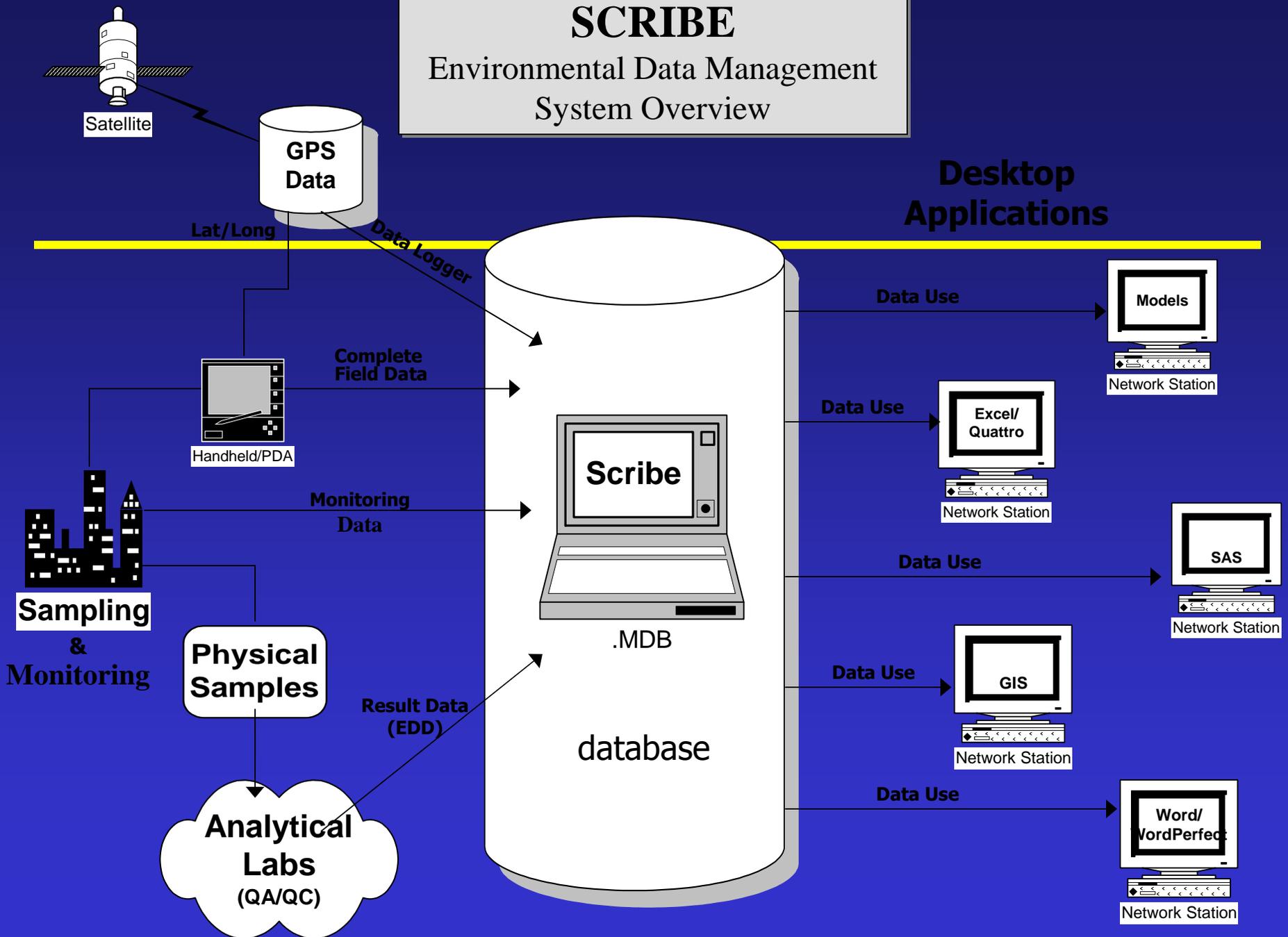
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- Document Field Sample Collection
- Capture Spatial Data (GPS)
- Generate Sample Labels and COC
- Track Field Samples to Labs
- Import Lab Results (EDD)
- Query Database and Produce Reports

