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California
Underground Storage
Tank Program

AB2886 Implementation

San Jose Training

July 30, 2001

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ArsenaultLegg, Inc.

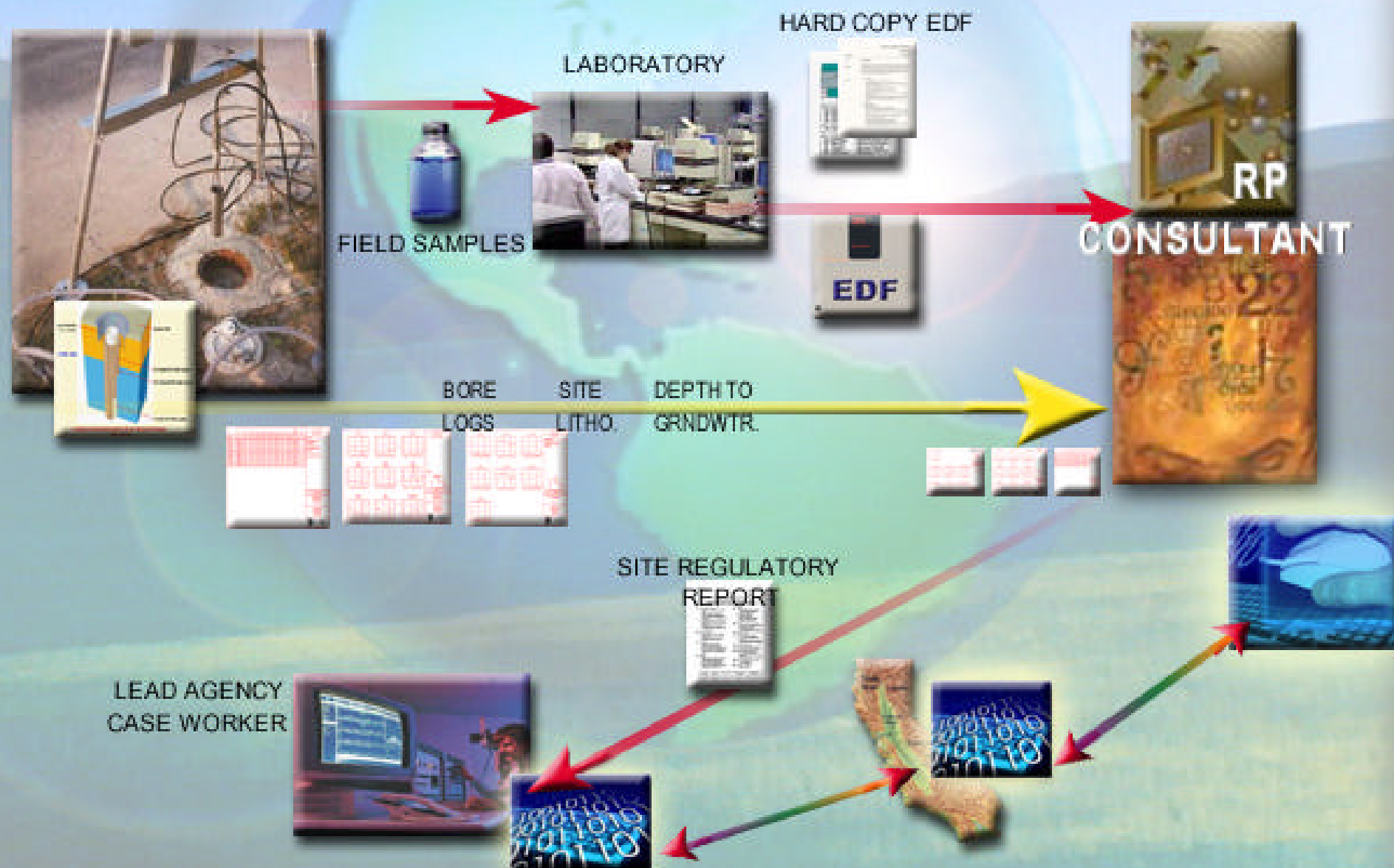**ma@arsenaultlegg.com**

Overview

- **Review Concepts**

- **Part 1- Implementation**

  - Electronic Data Formats for GeoTracker

  - Data Requirements

  - Available Tools

  - Submitting Data to GeoTracker

- **Part 2 - Format Details**

  - Data Format Details

  - Advanced Format Content

Review Concepts

- **Morning Session**
  - **GeoTracker**
  - **AB2886**
  - **Data Delivery to the GeoTracker System**

