



**Data Management Plan - Mercury Response Scenario**  
EPA Emergency Response and Removal DATA Team  
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**Purpose:** The purpose of this document is to convey information pertaining to the collection and documentation of data generated during a mercury emergency response. The information contained within is designed to be used by responders and data managers as a guide to promote consistent, quality assured data that can be used for decision making purposes and overall project archival. The plan is subject to change based on field activities.

**1. General Information**

- a. **Scenario** – The scenario provided is based on a mercury release in a school. The school location, size, and attendance is unknown.
- b. **Special Consideration** – The data management plan provided differs from other plans of a similar scenario in that it is generalized in many aspects as well, it outlines numerous data collection techniques in efforts to generate discussion and ideas.

**2. Overall Workflow**

- a. **Data Flow Diagram** – See **Attachment A** for the proposed data workflow diagram. Note: the diagram depicts various field data collection techniques being used though; this may vary in a given situation (responder preference/technical abilities). Also, the workflow depicts the use of Google Earth as a display and delivery tool though, depending on size and complexity of the response this may or may not be necessary.
- b. **Roles and Responsibilities** – Below is a list of roles and responsibilities of key data collection and management personnel.
  - **Emergency Responder** – The role of the emergency responder is to document data generated in the field (i.e. monitoring location and results, site sketches, sample data, etc.). Data management begins with this person.
  - **Data Entry Specialist** – This person is responsible for entering data generated by the Emergency Responder into the desired data format/database.
  - **Quality Assurance** – This person is responsible for data quality and is accountable for qc'ing a predetermined number of records in the database following data entry.
  - **Data Manager** – This person is responsible for the overall quality of the data being collected and managed, as well as the process for which data is transferred from the field to the data entry.
  - **GIS Specialist** – This person is responsible for the display of data geographically in a GIS format, as well as any analysis of data based on geographic extents, etc.
  - **Project Manager** – This person takes responsibility of the process, working with the Data Manager and GIS Specialist to ensure all facets of data collection and display is completed appropriately.
  - **EPA OSC** – This person takes overall responsibility of the site and activities within, therefore is accountable for all data collected and generated during the response.
  - **Analytical Laboratory** – This entity is responsible for producing verified analytical data based on samples collected during the response cleanup activities.



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### 3. Data Collection

- a. Field Data Collection Methodology** – Below is a list of field data collection tools and techniques that are proposed for capturing data during the mercury response. The specific tool or technique to be used will be determined by the responder based on his/her technical ability and/or any limiting factors specific to the response. See below list of tools:
- Field Log Book – Data is to be documented in field log books where information pertaining to field activities, air monitoring results, sample information, site sketches, etc. is recorded. Tables can be generated in the log book, prior to collecting data, to help organize information while recording.
    - Printed hard copy school layout maps with room numbers/markings would be very beneficial during a response of this type. Hand written notes and readings can be recorded on the map and, in conjunction with field log books, data can be transcribed into Scribe or onto field sheets.
  - Field Sheet – Data is to be documented on pre-formatted field sheets where information regarding air monitoring results, instrumentation, etc. is documented. See **Attachment B** for an example field sheet.
  - ESRI ArcPad – Data is to be entered into a Scribe ready data entry form(s) on a PDA or laptop running ArcPad. The entry form is based on the pertinent Scribe tables and field naming conventions allowing for direct import into Scribe from a geodatabase.
- b. Data Deliverables** – Data products generated in the field and laboratory include:
- Field Log Book Entries – Log book entries are to be scanned (preferably in .pdf form) and sent to data management personnel for processing.
  - Field Sheets – Field sheets are to be scanned (preferably in .pdf form) and sent to data management personnel for processing.
  - ESRI ArcPad – ArcPad files are to be delivered to data managers to be processed. Data managers will work closely with GIS personnel to extract data and migrate to Scribe.
  - Laboratory Deliverable – The laboratory is to deliver data in a Scribe ready Electronic Data Deliverable format. An EDD template (in .csv format) is to be provided to the lab (if the lab is not familiar with Scribe EDDs) for reporting requirements. See **Attachment C** for lab analyses, lab list, and analytical results description files; files are in a descriptive table format and are not necessarily formatted in a deliverable format.
- c. Data Processing** – Data processing is minimal following the above approach of direct data entry into Scribe from field sheets and/or log books. If need be, data can be entered into a properly formatted Excel spreadsheet that can be imported into Scribe using the Custom Import Wizard tool. Data imported from an ArcPad geodatabase can also be imported using Custom Import Wizard by selecting the appropriate Data Category and Import Data File or Table (the ArcPad file is to be Scribe ready allowing for automatic field mapping).
- d. Scribe Import Mapping** – As data is manually entered (from field sheets and log books) mapping data imports is somewhat unnecessary. Though, when using



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ArcPad it is imperative that data fields from the ESRI geodatabase align with the appropriate field in the appropriate table of Scribe. The geodatabase in use is to be Scribe ready, with the appropriate table and field names to accommodate seamless data import. Also, the geodatabase is to follow the same field formatting and valid values as Scribe tables. See **Attachment D** for ArcPad to Scribe field mapping examples.

- e. **Data Collection SOPs and Checklists** – See **Attachment E** for a generalized response checklist. This list can be tailored to most response and/or site data management and GIS activities.

#### 4. Data Storage

- a. **Data Element Dictionary** – See **Attachment F** for data element dictionary. Note – there is some duplication between Attachment C and F.
- b. **Entity Relationship Diagram** – The attached ERD represents all tables and fields and their relationships as designated by ERT developers. See **Attachment G** for the Scribe ERD.

#### 5. Data Verification

- a. **Verification SOPs and Checklists** – There are several steps to ensure accurate and verified data, though each response may require different and/or additional steps. Below are some steps that can be taken to ensure quality data:
  - Responders to review data prior to handoff.
  - Responders to explain data to data manager at time of handoff (covering any questionable data entries, etc.).
  - Data entry into Scribe should be performed by qualified/trained Scribe data specialists.
  - Data is to be QC'd by a qualified Scribe specialist (someone other than the person who entered data). Percentage of records QC is to be set by the Lead Data Manager and EPA management.
  - Lab deliverables should be delivered in an electronic format (preferably a Scribe ready EDD) as to eliminate hand entry.
  - Lab data is to be imported using the Scribe Custom Import Wizard, during which it is imperative that the field mapping be verified prior to import.
  - Lab data should be verified in Scribe, ensuring that upon import the lab data aligns with sample, location, and property information.
  - Location data is to be checked visually, looking for any apparent mistakes. Following visual check it is recommended that an ODBC connection be established in ArcMap and locations mapped to ensure accuracy.
  - Photos are to be organized and documented by the responders and then provided to the Lead Data Manager for archival and display.
- b. **SQL Verification Queries** – Several different types of queries can be generated to perform cross checks of data. See **Attachment H** for a few examples of such queries. GIS can also be a useful tool for analyzing and verify data.