# SCRIBE

## Environmental Data Management System Overview

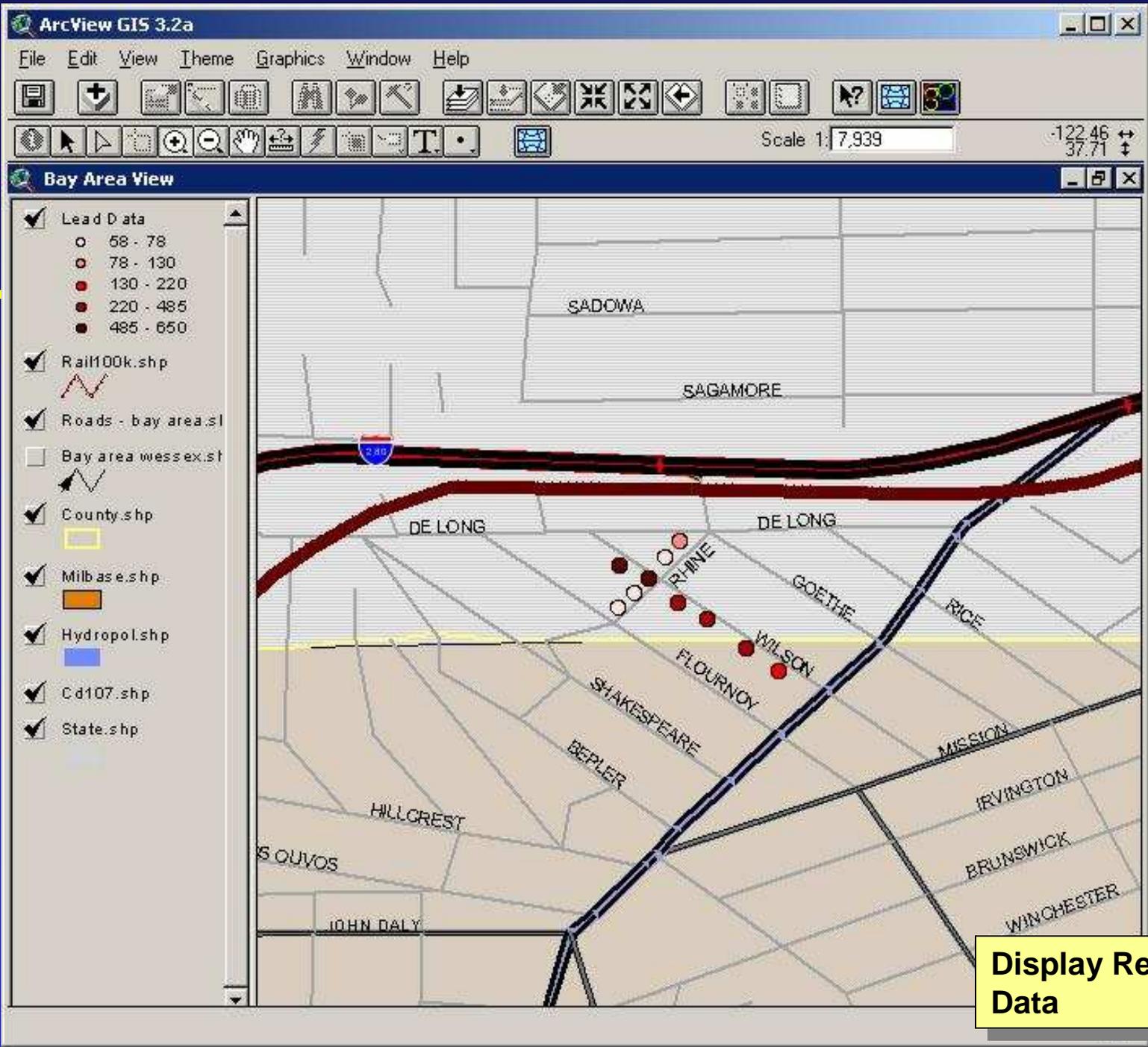
### Desktop Applications



# Scribe Data Applications

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- Visualization/Maps (ArcView-GIS)
- Mail Merge (Word/WordPerfect)
- Spreadsheets (Lab Results)
- Statistical Analysis ( SAS)
- Modeling (Distribution/Attenuation)
- Regional/National Data Repositories



Display Result Data



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
75 Hawthorne Street  
San Francisco, CA 94103

April 22, 2000

{ MERGEFIELD OwnerFirstName } { MERGEFIELD OwnerLastName }  
{ MERGEFIELD OwnerAddress }  
{ MERGEFIELD OwnerAddress2 }  
{ MERGEFIELD OwnerCity }, { MERGEFIELD OwnerState }, { MERGEFIELD OwnerZip }

Dear { MERGEFIELD OwnerFirstName } { MERGEFIELD OwnerLastName }.

The following table lists the analytical results for Lead sampling conducted at your residence. If you require further information, please contact our office at 212-555-1212.

Sample Number	Analysis	Date Analyzed	Result	Units
{ MERGEFIELD LabResultsSaamp_No }	{ MERGEFIELD Analyte }	{ MERGEFIELD Date_Analyzed }	{ MERGEFIELD Result }	{ MERGEFIELD Result_Units }

Sincerely,

John Honeycutte  
OSC

Mail Merge  
Template



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
75 Hawthorne Street  
San Francisco, CA 94105

April 22, 2003

Thomas Baker  
2 Wilson Street  
San Francisco, CA 94112

Dear Thomas Baker:

The following table lists the analytical results for Lead sampling conducted at your residence. If you require further information, please contact our offices at 212-555-1212.

Sample Number	Analyte	Date Analyzed	Result	Units
003-ND0-0002	LEAD	3/12/2003	533	mg/Kg