The California Water Board GeoTracker Solution Data Transfer

HARD COPY EDF

LABORATORY

RP CONSULTANT

FIELD SAMPLES

EDF

BORE LOGS   SITE LITHO.   DEPTH TO GRNDWTR.

SITE REGULATORY REPORT

LEAD AGENCY CASE WORKER

Part 1 - Implementation

Data for GeoTracker

- **Formats**

- **Preparation**

- **Verification**

- **Uploading**

Electronic Formats

- **Standardized Data Format**
  - **Fields of information are listed in a defined order**

  - **Names of organizations, analytes, and methods are generally given codes (valid values) for consistency**

  - **Data delivery has a defined format (e.g., fixed length or comma/quote delimited)**

Linking Data to GeoTracker

- **Global ID**
  - An identifier created by the GeoTracker System
  - Represents a site or facility identifier

- **Field Point Name**
  - The name assigned by the Consultant/RP to a survey or sample collection point

What is SURVEY_XYZ?

- **A format for electronic delivery of well location coordinates, elevation and groundwater measurement data**

- **Provides the geo-spatial coordinates for the GeoTracker System**

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Location Information

- **One-time submittal**

- **Latitude/Longitude data only (in decimal degrees, to 7 decimal points)**

- **Measure to +/- 1 meter accuracy**

- **Submission will be based upon Global ID and Field Point Name**

GEO_XY

SWRCB

Elevation Information

- **Periodic submittal**

- **From top of casing**

- **Relative to Mean Sea Level (MSL)**

- **Submission will be based upon Global ID and Field Point Name**

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Depth to Groundwater

- Submit each time a well is sampled

- From top of well casing to groundwater surface

- Measure to +/-0.01 foot accuracy

- Submission will be based upon Global ID and Field Point Name

GEO_WELL

S W R C B

Site Map

- **Periodic submittal**

- **Site Map**

- **File type**
  - **gif**
  - **tif**
  - **jpeg**
  - **shape file**
  - **pdf**

SITE_MAP

SURVEY_XYZ Benefits

- **Geo-spatial data of known precision and accuracy**

- **Data available for modeling constituents**

- **Active archive for public use**

What is EDF?

- An electronic version of a laboratory report

- Data is formatted for ease of use by multiple parties

- Provides a consistent level of quality

Chain-of-Custody

- **Global ID**

- **Field Point Names**

- **Sample IDs**

- **Collection Date/Time**

- **Preservation**

Analytical Results

- **Laboratory IDs**

- **Analyses Date**

- **Preparation Batch**

- **Results**

EDF 1.2i

Data Quality Control

- **Control Limits**
- **Surrogates**
- **Blanks**
- **Spikes**

EDF 1.2i

How it Works

- **Laboratory exports data from their Laboratory Information Management System (LIMS)**

- **Data is converted into EDF 1.2i format using either tools developed by the laboratory or tools provided by the EDF Program**

- **Data is then transferred to the client with an associated hard copy report**

Benefits of EDF

- **Eliminates laborious reentry of hard copy laboratory data**

- **Hard copy reports from unrelated laboratories may have the same format and appearance**

- **Nonconformance to standard analytical methods and procedures easily identified**

- **Conforms to SW-846 method requirements**

- **Provides a standard data format to be shared by multiple parties**

Available Tools

- **GeoTracker - Web-based Geo-spatial Database**

- **COELT - Corps of Engineers Loading Tool**

- **EDCC - Electronic Deliverable Consistency Checker**

- **DataStream Free - Data Verification and Reporting Tool**

COELT

- **Laboratory software for preparation of EDF deliverables**

- **Allows for link to Laboratory Information Management System and manual data entry**