#### 6. Data Analysis and Reporting

- a. **Reporting Requirements** – There are several queries available in Scribe to aid with data analysis and reporting. Two very useful pre-built queries include the 'Data for GIS-Lab' and 'Data for GIS-Monitoring' queries as they allow for



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mapping and reports to be generated on the fly. Data can be mined and exported to Excel from these queries, as well can be further analyzed using the Filter tool.

- i. **Google Earth** - Data can be delivered using Google Earth as display and reporting tool by importing data into ArcMap from Scribe, processing necessary fields in ArcMap, and exporting to Google Earth using the 'Export to KML' extension. This allows attribute and location data to be viewed in Google Earth.

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**Attachment A**



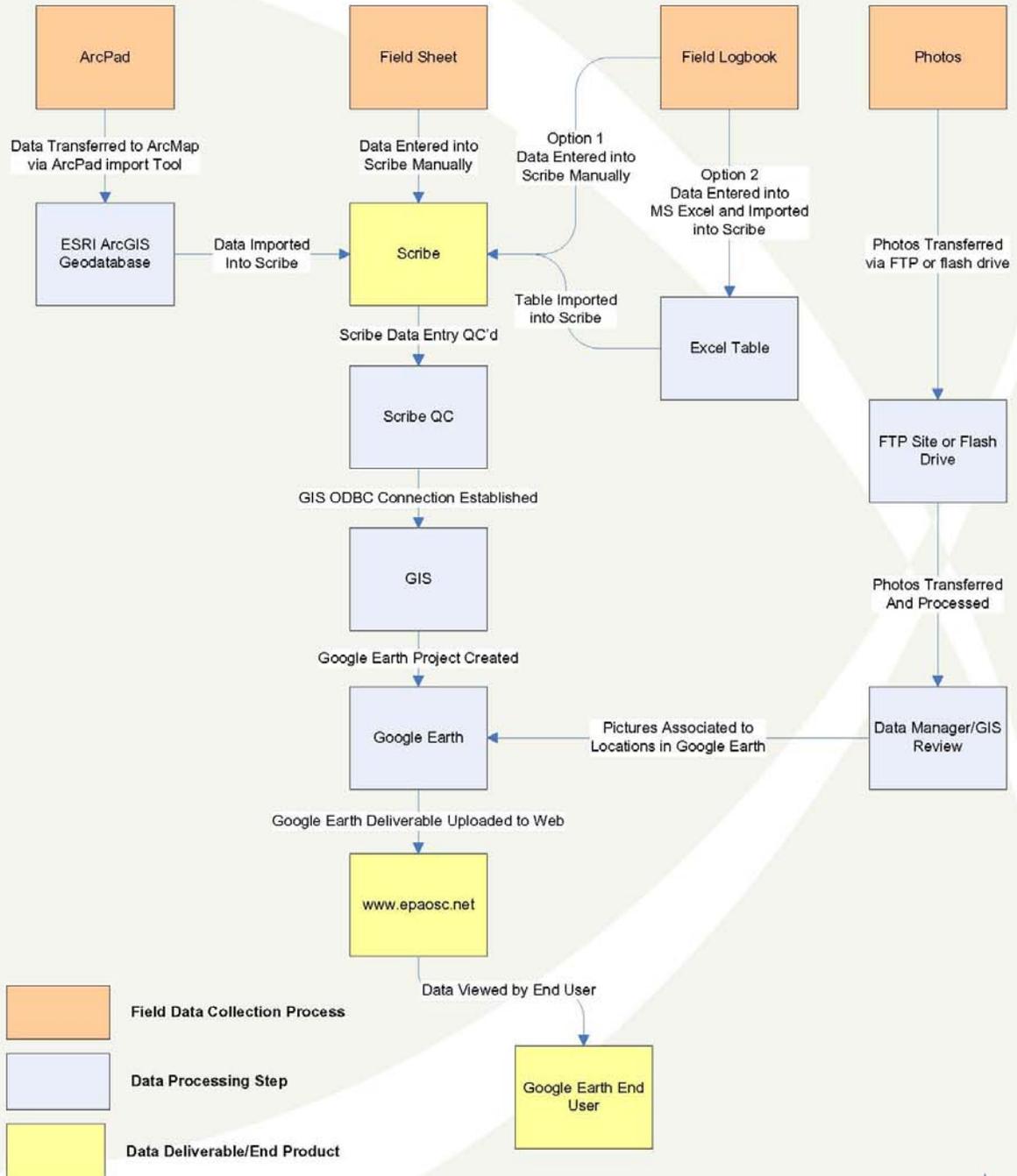
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### Attachment 1: Data Workflow Diagram





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**Attachment B**





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**Attachment C**



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EDD – Lab Analyses including Scribe fields with descriptions

<b>Lab Analyses EDD / Field Descriptions</b>					
<b>Scribe Fields</b>	<b>Description</b>	<b>Data Type</b>	<b>Field Size</b>	<b>Primary Key</b>	<b>Required</b>
Analyses	Analysis Name	Text	50	PK	Yes
Analyses_Type	Analyses Type (i.e. Organics, Inorganics, RCRA, USER_DEFINED, Other)	Text	20	No	No
Program_Type	The Program (i.e. CLP or Non-CLP)	Text	10	No	No
Analyses_Abbrev	Analyses Abbrev	Text	10	No	No
Turnaround	Turnaround time for the analysis	Number		No	No
Turnaround_Units	Turnaround time units for the analysis (i.e. Days, Hours)	Text	25	No	No
LabQCType	Lab QC to be done on the analysis	Text	50	No	No
Analyses_Comment	Analyses Comment	Text	100	No	No