Sincerely,

John Honeysuckle

Merged Form  
Letter

## Lab Results Table Exported to MS Excel



### Analytical Results

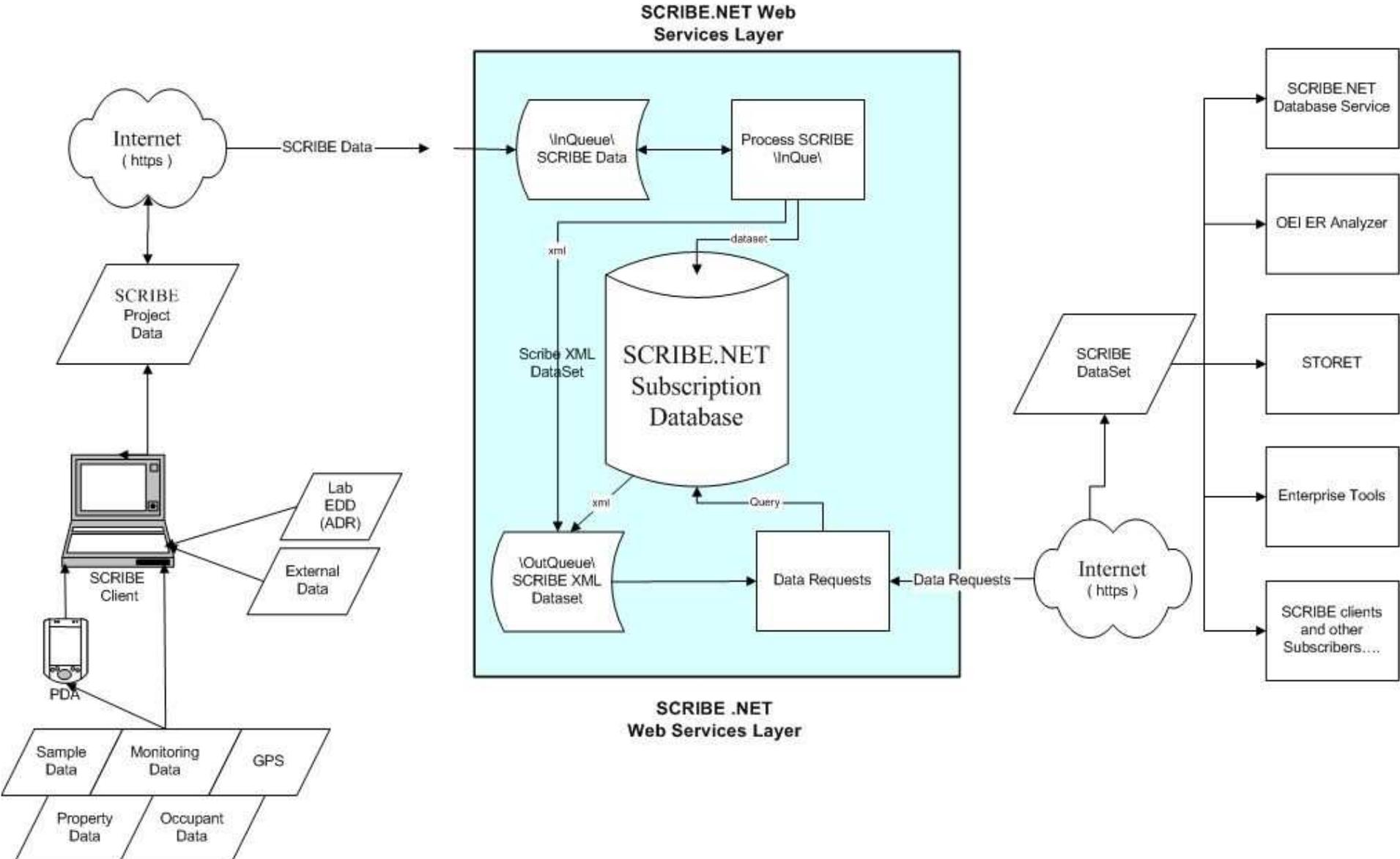
2 Wilson Street

Site Number 00XX00

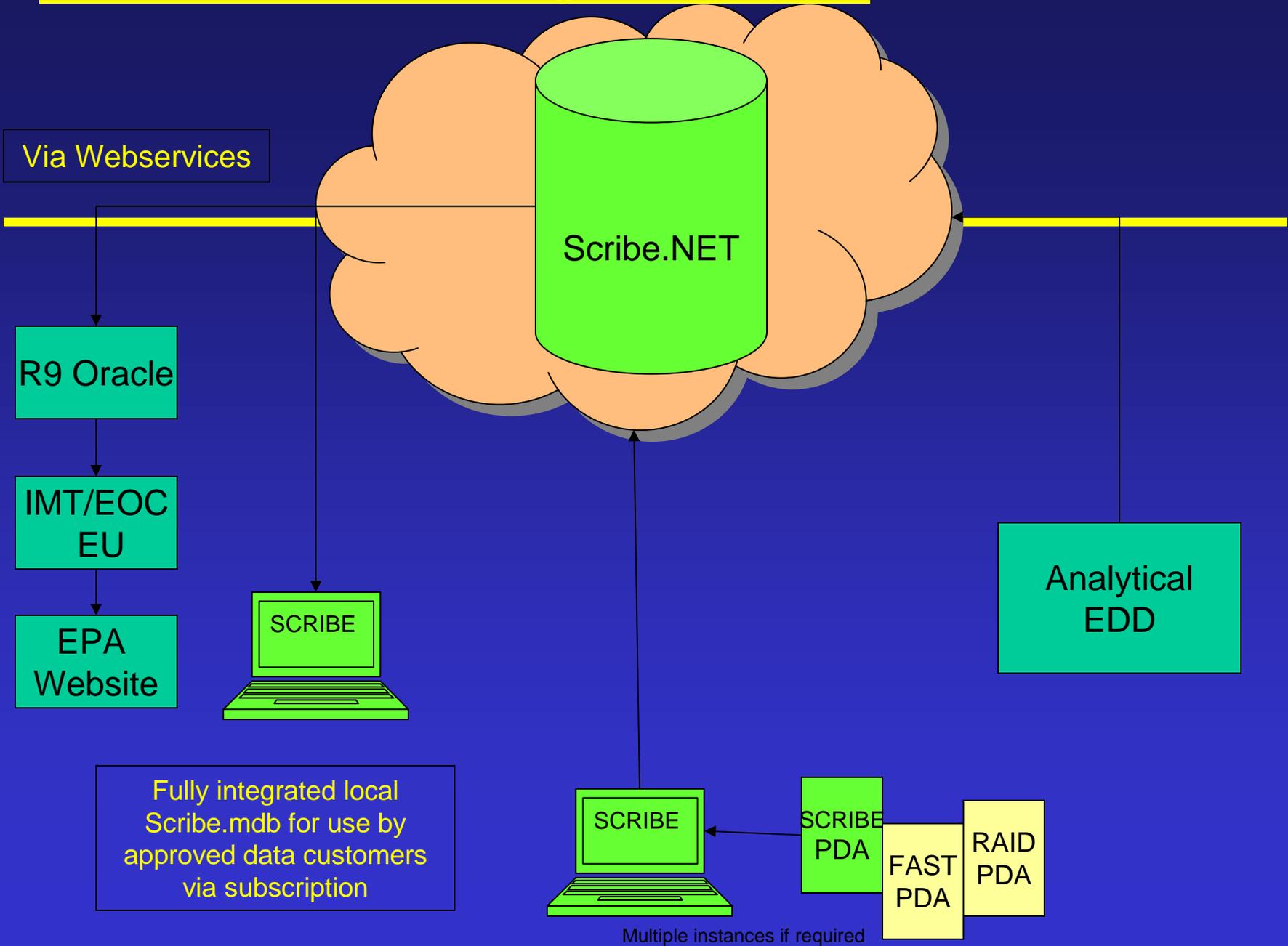
Sample Number 00XX00-0002

Paramater	Analysis	Units	Result	Flag	MDL	MDL Units
ALUMINUM	SW6010	mg/Kg	5000		19	mg/Kg
ANTIMONY	SW6010	mg/Kg	61		1.9	mg/Kg
ARSENIC	SW6010	mg/Kg	130		0.93	mg/Kg
BARIUM	SW6010	mg/Kg	120		0.93	mg/Kg
BERYLLIUM	SW6010	mg/Kg	58		0.37	mg/Kg
CADMIUM	SW6010	mg/Kg	190		0.19	mg/Kg
CALCIUM	SW6010	mg/Kg	2700		9.3	mg/Kg
CHROMUIM	SW6010	mg/Kg	85		0.93	mg/Kg
COBALT	SW6010	mg/Kg	38		0.46	mg/Kg
COPPER	SW6010	mg/Kg	61		0.93	mg/Kg
IRON	SW6010	mg/Kg	9000	H	4.6	mg/Kg
LEAD	SW6010	mg/Kg	533	H	0.46	mg/Kg
MAGNESIUM	SW6010	mg/Kg	1600		9.3	mg/Kg
MANGANESE	SW6010	mg/Kg	220		0.93	mg/Kg
NICKEL	SW6010	mg/Kg	180		0.93	mg/Kg
POTASSIUM	SW6010	mg/Kg	1500		46	mg/Kg
SELENIUM	SW6010	mg/Kg	73		0.93	mg/Kg
SILVER	SW6010	mg/Kg	120		0.46	mg/Kg
SODIUM	SW6010	mg/Kg	350		93	mg/Kg
THALLIUM	SW6010	mg/Kg	100		0.93	mg/Kg
VANADIUM	SW6010	mg/Kg	95	H	0.46	mg/Kg
ZINC	SW6010	mg/Kg	120		1.9	mg/Kg

# SCRIBE .NET



# SCRIBE Dataflow Model for Large Scale Response



# Response Manager

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- Emergency Response
- Facility Assessment
- Property Assessment
- Reconnaissance
- Dynamic Forms
- Reporting
- 2 Tier Sync / Disconnected Mode
- Security / User Management
- Data Edit Tracking
- Mapping
- HHW

# Emergency Response

- Collects basic information about the response including evacuations, weather, sources, cause and sensitive receptors.