- **Electronic data consistency checking ensures format compliance**

- **Hard copy reports generated from electronic data - legally defensible**

EDCC

- **Format Errors**
  - Fields submitted in the incorrect order
  - Incorrect valid values

- **Logic Errors**
  - Analysis Date prior to Sample Date
  - Test without results

- **Content Errors**
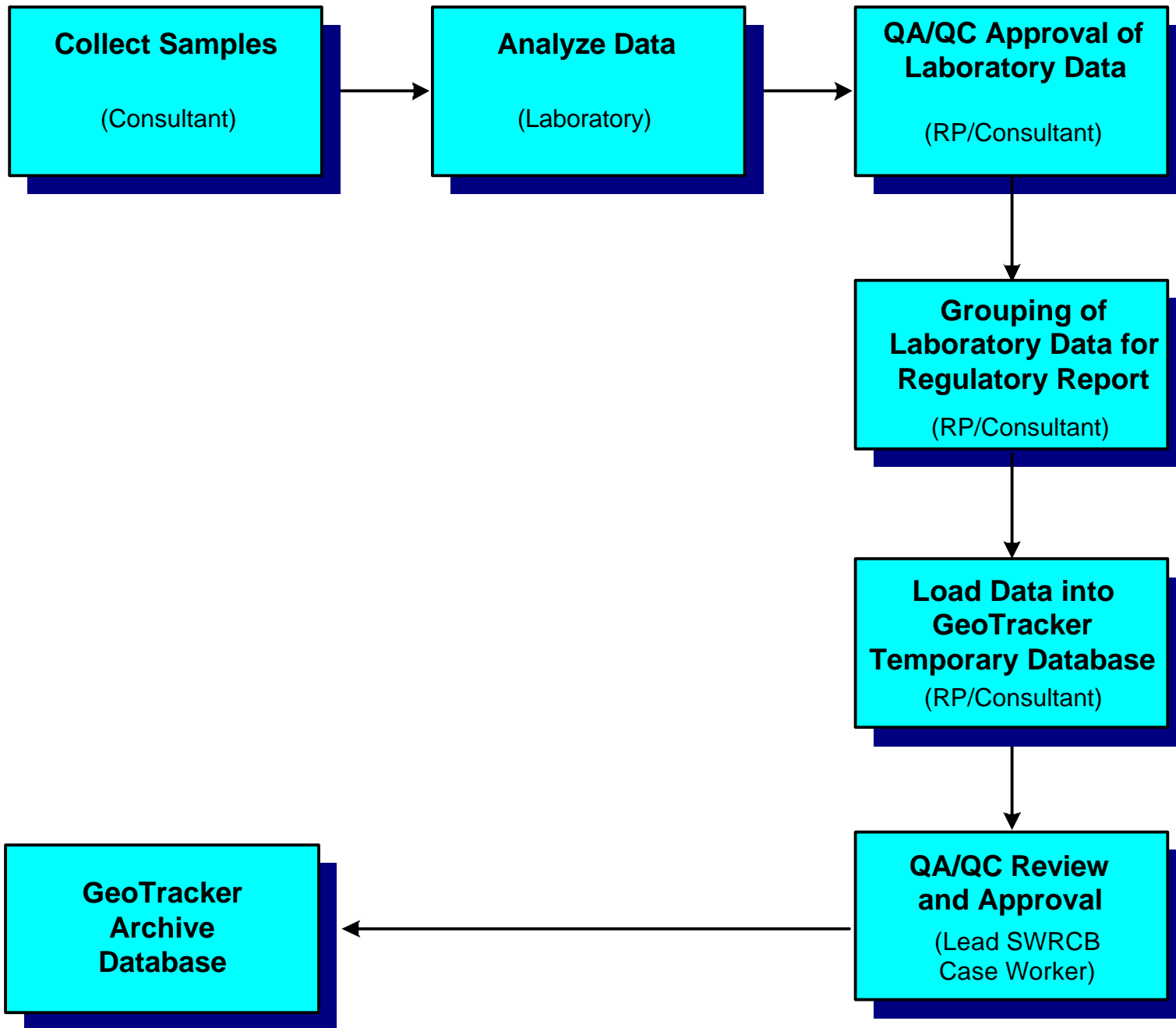 - Detection limits greater than reporting limits