\*See attached spreadsheet for example: EDDLabAnalyses.csv

EDD – Lab List including Scribe fields with descriptions

<b>Lab List EDD Field Descriptions</b>				
<b>Scribe Fields</b>	<b>Data Type</b>	<b>Field Size</b>	<b>Primary Key</b>	<b>Required</b>
Lab	Text	50	PK (Required)	Yes
Lab_Contact	Text	30	No	No
Lab_Phone	Text	20	No	No
Lab_Fax	Text	20	No	No
Lab_Address	Text	150	No	No
Lab_Address2	DateTime	50	No	No
Lab_City	Text	40	No	No
Lab_State	Text	20	No	No
Lab_Zip	Text	20	No	No
Lab_Remark	Text	150	No	No

\*See attached spreadsheet for example: EDDLabList.csv



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EDD – Lab Results including Scribe fields with descriptions

<b>Lab Results EDD Field Descriptions</b>					
<b>Scribe Fields</b>	<b>Description</b>	<b>Data Type</b>	<b>Field Size</b>	<b>Primary Key</b>	<b>Required</b>
Samp_No	Scribe/Field Sample Number (Required PK)	Text	25	PK	Yes
Analysis	Lab Analysis ( i.e VOCs) (Required PK)	Text	100	PK	Yes
Analyte	Analyte/Paramater name (i.e. Lead; Arsenic; etc.) (Required PK)	Text	60	PK	Yes
Result_Units	Result Unit of measurement (Required PK)	Text	20	PK	Yes
Analytical_Method	Lab Analytical Method (i.e. 8270M)	Text	100	No	No
Basis	"Wet" for wet_weight basis reporting; "Dry" for dry_weight reporting	Text	10	No	No
Cas_no	Chemical Abstract Number (CAS)	Text	50	No	No
Comments	Result Comments	Text	250	No	No
Date_Analyzed	Date Analysis was performed by Lab	DateTime	0	No	No
Date_Collected	Date Sample Collected as reported by the Lab	DateTime	0	No	No
Date_Extracted	Date Samples Extracted by Lab	DateTime	0	No	No
Date_Received	Date Samples Received by Lab	DateTime	0	No	No
Detected	Detected or Not Detected. i.e. "Y" for detected analytes or "N" for non_detects.	Text	20	No	No
Dilution_Factor	Effective test dilution factor.	Numeric	0	No	No
Extraction_Method	Lab Extraction Method (i.e. MEP; TCLP; SPLP; EP)	Text	100	No	No
Final_Volume	The final volume of the sample after sample preparation. Include all dilution factors.	Numeric	0	No	No
Final_Volume_Unit	The unit of measurement that corresponds to the final_amount.	Text	20	No	No
Lab_Batch_No	Lab Batch Number	Text	30	No	No
Lab_Coc_No	Chain of Custody Number as reported by the Lab	Text	50	No	No
Lab_Location_ID	Sample Location ID reported by the lab	Text	30	No	No
Lab_Name	Laboratory that performed the analysis	Text	50	No	No
Lab_Result_Qualifier	Result Qualifier as Reported by the Lab	Text	10	No	No
Lab_Samp_No	Lab Sample Number	Text	25	No	No
Matrix_ID	Matrix ID reported by Lab. (i.e. Soil; Water; Air; etc.)	Text	20	No	No



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MDL	Method Detection Limit (MDL)	Numeric	0	No	No
MDL_Units	MDL Units	Text	20	No	No
Percent_Lipids	Percent Lipids	Numeric	0	No	No
Percent_Moisture	Percent Moisture of the sample portion used in the test	Numeric	0	No	No
Percent_Recovery	Percent Recovery	Numeric	0	No	No
Percent_Solids	Percent Solids	Numeric	0	No	No
QA_Comment	QA Comment	Text	250	No	No
QA_Date	QA Date	DateTime	0	No	No
QA_UserName	QA Username	Text	50	No	No
QAFlag	QAFlag (Values: 0 = Not QAed 1=QAed)	Numeric	0	No	No
QC_Type	Laboratory_Control_Sample; Method_Blank	Text	40	No	No
Quantitation_Limit	Quantitation Limits as determined by the lab.	Numeric	0	No	No
Quantitation_Limit_Units	Quantitation Limit Units	Text	20	No	No
Reportable_Result	"Yes" for results which are considered to be reportable; or "No" for other results	Text	5	No	No
Reporting_Limit	Reporting Limits as determined by the lab.	Numeric	0	No	No
Reporting_Limit_Units	Reporting Limit Units	Text	20	No	No
Result	Result (number) returned from lab	Numeric	0	No	No
Result_Qualifier	Final/Validated Result qualifier/flag (i.e. J;U;ND;<;>)	Text	10	No	No
Result_Type_Code	"TRG" for a target or regular result; "TIC" for tentatively identified compounds; "SUR" for surrogates; "IS" for internal standards; or "SC" for spiked compounds.	Text	10	No	No
Sample_Type_Code	Code which distinguishes between different types of samples. For example normal samples must be distinguished from lab method blank samples	Text	10	No	No
SubSample_Amount	Amount of sample used for test.	Numeric	0	No	No
SubSample_Amount_Unit	Unit of measurement for subsample amount.	Text	20	No	No
Test_Type	Type of test (i.e. "initial"; "reextract1"; "reextract2"; "reextract3"; "reanalysis"; "dilution1"; "dilution2"; and "dilution3")	Text	10	No	No
Total_Or_Disolved	"D" for dissolved or filtered (metal) concentration; or "T" for everything else	Text	1	No	No

\*See attached spreadsheet for example: EDDLabResults.csv



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**Attachment D**



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**ArcPad to Scribe Field Mapping Examples cont.**