The screenshot shows the EPA Response Manager interface. The main window is titled 'EPA Response Manager' and 'Current Incident'. The 'Response' tab is selected, showing a form for incident details. The form includes fields for Status (Open), EPA TM (Foster, Althea), EPA OSC (Brescia, Nicolas), Incident Date (09/13/2008), Incident Time (00:00), and Mob Date (09/15/2008). There are also fields for Incident Type, Counter-terrorism?, Est # Injuries, and Est # Fatalities. A 'Comments' section is visible at the bottom of the form. The interface includes a sidebar with various modules and a bottom status bar.

This close-up view shows the 'Basic Information' section of the form. It features a 'Status' field with radio buttons for 'Open' (selected) and 'Closed'. Below it are dropdown menus for 'EPA TM' (Foster, Althea), 'EPA OSC' (Brescia, Nicolas), 'Incident Date' (09/13/2008), and 'Mob Date' (09/15/2008). There are also input fields for 'Incident Time' (00:00) and 'START FTL'. At the bottom, there are tabs for 'Basic', 'Timeline', 'Photos', 'Evac.', and 'Source'.

# Facilities

- Tracks open/closed status of facilities
- Facilities can have more than one assessment e.g. Aerial and Ground
- Can add event specific questions

Facility ID	Facility Name	Address	Latitude	Longitude	City	County	State
100000000074	60th Street Wa...	5902 AVENUE F	29.29361	-94.83694	GALVESTON	GALVESTON	TX
Assessment		Date	Comments	isOpen	Priority		
Aerial Overfl...		09/19/2008	Partial Image, no observed damage.	<input type="checkbox"/>	Low		
4336	60th Street Wa...		29.7563	-95.2998	HOUSTON	HARRIS	TX
Assessment		Date	Comments	isOpen	Priority		
Aerial Overflight		09/14/2008		<input type="checkbox"/>	Low		
FRP-06-TX-00388	76 SEADRIFT...	8618 STATE HIGHWAY 185 NORTH	28.5083333...	-96.8	PORT LAVACA	CALHOUN	TX
100000189538	99 CENTS DN...	23623 COLONIAL PARKWAY	29.791667	-95.793889	KATY	HARRIS	TX

# Facility Editors

- PDA

**Facilities**

Action: [Dropdown Menu] Go

Grid View

Fac	Ad
Ar	881
Artstecn	1000000927. 440
Arkema	10814 (nu
Ashland	1000000414 612
Ausimont USA,	1000001543 405

Sort Exit

**Assessments**

Action: [Update Assessment] Go

Facility ID: FRP-06-TX-00256  
Facility Name: GALVESTON ISLAND  
GATHERING SYSTEM

Assessment Type	Assess Date
Aerial Overflight	9/14/08

# Property Assessment

- Tracks both access and assessments

Property Report

Action ...

Filter Detail:

Grid View:

Property Name	Latitude	Longitude	City	State	Zip	# of Photos
<input checked="" type="checkbox"/> Click here to filter data...	<input type="text"/>					
<input type="checkbox"/> <a href="#">515 Dusty Leather</a>			Pflugerville	TX	78660	0
Status	Comments					
<a href="#">Sampling Conducted</a>						

### Add New Access

Property Name [515 Dusty](#)

Attempt Date

Result

Comments

- Ongoing (no access)
- Signed Agreement (access)
- Access Denied (no access)
- Stafford Act Blanket Access (access)
- Verbal Agreement (access)

# Reconnaissance

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- Tracks Locations, Items and Sub-Items
- Users can create items to recover later
- Can map locations
- Can export data in excel and geodatabase
- Can attach photos to location or items

# Reconnaissance

Data Report

Action ...

Filter Detail:

- Apply Filter
- New Filter
- Show All Data
- Create Location
- Create Item
- Create Subitem
- Add Photo
- Map Location
- Export Grid Data to Excel
- Export Full Data for GIS
- Bulk Photo Uploader
- FTP All Pending Photos

Location ID	Type	Latitude	Longitude	Zip	County/Parish	Location F
gr1-081001-04	Single Point	29.4434866...	-94.665485	77650	Galveston	0
gr1-081001-05	Single Point	29.4646283...	-94.650563333...	77650	Galveston	0
gr1-081001-06	Single Point	29.4592783...	-94.645708333...	77650	Galveston	0
gr1-081001-3	Single Point	29.45814	-94.642258333...	77650	Galveston	0
gr1-081002-1	Single Point	29.4564666...	-94.64315	77650	Galveston	0
gr1-081002-10	Single Point	29.4652033...	-94.64084	77650	Galveston	0
gr1-081002-11	Single Point	29.4643116...	-94.639935	77650	Galveston	0
gr1-081002-2	Single Point	29.4570283...	-94.640998333...	77650	Galveston	0
gr1-081002-3	Single Point					0
Item ID	Item Type	Count	Size	UOM	Action Req.	Priority
3-1	Tank	1	250	Gallons	Recovery Requ...	Low
Location ID	Type	Latitude	Longitude	Zip	County/Parish	Location F
gr1-081002-4	Debris Line	29.4578483...	-94.641211666...	77650	Galveston	0
gr1-081002-5	Debris Line	29.4647983...	-94.646978333...	77650	Galveston	0
gr1-081002-6	Debris Line	29.4596533...	-94.640295	77650	Galveston	0

### Update Recon Item

Location ID: [Back](#) gr1-081002-2

Item Name:

Item Type:

Item Status:

Item Condition:

Item Priority:

Found Date:

Size of Measure:

Unit:

Count:

Content:

is Open?

Overpack?