DataStream Free

- **Reporting Tool**

- **Organizes Data**

- **Data Clean-Up**

- **QA/QC Reports**

Implementation

- **Preparing for the sampling event**

- **Sample submission to the laboratory**

- **Laboratory analysis and reporting**

- **Date verification**

- **Uploading data into GeoTracker**

```
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│ Collect Samples │      │  Analyze Data   │      │  QA/QC Approval │
│                 │ ───► │                 │ ───► │  of Laboratory  │
│   (Consultant)  │      │   (Laboratory)  │      │      Data       │
│                 │      │                 │      │  (RP/Consultant)│
└─────────────────┘      └─────────────────┘      └─────────────────┘
                                                           │
                                                           ▼
                                                  ┌─────────────────┐
                                                  │   Grouping of   │
                                                  │ Laboratory Data │
                                                  │  for Regulatory │
                                                  │     Report      │
                                                  │  (RP/Consultant)│
                                                  └─────────────────┘
                                                           │
                                                           ▼
                                                  ┌─────────────────┐
                                                  │ Load Data into  │
                                                  │   GeoTracker    │
                                                  │Temporary Database│
                                                  │  (RP/Consultant)│
                                                  └─────────────────┘
                                                           │
                                                           ▼
┌─────────────────┐                               ┌─────────────────┐
│   GeoTracker    │                               │  QA/QC Review   │
│     Archive     │ ◄──────────────────────────── │  and Approval   │
│    Database     │                               │   (Lead SWRCB   │
│                 │                               │   Case Worker)  │
└─────────────────┘                               └─────────────────┘
```

Sampling Event

- **PIN**

- **Global IDs**

- **Field Point Names**

GeoTracker


Http://geotracker.swrcb.ca.gov

Laboratory Submission

- **Provide Global ID**

- **Field Point Names may be blinded to the laboratory**

- **Some laboratories will accept Global ID and Field Point Names electronically**

Laboratory Reporting

- **Group samples by preparation batch**

- **Export electronic results from LIMS**

- **…Or enter directly into COELT**

- **COELT hard copy report**

- **Error Free EDCC report**
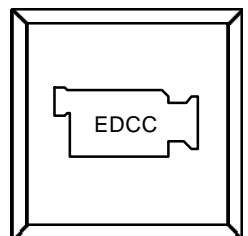
EDCC

Data Verification

- **Format verification**

- **Content verification**

- **QA/QC verification**

Report 1

Global Corr

Export

Data Uploading

Web Check
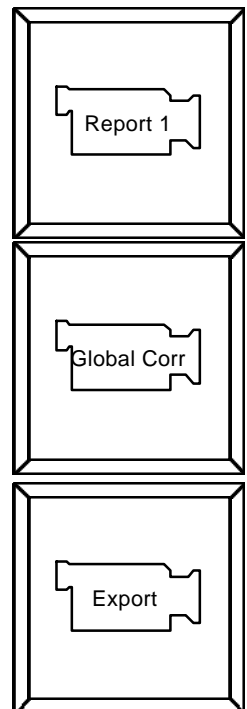
Upload
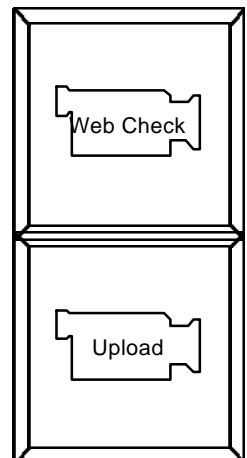
Help Desk

- **Support for parties generating or using EDF deliverables**

- **COELT, EDCC, and DataStream Free software technical support**

- **New valid value code requests and valid value list updates**

- **Automatically receive updated documentation and valid values**

Tutorials

- **Step-by-step guide through software functionality**

- **Provides practice exercises**

- **Includes sample data for use with the software**

- **Supplements for beginning to advanced users**

To Contact Us

edfhelpdesk@arsenaultlegg.com

or

(800)-506-3887 (8am to 6pm PST)