**Property Info Table Mapping**

Import Data Wizard

*Map Data To Import*

Reset

Export Data Map

Property Info Import: Bold = Required Field(s)							
Scribe Fields (Destination)	Import Fields (Source)	Description	Data Type	Field Size	Primary Key	Required	
<b>PropertyID</b>	<b>PropertyID</b>	Property ID (Required PK)	Text	50	PK	Yes	
TennantOccupied	TennantOccupied	Tennant Occupied Yes/No	Boolean	2	No	No	
PropertyZone	PropertyZone	Property Zone	Text	25	No	No	
PropertyZip	PropertyZip	Property Zip	Text	20	No	No	
PropertyType	PropertyType	i.e. residential; commetcial	Text	15	No	No	
PropertyTaxID	PropertyTaxID	Property Tax ID	Text	50	No	No	
PropertyState	PropertyState	Property State	Text	20	No	No	
PropertyPhone	PropertyPhone	Property Phone	Text	50	No	No	
PropertyParcellID	PropertyParcellID	Parcel Identifier	Text	25	No	No	
PropertyLastName	PropertyLastName	Property Contact's Last	Text	50	No	No	
PropertyFirstName	PropertyFirstName	Property Contact's First Name	Text	50	No	No	
PropertyDate6	PropertyDate6	i.e.Date Exterior Access	DateTime	0	No	No	
PropertyDate5	PropertyDate5	i.e.Date Exterior Access	DateTime	0	No	No	
PropertyDate4	PropertyDate4	i.e.Date Interior Access	DateTime	0	No	No	
PropertyDate3	PropertyDate3	i.e.Date Interior Access	DateTime	0	No	No	
PropertyDate2	PropertyDate2	i.e.Date Interior Access	DateTime	0	No	No	
PropertyDate1	PropertyDate1	i.e. Date Exterior	DateTime	0	No	No	
PropertyComment	PropertyComment	Property Comment	Text	250	No	No	
PropertyCity	PropertyCity	Property City	Text	50	No	No	
PropertyBlockID	PropertyBlockID	Property Block Number	Text	25	No	No	
PropertyAddress2	PropertyAddress2	Property Address2	Text	50	No	No	
PropertyAddress	PropertyAddress	Property Address	Text	50	No	No	
PropertyAccessRequestedD	PropertyAccessRequestedD	Access Requested Date	DateTime	0	No	No	
PropertyAccessApprovedD	PropertyAccessApprovedD	Access Approved Date	DateTime	0	No	No	
PropertyAccessAgreement	PropertyAccessAgreement	Access Agreement Yes/No	Boolean	2	No	No	
OwnerZip	OwnerZip	Owner Zip	Text	20	No	No	
OwnerState	OwnerState	Owner State	Text	20	No	No	
OwnerPhone	OwnerPhone	Owner Phone	Text	50	No	No	
OwnerOccupied	OwnerOccupied	Owner Occupied Yes/No	Boolean	2	No	No	
OwnerLastName	OwnerLastName	Owner Last Name	Text	50	No	No	
OwnerFirstName	OwnerFirstName	Owner First Name	Text	50	No	No	
OwnerCity	OwnerCity	Owner City	Text	50	No	No	
OwnerAlternateNumber	OwnerAlternateNumber	Alternate Phone #	Text	50	No	No	
OwnerAddress2	OwnerAddress2	Owner Address2	Text	50	No	No	
OwnerAddress	OwnerAddress	Owner Address	Text	50	No	No	

Display field descriptions and data types

<< Back    Next >>    Help    Cancel    Import

Note: Not all available Scribe fields are included in the geodatabase as not all fields are pertinent to the project.



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**ArcPad to Scribe Field Mapping Examples cont.**

**Location Table Mapping**

Import Data Wizard

**Map Data To Import**

Reset

Export Data Map

**Sampling Locations Import: Bold = Required Field(s)**

Scribe Fields (Destination)	Import Fields (Source)	Description	Data Type	Field Size	Primary Key	Required
<b>Location</b>	<b>Location</b>	▶ Sampling Location	Text	30	PK	Yes
Altitude	Altitude	Altitude	Numeric	0	No	No
Coord_Sys_Desc	Coord_Sys_Desc	Coordinate system	Text	70	No	No
Datum	Datum	Geopositioning datum	Text	50	No	No
Easting	Easting	Easting	Numeric	0	No	No
ElevDatum	ElevDatum	Datum used to determine the	Text	50	No	No
ElevMethod	ElevMethod	Method used to determine	Text	30	No	No
GeoMethod	GeoMethod	Geopositioning method used	Text	30	No	No
GeoScale	GeoScale	Scale of the map or photo	Text	20	No	No
GPS_Collected_By	GPS_Collected_By	Collector of GPS Data	Text	30	No	No
GPS_Comment	GPS_Comment	GPS comment recorded	Text	50	No	No
GPS_CorrectionType	GPS_CorrectionType	GPS Correction Type (i.e.	Text	50	No	No
GPS_Date	GPS_Date	GPS Date Recorded	DateTime	0	No	No
GPS_PDOP	GPS_PDOP	Position Dilution of Precision	Numeric	0	No	No
GPS_Phase	GPS_Phase	Phase that GPS coordinate	Text	30	No	No
GPS_Time	GPS_Time	GPS Time Recorded	DateTime	0	No	No
Latitude	Latitude	Latitude	Numeric	0	No	No
Location_Image_Path	Location_Image_Path	File path to a related file or	Text	255	No	No
LocationComment	LocationComment	Location Comment	Text	250	No	No
LocationDescription	LocationDescription	Location Description further	Text	100	No	No
LocationZone	LocationZone	Location Zone describes the	Text	25	No	No
Longitude	Longitude	Longitude	Numeric	0	No	No
Northing	Northing	Northing	Numeric	0	No	No
PropertyID	PropertyID	Property ID (FK)	Text	50	No	No
Surf_Elev	Surf_Elev	Surface Elevation records	Numeric	0	No	No
Surf_Units	Surf_Units	Surface Elevation Units (i.e.	Text	20	No	No

Display field descriptions and data types

<< Back    Next >>    Help    Cancel    Import

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**ArcPad to Scribe Field Mapping Examples cont.**