Type of Overpack:

Captain of the Port:

Branch:

Comments:

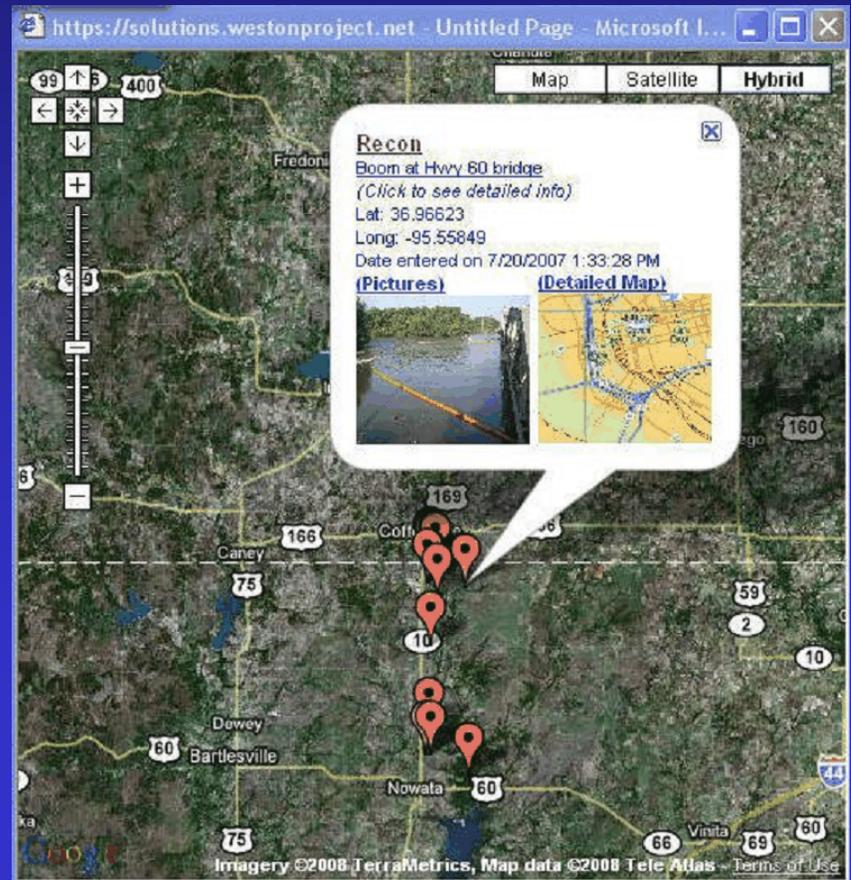
# Reconnaissance

Photo Name:	gri-081002-2-2-2
Photo Type:	Recon Items
Photographer:	Matt Smith
Witness:	Michael Torres
Direction:	
Photo Date:	10/02/2008 Time: 09:48
Latitude:	<input type="text"/> <input type="button" value="GPS"/>
Longitude:	<input type="text"/>
Description:	Batch up load
Photo File Path:	C:\k\0\alveston\Recon\081002\0R1\SDC10223.JPG



1

Drag image file here.



# Dynamic Forms

- Can add questions to the Item, Sub-Items, Removal and Facility Assessment Forms
- Can set up regional defaults to easily re-use commonly used questions
- Can set valid Values to insure data quality.

EPA Response Manager > Dynamic Forms

EPA Region: 06 Events: Hurricane Ike - TX

Select Form: ItemItems

Regional Default  Question Group

### Event Questions

Action: [Dropdown] Go

Question	Control Type	Data Type	Order
Overpack?	Check Box	Bit	1
Answer	Order		
No	2		
Yes	1		
Type of Overpack	Combo Box	Text	2
Captain of the Port	Combo Box	Text	2
Branch	Combo Box	Text	3

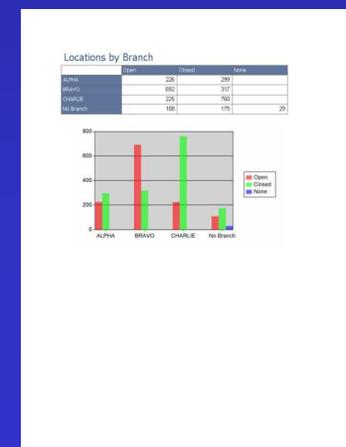
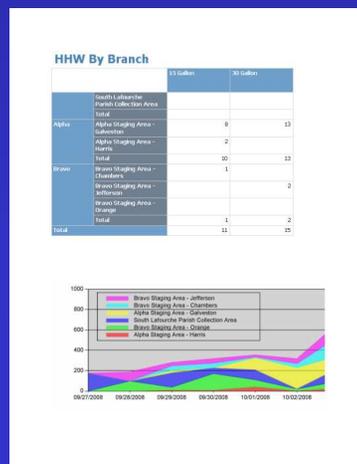
### Regional Default

Action: [Dropdown] Go

Question	Control
AST	Combo Box
Pipe Damage	Combo Box
Drum	Combo Box
WellHeads	Combo Box
QC Status	Combo Box
Accessibility	Combo Box
Refer to Agency	Text Box
Recon Agency	Text Box
EPA Team	Text Box
Collected By	Text Box
Collected To	Text Box
QC Person	Text Box

# Reporting

- All grids export to excel
- More advanced reporting is found on the reporting tab
- Can be used for situational reporting





# Photo Report

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- Can be downloaded on an event or incident basis
- XML based
- Has full text search
- Intended to be included on electronic final reports

# Photo Report Preview



## EPA Response Manager Photo Report

[Browse Photos](#) [Search Photos](#)



**Event Name:** Clute Texas Mercury Response  
**Incident Name:** Clute Texas Mercury Response  
**Photo Name:** Inside of house before removal activities began 1  
**Photo Type:** Property  
**Direction:** N  
**Date/Time:** Jul 9 2008 12:00AM  
**Latitude:** 0  
**Longitude:** 0  
**Photographer:** Paola Vasquez  
**Witness:** Paola Vasquez  
**Caption:** Inside of house before removal activities began



## EPA Response Manager Photo Report

[Browse Photos](#) [Search Photos](#)

Search in all fields:

<a href="#">View Event Name</a>	<a href="#">Incident Name</a>	<a href="#">Photo Name</a>	<a href="#">Photo Type</a>	<a href="#">Photo Date</a>	<a href="#">Photographer</a>	<a href="#">Witness</a>	<a href="#">Caption</a>
<a href="#">View</a>	<a href="#">Clute Texas Mercury Response</a>	<a href="#">Clute Texas Mercury Response</a>	<a href="#">Pictures from outside of house 5</a>	<a href="#">Property</a>	<a href="#">Jul 9 2008 12:00AM</a>	<a href="#">Paola Vasquez McCully, Jeff</a>	<a href="#">Pictures from outside of house</a>

# Scribe Reporting

**Response Manager > Analytical** Quick Links: [Facility Information Management System](#)

Current Incident > Hurricane Ike - TX

Emergency Response  
 Reconnaissance  
 Removal  
 General  
 Facilities  
 Equipment Manager  
 Calls  
**Analytical**  
 Analytical Reporting

**Sampling Data** | Monitoring Data | Upload | Reports

Property ID	Address	City	State	Zip	Access Agreement
<input type="checkbox"/> Houston					<input type="checkbox"/>