**Monitoring Results Table Mapping**

Import Data Wizard

*Map Data To Import*

Reset

Export Data Map

**Monitoring Data Import: Bold = Required Field(s)**

Scribe Fields (Destination)	Import Fields (Source)	Description	Data Type	Field Size	Primary Key	Required
<b>Mon_Time</b>	<b>Mon_Time</b>	Monitoring Time (hh:mm:ss)	Text	30	PK	Yes
<b>Mon_Parameter</b>	<b>Mon_Parameter</b>	Monitoring Parameter. i.e.	Text	30	PK	Yes
<b>Mon_Date</b>	<b>Mon_Date</b>	Monitoring Date (Required)	DateTime	0	PK	Yes
<b>Location</b>	<b>Location</b>	Monitoring Location Code	Text	30	PK	Yes
<b>InstrumentID</b>	<b>InstrumentID</b>	Instrument ID (Required)	Text	50	PK	Yes
Sub_Location	Sub_Location	Sampling Sub Location (i.e.	Text	30	No	No
Mon_Source	Mon_Source	Monitoring Source (i.e.	Text	50	No	No
Mon_Remark	Mon_Remark	Monitoring Data Remark	Text	255	No	No
Mon_Qualifier	Mon_Qualifier	Monitoring Criteria such as	Text	10	No	No
Mon_Operator	Mon_Operator	Monitoring/Sampler Name	Text	50	No	No
Mon_Measurement	Mon_Measurement	Monitoring Measurement	Numeric	0	No	No
Mon_Meas_Units	Mon_Meas_Units	Monitoring Measurement	Text	40	No	No
Mon_Meas_Surface	Mon_Meas_Surface	Monitoring Measurement	Text	50	No	No
Mon_Criteria_Units	Mon_Criteria_Units	Monitoring Criteria Units	Text	20	No	No
Mon_Criteria	Mon_Criteria	Monitoring Criteria such as	Numeric	0	No	No
Instrument_Type	Instrument_Type	Instrument Type (i.e.	Text	50	No	No
EventID	EventID	EventID. Use to group data	Text	50	No	No
Altitude		Altitude	Numeric	0	No	No
Coord_Sys_Desc		Sampling location coordinate	Text	70	No	No
Datum		Datum of the stations	Text	50	No	No
Detector_ID		Detector ID	Text	50	No	No
Detector_Mode		Detector Mode	Text	50	No	No

Display field descriptions and data types

<< Back    Next >>    Help    Cancel    Import

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**ArcPad to Scribe Field Mapping Examples cont.**

**Samples Table Mapping**

Import Data Wizard

**Map Data To Import**

Reset

Export Data Map

**Samples Import: Bold = Required Field(s)**

Scribe Fields (Destination)	Import Fields (Source)	Description	Data Type	Field Size	Primary Key	Required
<b>Samp_No</b>	<b>Samp_No</b>	Sample Number. Scribe	Text	25	PK	Yes
<b>Location</b>	<b>Location</b>	Sampling Location Code	Text	30	No	Yes
Tag		Samples Tag (Required.	Text	15	PK	No
Witness	Witness	Witness Name	Text	30	No	No
Task_ID	Task_ID	Scribe System Task_ID (FK)	Text	4	No	No
Sub_Location	Sub_Location	Sampling Sub Location (i.e.	Text	25	No	No
SampleType	SampleType	Sample Type (i.e. Field	Text	30	No	No
SampleTime	SampleTime	Time Sample Taken (hh:mm)	Text	5	No	No
Sampler	Sampler	Sampler Name	Text	30	No	No
SampleMedia	SampleMedia	Sampling Media	Text	30	No	No
SampleDate	SampleDate	Date Sample Taken	DateTime	0	No	No
SampleCollection	SampleCollection	Sample Collection Method	Text	30	No	No
Samp_Depth_Units	Samp_Depth_Units	Sampling Depth Units	Text	20	No	No
Samp_Depth_To	Samp_Depth_To	Sampling Depth	Numeric	0	No	No
Samp_Depth	Samp_Depth	Sampling Depth	Numeric	0	No	No
Samp_Concentration	Samp_Concentration	Sample Concentration (low;	Text	20	No	No
Remarks	Remarks	Remarks	Text	250	No	No
Matrix	Matrix	Sample Matrix (i.e. Soil)	Text	40	No	No
LinkSampleNo	LinkSampleNo	Linked Sample Number	Text	25	No	No
Image_Path	Image_Path	Image File Path	Text	100	No	No
EventID	EventID	EventID. Use to group data	Text	50	No	No
Altitude		Altitude	Numeric	0	No	No
Analyses		Lab Analyses for this sample	Text	64	No	No

Display field descriptions and data types

<< Back    Next >>    Help    Cancel    Import

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**Attachment E**



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**Response Checklist**

**Initial Phase**

- Has the type of event been determined (i.e. flood, tornado, hazmat release)?
- Has the exact event location been determined?
- Have responders been mobilized?
- Has data management/GIS support been requested?
  - If so, is the request for on-site or off-site support?
- Have you inventoried hardware to determine availability?
- Have you determined the hardware/software/supplies needs for supporting the response?
  - ArcPad System(s)
    - GPS
    - PDA
    - Connecting cable(s)
    - Chargers
  - Laptop(s) with software loaded:
    - ArcMap 9.3
      - Image Connect
      - X-Tools
      - Export to KML Script
    - ArcPad
    - MS ActiveSync
    - Response Manager (where applicable)
    - Scribe
    - Google Earth
    - Convert Tool
    - Tetra Tech EM Inc. VPN Software
    - Applicable print drivers
  - External hard drive(s) containing:
    - HSIP 2005 or 2007
    - Up-to-date Aerial Photography
    - State base map information
    - ArcMap templates
    - Logos
  - ESRI Media Kit
  - Cingular Air-Card(s)
  - Printer(s) (where applicable)
    - Paper (8.5 x 11 or 11 x17)
  - Log book(s)
  - Flash drive(s)
  - Blank media
    - CD-R
    - DVD-R
  - Various connection cables
  - Software/Hardware Documentation
  - General office supplies (where applicable)



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- Have you prepared initial site map(s) showing event location and surroundings?
- Have you determined and reported on general weather conditions at the event location?
  - Wind direction
  - Wind speed
  - Temperature
- Have you networked with other entities to collect pertinent information?

**Response Checklist continued**

**Support Phase (on-site and off-site support)**

- Have you determined the IC structure and who you will be reporting to during the response?
- Have you established a work station?
- Have you met with responders to develop a sampling plan?
  - Sample naming convention
  - Tools to be used to collect data
  - Process to be used to transfer data
  - Times data will be transferred
- Have you developed a contact list for first responders and networking contacts?
  - Phone
  - E-mail
  - Radio Channels
- Have you created the appropriate file structure for the event?
- Have you created the appropriate naming convention for filing of maps and data?
- Have you created a Scribe database?
- Have you collected field data from responders? (ongoing task)
- Have you populated the Scribe database with field collected data? (ongoing task)
- Have you populated the Scribe database with analytical data? (ongoing tasks, where applicable)
- Have you created GIS mapping of field and/or analytical data? (ongoing task)
- Have you published data to Scribe.NET, FAST web-console, and/or Response Manager Web-Hub? (ongoing task)
- Have you printed and archived maps as they are completed? (ongoing task)
- Have you QC'd your maps and databases against field notes and first hand responder knowledge? (ongoing task)

**Reporting Phase**

- Have you updated the Incident Commander on field data and mapping produced? (ongoing task)
  - Have you posted maps and databases to [www.epaosc.net](http://www.epaosc.net)? (ongoing task)
- Have you created situation reports for IC? (ongoing task, where applicable)



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**Attachment F**

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**Data Element Dictionary**

**Data Tables and Fields List** – The following list shows Scribe tables and fields, most commonly used, in each of the major Scribe data categories.