Location	Latitude	Longitude	Zone	Description
<input type="checkbox"/> 1	29.834643	-95.666601	447 G	Intersection of the 4200 block of Joyce Blvd and Betty Lane

Date	Time	Parameter	Measurement	Units
9/20/2008	12:00...	CO	0	
9/20/2008	12:00...	CONC	29.5	ug/m3
9/20/2008	12:00...	H2S	0	
9/20/2008	12:00...	LEL	0	ug/m3
9/20/2008	12:00...	Oxygen	20.9	
9/20/2008	12:00...	TWA	27.3	ug/m3
9/20/2008	12:00...	VOC	3.6	

**Response Manager > Analytical** Quick Links: [Facility Information Management System](#)

Current Incident > Hurricane Ike - TX

Emergency Response  
 Reconnaissance  
 Removal  
 General  
 Facilities  
 Equipment Manager  
 Calls  
**Analytical**  
 Analytical Reporting

**Sampling Data** | Monitoring Data | **Upload** | Reports

**This upload page has been designed for Scribe version 3.7.0.**  
**To upload the data...**

1. Choose the incident from the dropdown list above that this data belongs to.
2. Click "Select" button to locate the "zipped" Access database to upload. (The system will only accept zip files)
3. Click "Upload" button. (The process may take a long time to complete)
4. Check the message that will appear below the "Upload" button for any errors that may have occurred.

## 2 Tier Sync

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- Desktop and PDA Sync operate fully disconnected
- No special process is needed to switch computers, just sync
- Sync usually takes less than 2 minutes
- Sync to local allows you to QA/QC data before pushing it to the server

# Security / User Management

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- Web security utilizes SSL 256 bit encryption for data transfer
- User passwords are encrypted both directions when users authenticate with Web site
- 2-way encryption between database and mobile applications (Tablet, Laptop, PDA)
- Secure synchronization utilizes port 443 (SSL) on firewalls
- Intuitive interface for administering permissions for users
- User Administration disconnected from server on all tablet/laptops if the user has Admin permissions
- Security roles can be configured to match ICS roles
- Can limit access based on region or event e.g. someone may be able to edit Region 6 data except Ike response they are limited to view only