<b>Property Info EDD Field Descriptions</b>					
<b>Scribe Fields</b>	<b>Description</b>	<b>Data Type</b>	<b>Field Size</b>	<b>Primary Key</b>	<b>Required</b>
PropertyID	Property ID (Required PK)	Text	50	PK	Yes
OccupantAge	Occupant Age	Numeric	0	No	No
OccupantAgeUnits	Occupant Age Units	Text	30	No	No
OccupantDateContacted	Occupant Date Contacted	DateTime	0	No	No
OccupantFirstName	Occupant FirstName	Text	50	No	No
OccupantID	Unique Occupant Identifier (FK)	Text	25	No	No
OccupantLastName	Occupant LastName	Text	50	No	No
OccupantRemarks	Occupant Remarks	Text	255	No	No
OwnerAddress	Owner Address	Text	50	No	No
OwnerAddress2	Owner Address2	Text	50	No	No
OwnerCity	Owner City	Text	50	No	No
OwnerFirstName	Owner First Name	Text	50	No	No
OwnerLastName	Owner Last Name	Text	50	No	No
OwnerOccupied	Owner Occupied Y/N	Boolean	2	No	No
OwnerPhone	Owner Phone	Text	50	No	No
OwnerState	Owner State	Text	20	No	No
OwnerZip	Owner Zip	Text	20	No	No
PropertyAccessAgreement	Access Agreement Y/N	Boolean	2	No	No
PropertyAccessApprovedDate	Access Approved Date	DateTime	0	No	No
PropertyAccessRequestedDate	Access Requested Date	DateTime	0	No	No
PropertyAddress	Property Address	Text	50	No	No
PropertyAddress2	Property Address2	Text	50	No	No
PropertyCity	Property City	Text	50	No	No
PropertyComment	Property Comment	Text	250	No	No
PropertyDate1	i.e. Date Exterior AccessRequested	DateTime	0	No	No
PropertyFirstName	Property Contact's First Name	Text	50	No	No
PropertyLastName	Property Contact's Last Name (Tenant)	Text	50	No	No
PropertyParcelID	Parcel Identifier	Text	25	No	No
PropertyPhone	Property Phone	Text	50	No	No
PropertyState	Property State	Text	20	No	No



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PropertyType	i.e. residential; commetcial	Text	15	No	No
PropertyZip	Property Zip	Text	20	No	No
TennantOccupied	Tennant Occupied Y/N	Boolean	2	No	No

<b>Sampling Locations EDD Field Descriptions</b>					
<b>Scribe Fields</b>	<b>Description</b>	<b>Data Type</b>	<b>Field Size</b>	<b>Primary Key</b>	<b>Required</b>
Location	Sampling Location Code/Monitoring Location Code (PK)	Text	30	PK	Yes
Longitude	Longitude	Numeric	0	No	No
Latitude	Latitude	Numeric	0	No	No
Coord_Sys_Desc	Coordinate system	Text	70	No	No
Datum	Geopositioning datum associated with the Latitude and Longitude coordinates. (i.e. NAD27; NAD83)	Text	50	No	No
GPS_Collected_By	Collector of GPS Data	Text	30	No	No
GPS_Comment	GPS comment recorded	Text	50	No	No
GPS_Date	GPS Date Recorded	DateTime	0	No	No
GPS_Time	GPS Time Recorded	DateTime	0	No	No
Location_Image_Path	File path to a related file or image	Text	255	No	No
LocationComment	Location Comment	Text	250	No	No
LocationDescription	Location Description further describes the Location Code.	Text	100	No	No
PropertyID	Property ID (FK)	Text	50	No	No

<b>Air Sampling EDD Field Descriptions</b>					
<b>Scribe Fields</b>	<b>Description</b>	<b>Data Type</b>	<b>Field Size</b>	<b>Primary Key</b>	<b>Required</b>
Samp_No	Sample Number. Scribe requires a unique sample number (Required)	Text	25	PK	Yes
Location	Sampling Location Code (Required)	Text	30	No	Yes
Tag	Samples Tag (Required. Defaults to A)	Text	15	PK	No
Altitude	Altitude	Numeric	0	No	No
Analyses	Lab Analyses for this sample (FK)	Text	64	No	No
Avg_Flow	Average Flow Rate	Numeric	0	No	No
COC	Chain of Custody Number (FK)	Text	30	No	No
Coll_Method	Collection Method	Text	30	No	No
Container	Sample Container	Text	30	No	No
Coord_Sys_Desc	Sampling location coordinate system.( i.e UTM NAD83)	Text	70	No	No



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Date_Cal	Date Sampler Calibrated	DateTime	0	No	No
Datum	Datum of the stations coordinates	Text	50	No	No
Description	Sample Analyses Decription	Text	30	No	No
ElevDatum	Datum used to determine the elevation measurement. (i.e NAVD88; NGVD29; WGS84; Sea Level; Unknown) Datum used to determine the elevation measurement Datum used to determine the elevation measurement. i.e. NAVD88; NGVD29; WGS84; Sea Level; Unknown	Text	50	No	No
ElevMethod	Method used to determine the elevation measurement.( i.e. Altimetry; GPS; Interpolation; Other; Survey)	Text	30	No	No
EventID	EventID. Use to group data by sampling events. Defaults to 'Sampling' (i.e. EOC; Site Assessment)	Text	50	No	No
Flow_Units	Flow Rate Units (i.e. Liters)	Text	20	No	No
Image_Path	Image File Path	Text	100	No	No
Imported	Scriplets System field. N = Has Not been imported. Y = Has been imported into a Scribe project	Text	1	No	No
LinkSampleNo	Linked Sample Number	Text	25	No	No
Matrix	Sample Matrix (i.e. Air; Vapor)	Text	40	No	No
Media_Items	Air High Vol Sampling	Text	50	No	No
Media_Type	Air High Vol Sampling	Text	30	No	No
No_Container	Number of Containers	Numeric	0	No	No
Northing	Northing	Numeric	0	No	No
Orifice_ID	Orifice ID	Text	50	No	No
Post_Cal	Stop Flow Rate	Numeric	0	No	No
Post_Magnehelic	Ending Magnehelic reading	Numeric	0	No	No
Pre_Cal	Start Flow Rate	Numeric	0	No	No
Pre_Magnehelic	Starting Magnehelic reading	Numeric	0	No	No
Preservation	Sample Preservation	Text	30	No	No
PropertyID	Property ID (FK)	Text	50	No	No
RecordId	System field	Numeric	0	No	No
Remarks	Remarks	Text	250	No	No
SampleCounter	System field	Numeric	0	No	No
SampleDate	Date Sample Taken	DateTime	0	No	No
Sampler	Sampler Name	Text	30	No	No
SamplerID	Air Sampler Equipment ID - Pump #	Text	50	No	No
SampleTime	Time Sample Taken (hh:mm)	Text	5	No	No
SampleMedia	(i.e. Summa Cannnister)	Text	30	No	No
SampleCollection	Sample Collection Method (i.e. Grab, Composite, Discrete Interval)	Text	30	No	No