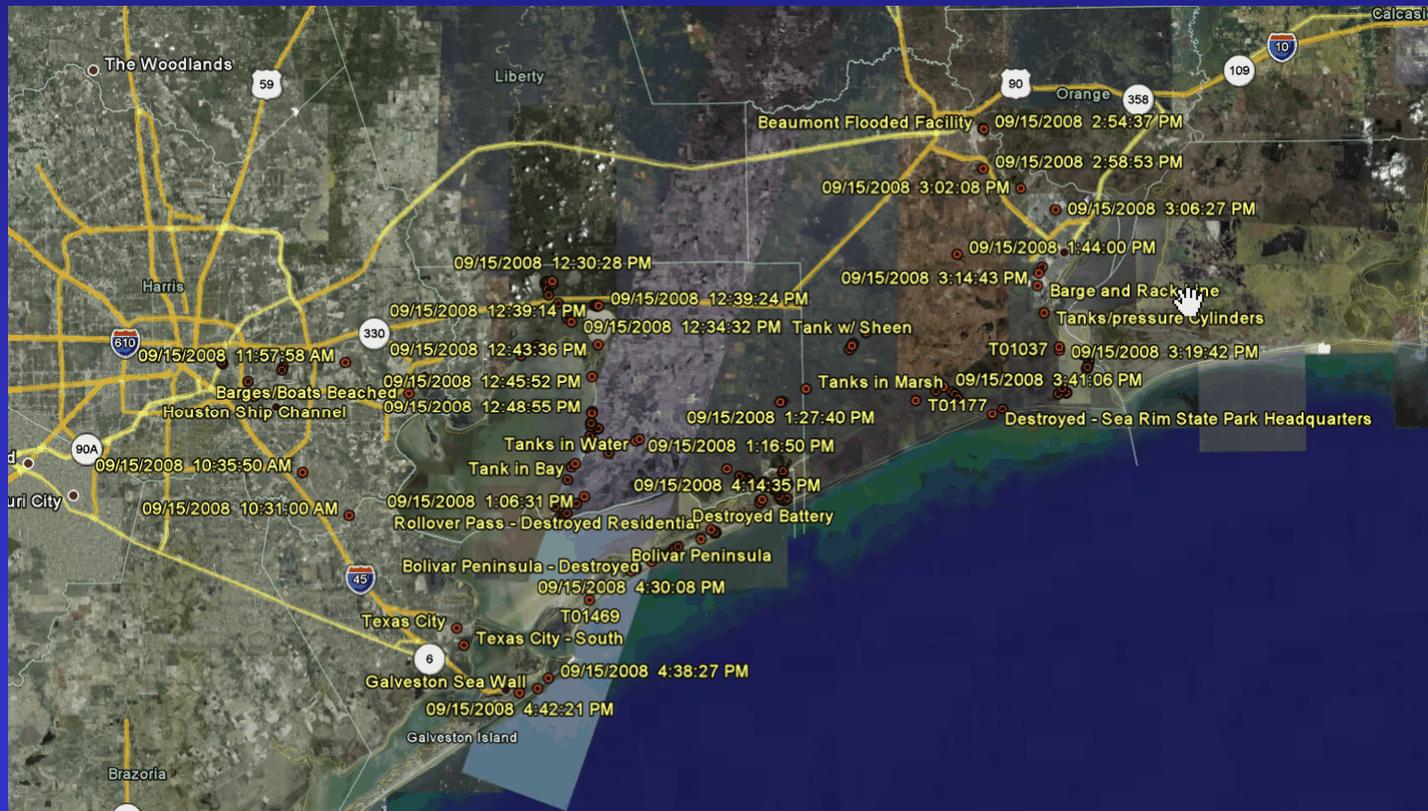
# Data Edit Tracking

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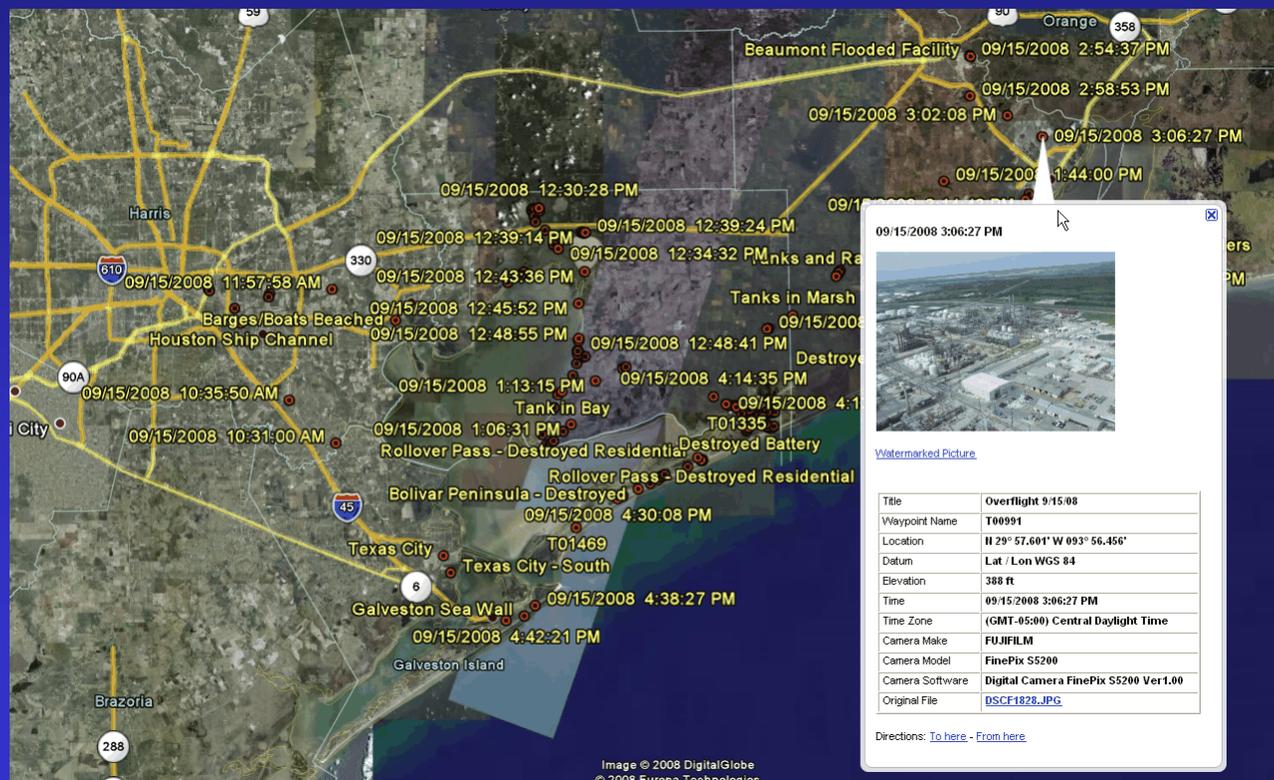
- Full history of a record can be queried to find out who edited a record and what was edited.

# Google Earth

- Overflight

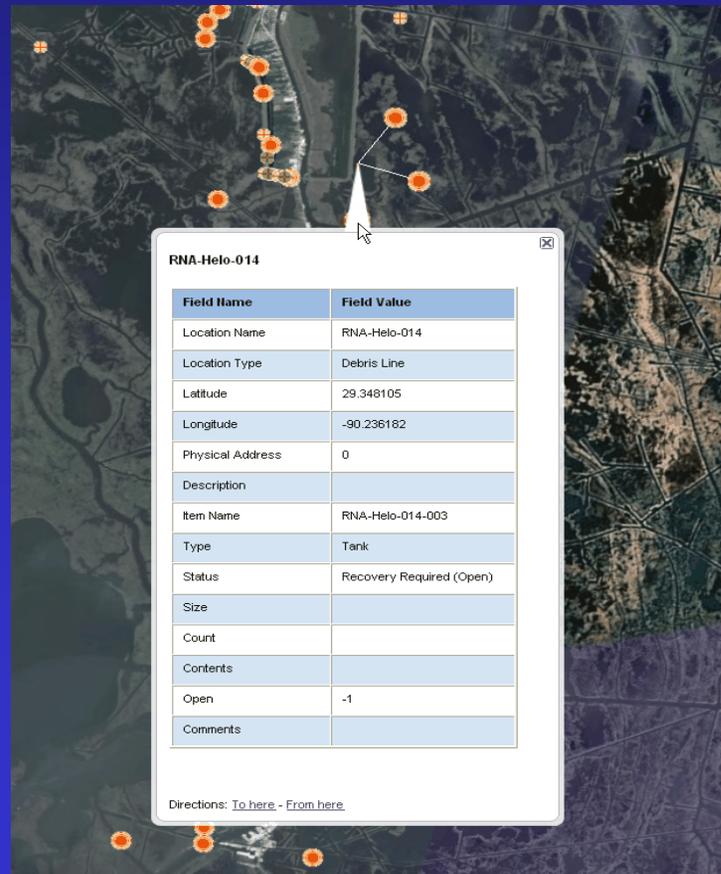


- Overflight with identify



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- Recon Points



The image shows an aerial satellite map with several orange circular markers representing recon points. A white mouse cursor is hovering over one of these points, which has triggered a white information popup window. The popup window has a title bar that reads 'RNA-Helo-014' and a close button in the top right corner. Inside the popup is a table with two columns: 'Field Name' and 'Field Value'. The table contains the following data:

Field Name	Field Value
Location Name	RNA-Helo-014
Location Type	Debris Line
Latitude	29.348105
Longitude	-90.236182
Physical Address	0
Description	
Item Name	RNA-Helo-014-003
Type	Tank
Status	Recovery Required (Open)
Size	
Count	
Contents	
Open	-1
Comments	

At the bottom of the popup, there is a 'Directions' section with the text: 'Directions: [To here](#) - [From here](#)'.

# HHW

- Tracks daily entry and cumulative counts

EPA Response Manager, Version 4.0.3198.27806

EPA Response Manager  
Current Incident

HHW  
EPA 06 - Hurricane Ike - TX - Hurricane Ike - TX

Summary Daily Entry Photo Reports

Grid View: Totals by Location

Location Name	Today	Yesterday	Week to Date	Month to Date	Cumulative
Alpha Staging Area - Brazoria	0	0	0	0	0
Alpha Staging Area - Galveston	0	0	0	1296	1318
Category	Today	Yesterday	Week to Date	Month to Date	Cumulative
15 Gallon	0	0	0	6	8
30 Gallon	0	0	0	13	13
55 gallon	0	0	0	55	70
Greater than 55 Gallons	0	0	0	1	1
20 Gallon	0	0	0	0	0
White Goods	0	0	0	0	0
Vehicle Fuel Tank	0	0	0	14	14
Propane Tank	0	0	0	55	58
5 Gallon	0	0	0	1079	1079
Large Propane Tank over 250 gal	0	0	0	0	0
Totes	0	0	0	0	1
Cylinders	0	0	0	67	67
85 gallon OverPack	0	0	0	6	7
Electronics	0	0	0	0	0
Location Name	Today	Yesterday	Week to Date	Month to Date	Cumulative
Alpha Staging Area - Harris	0	0	0	70	86
Alpha Staging Area - Liberty	0	0	0	0	0
Alpha Staging Area - Montaemery	0	0	0	0	0
Bravo Staging Area - Chambers	0	0	0	261	351
Bravo Staging Area - Jefferson	0	0	26	259	428
Bravo Staging Area - Orange	0	0	8	165	455
Bravo Staging Area - Port Arthur	0	0	0	0	0
Charlie Staging Area - Galveston	0	0	0	0	0