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SampleType	Sample Type (i.e. Field Sample, Field Duplicate, Lab QC, Spike, Trip Blank)	Text	30	No	No
Start_Count	Air Sampler Start Counter	Numeric	0	No	No
Start_Date	Air Sampling Start Date	DateTime	0	No	No
Start_Pressure	Start Pressure (Hg)	Numeric	0	No	No
Start_Temperature	Start Temperature (F)	Numeric	0	No	No
Start_Time	Air Sampler Start time (hh:mm)	DateTime	0	No	No
Stop_Count	Air Sampler Stop Counter	Numeric	0	No	No
Stop_Date	Air Sampling Stop Date	DateTime	0	No	No
Stop_Pressure	Stop Pressure	Numeric	0	No	No
Stop_Temperature	Stop Temperature	Numeric	0	No	No
Stop_Time	Air Sampler Stop time (hh:mm)	DateTime	0	No	No
Sub_Location	Sampling Sub Location (i.e. Fence Line; Perimeter. For residential: Living Room; Kitchen; etc.)	Text	25	No	No
Surf_Elev	Surface Elevation	Numeric	0	No	No
Surf_Units	Surface Elevation Units	Text	20	No	No
Tag_Matrix	Tag Matrix	Text	20	No	No
Tag_Measurement	Tag Measurement	Numeric	0	No	No
Tag_Units	Tag Units of measurement	Text	20	No	No
Time_Counter	Use Sampling Time or Sampler Counter to calculate time. (Values: Counter; Time)	Text	10	No	No
TimeStamp	System field	DateTime	0	No	No
Total_Time	Total Sampling time	Numeric	0	No	No
Volume	Air Sampling Volume. Wipe Sampling Area.	Numeric	0	No	No
Volume_Units	Volume Units	Text	20	No	No

<b>Lab Analyses EDD / Field Descriptions</b>					
<b>Scribe Fields</b>	<b>Description</b>	<b>Data Type</b>	<b>Field Size</b>	<b>Primary Key</b>	<b>Required</b>
Analyses	Analysis Name	Text	50	PK	Yes
Analyses_Type	Analyses Type (i.e. Organics, Inorganics, RCRA, USER_DEFINED, Other)	Text	20	No	No
Program_Type	The Program (i.e. CLP or Non-CLP)	Text	10	No	No
Analyses_Abbrev	Analyses Abbrev	Text	10	No	No
Turnaround	Turnaround time for the analysis	Number		No	No
Turnaround_Units	Turnaround time units for the analysis (i.e. Days, Hours)	Text	25	No	No



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LabQCType	Lab QC to be done on the analysis	Text	50	No	No
Analyses_Comment	Analyses Comment	Text	100	No	No

Lab List EDD Field Descriptions				
Scribe Fields	Data Type	Field Size	Primary Key	Required
Lab	Text	50	PK (Required)	Yes
Lab_Contact	Text	30	No	No
Lab_Phone	Text	20	No	No
Lab_Fax	Text	20	No	No
Lab_Address	Text	150	No	No
Lab_Address2	DateTime	50	No	No
Lab_City	Text	40	No	No
Lab_State	Text	20	No	No
Lab_Zip	Text	20	No	No
Lab_Remark	Text	150	No	No

Lab Results EDD Field Descriptions					
Scribe Fields	Description	Data Type	Field Size	Primary Key	Required
Samp_No	Scribe/Field Sample Number (Required PK)	Text	25	PK	Yes
Analysis	Lab Analysis ( i.e VOCs) (Required PK)	Text	100	PK	Yes
Analyte	Analyte/Paramater name (i.e. Lead; Arsenic; etc.) (Required PK)	Text	60	PK	Yes
Result_Units	Result Unit of measurement (Required PK)	Text	20	PK	Yes
Analytical_Method	Lab Analytical Method (i.e. 8270M)	Text	100	No	No
Basis	"Wet" for wet_weight basis reporting; "Dry" for dry_weight reporting	Text	10	No	No
Cas_no	Chemical Abstract Number (CAS)	Text	50	No	No
Comments	Result Comments	Text	250	No	No
Date_Analyzed	Date Analysis was performed by Lab	DateTime	0	No	No
Date_Collected	Date Sample Collected as reported by the Lab	DateTime	0	No	No
Date_Extracted	Date Samples Extracted by Lab	DateTime	0	No	No
Date_Received	Date Samples Received by Lab	DateTime	0	No	No



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Detected	Detected or Not Detected. i.e. "Y" for detected analytes or "N" for non_detects.	Text	20	No	No
Dilution_Factor	Effective test dilution factor.	Numeric	0	No	No
Extraction_Method	Lab Extraction Method (i.e. MEP; TCLP; SPLP; EP)	Text	100	No	No
Final_Volume	The final volume of the sample after sample preparation. Include all dilution factors.	Numeric	0	No	No
Final_Volume_Unit	The unit of measurement that corresponds to the final_amount.	Text	20	No	No
Lab_Batch_No	Lab Batch Number	Text	30	No	No
Lab_Coc_No	Chain of Custody Number as reported by the Lab	Text	50	No	No
Lab_Location_ID	Sample Location ID reported by the lab	Text	30	No	No
Lab_Name	Laboratory that performed the analysis	Text	50	No	No
Lab_Result_Qualifier	Result Qualifier as Reported by the Lab	Text	10	No	No
Lab_Samp_No	Lab Sample Number	Text	25	No	No
Matrix_ID	Matrix ID reported by Lab. (i.e. Soil; Water; Air; etc.)	Text	20	No	No
MDL	Method Detection Limit (MDL)	Numeric	0	No	No
MDL_Units	MDL Units	Text	20	No	No
Percent_Lipids	Percent Lipids	Numeric	0	No	No
Percent_Moisture	Percent Moisture of the sample portion used in the test	Numeric	0	No	No
Percent_Recovery	Percent Recovery	Numeric	0	No	No
Percent_Solids	Percent Solids	Numeric	0	No	No
QA_Comment	QA Comment	Text	250	No	No
QA_Date	QA Date	DateTime	0	No	No
QA_UserName	QA Username	Text	50	No	No
QAFlag	QAFlag (Values: 0 = Not QAed 1=QAed)	Numeric	0	No	No
QC_Type	Laboratory_Control_Sample; Method_Blank	Text	40	No	No
Quantitation_Limit	Quantitation Limits as determined by the lab.	Numeric	0	No	No
Quantitation_Limit_Units	Quantitation Limit Units	Text	20	No	No
Reportable_Result	"Yes" for results which are considered to be reportable; or "No" for other results	Text	5	No	No
Reporting_Limit	Reporting Limits as determined by the lab.	Numeric	0	No	No
Reporting_Limit_Units	Reporting Limit Units	Text	20	No	No
Result	Result (number) returned from lab	Numeric	0	No	No
Result_Qualifier	Final/Validated Result qualifier/flag (i.e. J;U;ND;<;>)	Text	10	No	No



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Result_Type_Code	"TRG" for a target or regular result; "TIC" for tentatively identified compounds; "SUR" for surrogates; "IS" for internal standards; or "SC" for spiked compounds.	Text	10	No	No
Sample_Type_Code	Code which distinguishes between different types of samples. For example normal samples must be distinguished from lab method blank samples	Text	10	No	No
SubSample_Amount	Amount of sample used for test.	Numeric	0	No	No
SubSample_Amount_Unit	Unit of measurement for subsample amount.	Text	20	No	No
Test_Type	Type of test (i.e. "initial"; "reextract1"; "reextract2"; "reextract3"; "reanalysis"; "dilution1"; "dilution2"; and "dilution3")	Text	10	No	No
Total_Or_Disolved	"D" for dissolved or filtered (metal) concentration; or "T" for everything else	Text	1	No	No

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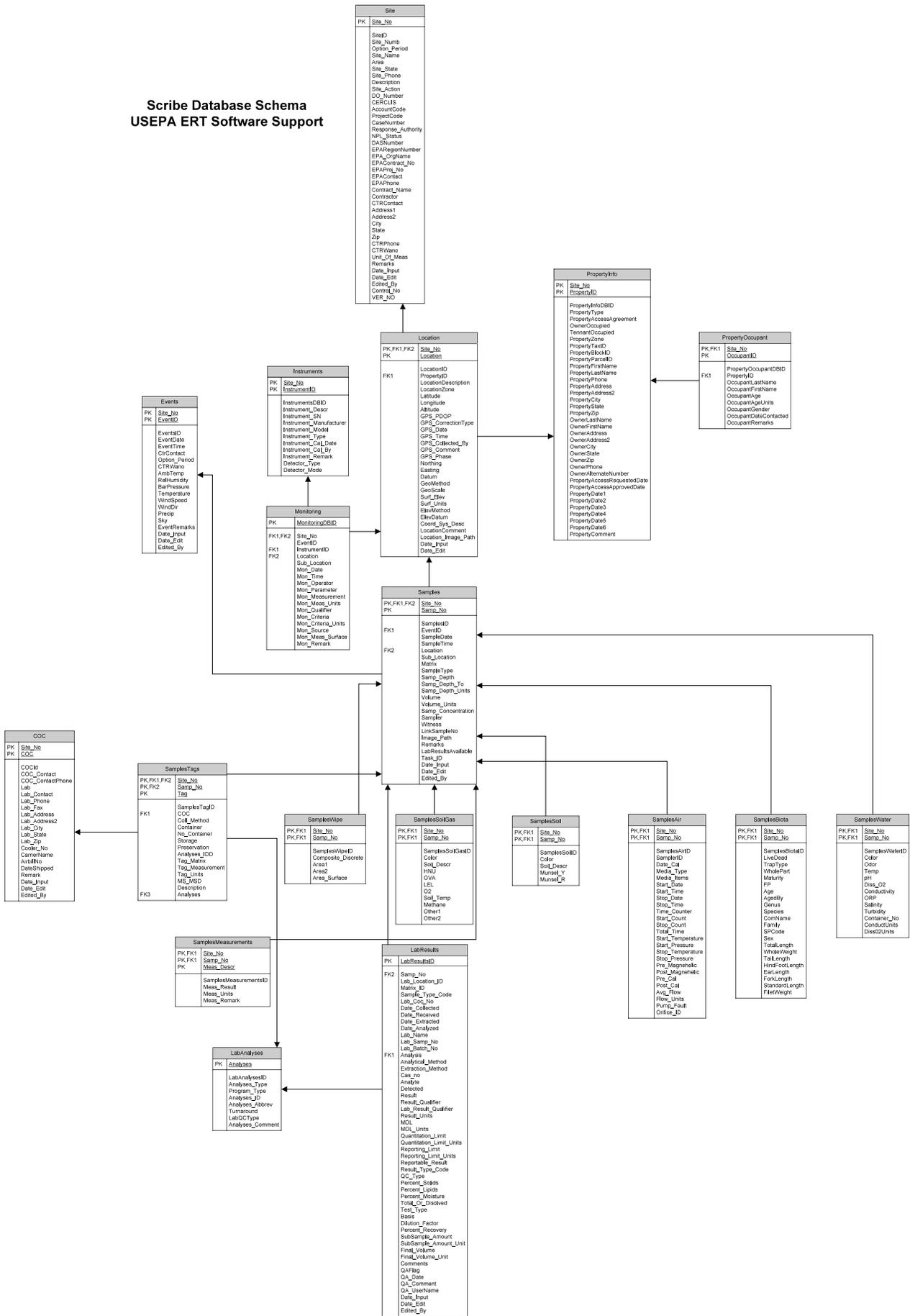
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**Attachment G**

# Scribe Database Schema USEPA ERT Software Support





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**Attachment H**



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**Lab Results Without Samples Query:**

```
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));
```

**Samples Without Lab Results Query:**

```
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));
```

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