# OSC.net

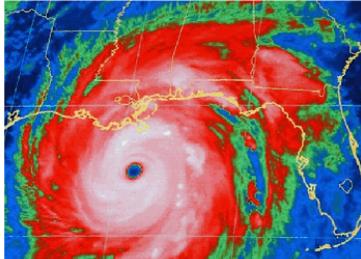
- Documents and sub-sites in OSC.net



### Hurricanes Gustav / Ike - Louisiana

Dallas, TX - EPA Region VI

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Site Contact:  
James Staves  
PSC  
[staves\\_james@epa.gov](mailto:staves_james@epa.gov)

[epaossc.net/gustav](http://epaossc.net/gustav)  
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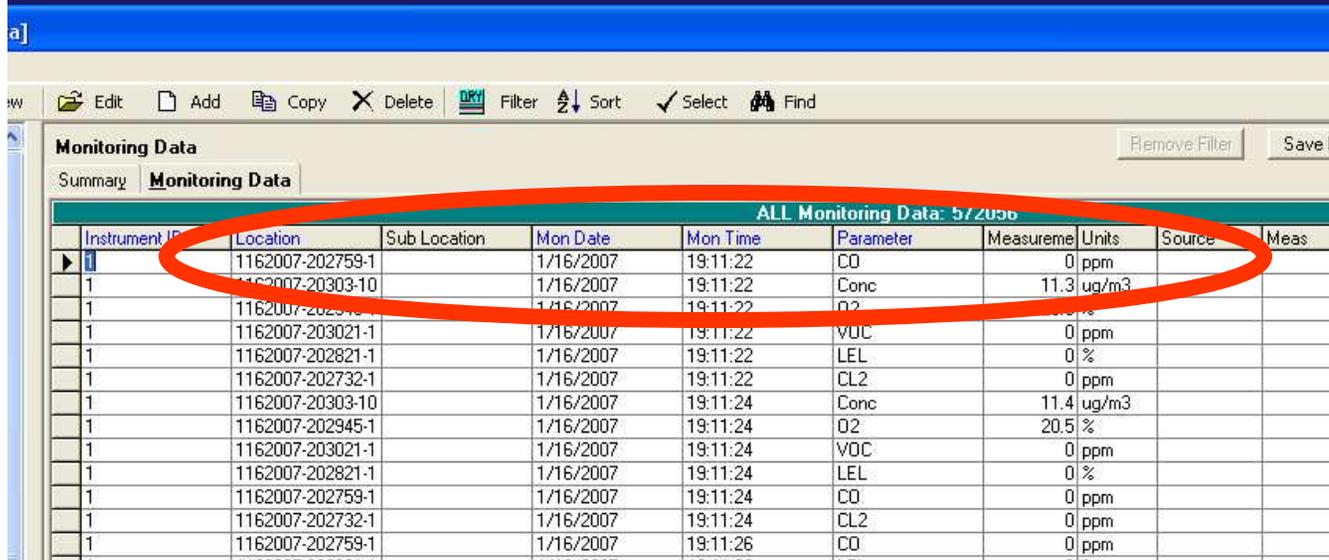
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**Activity Codes:**

AR	Aerial Reconnaissance - FRP/RMP/Orphaned Containers
GA	Ground Assessment of Recon Areas
OC	Collection of orphaned containers

For additional information, visit the [Pollution/Situation Report \(Pol/Sitrens\)](#) and the [Bulletins](#) sections.

# Data Management Lessons Learned

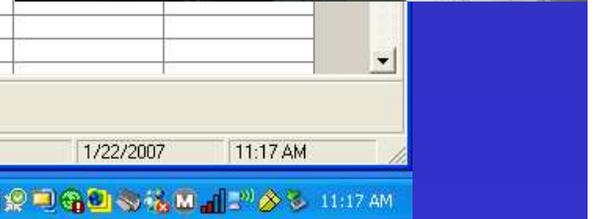
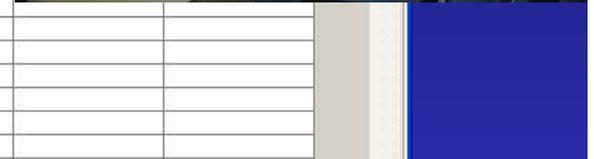


Monitoring Data

Summary Monitoring Data

ALL Monitoring Data: 5/7/2006

Instrument ID	Location	Sub Location	Mon Date	Mon Time	Parameter	Measureme	Units	Source	Meas
1	1162007-202759-1		1/16/2007	19:11:22	CO	0	ppm		
1	1162007-20303-10		1/16/2007	19:11:22	Conc	11.3	ug/m3		
1	1162007-202759-1		1/16/2007	19:11:22	O2	20.5	%		
1	1162007-203021-1		1/16/2007	19:11:22	VOC	0	ppm		
1	1162007-202821-1		1/16/2007	19:11:22	LEL	0	%		
1	1162007-202732-1		1/16/2007	19:11:22	CL2	0	ppm		
1	1162007-20303-10		1/16/2007	19:11:24	Conc	11.4	ug/m3		
1	1162007-202945-1		1/16/2007	19:11:24	O2	20.5	%		
1	1162007-203021-1		1/16/2007	19:11:24	VOC	0	ppm		
1	1162007-202821-1		1/16/2007	19:11:24	LEL	0	%		
1	1162007-202759-1		1/16/2007	19:11:24	CO	0	ppm		
1	1162007-202732-1		1/16/2007	19:11:24	CL2	0	ppm		
1	1162007-202759-1		1/16/2007	19:11:26	CO	0	ppm		



- Initiate Scribe and/or Response Manager at the beginning of the response**
- Work with internal and external data providers up front so that data can easily be integrated into Scribe with minimal processing**
- Sensor malfunctions or erroneous data should be documented**
- Purpose: To archive data and mapping capabilities**