Part 2

The Details

- **SURVEY_XYZ format content**

- **EDF 1.2i format content**

- **Advanced format concepts**

Location Information

S W R C B

GEO_XY

Global ID
Field Point Name
Field Point Class
XY Survey Date
Latitude
Longitude
XY Survey Method
XY Datum
XY Survey Organization
XY Equipment Type
XY Survey Description

GEO_XY

Elevation Information

GEO_Z

Global ID
Field Point Name
Field Point Class
Elevation Survey Date
Elevation
Riser Height
Elevation Method
Elevation Datum
Elevation Survey Organization
Elevation Survey Equip Type
Elevation Survey Description

GEO_Z

Well Information

GEO_WELL

Global ID
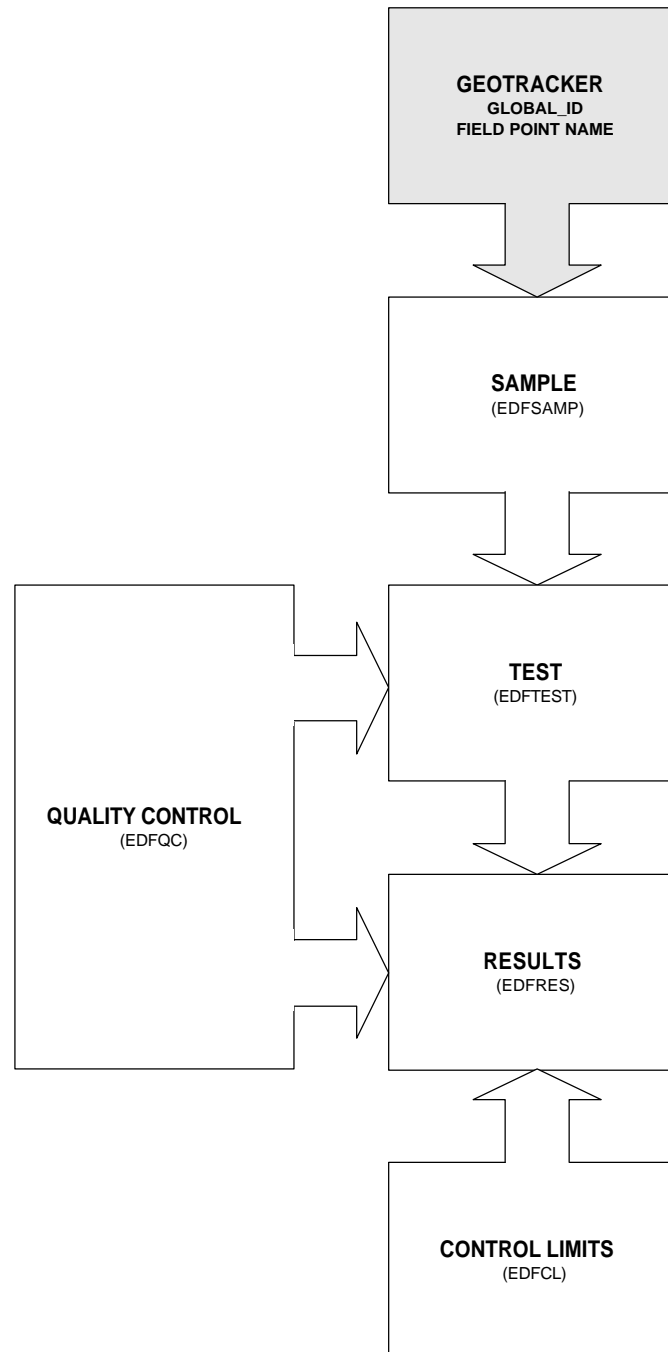Field Point Name
Measurement Date
Depth to Groundwater
Riser Height
Well Status
Status Begin Date
Groundwater Measure Desc.

GEO_WELL

```
                    ┌─────────────────────┐
                    │     GEOTRACKER      │
                    │      GLOBAL_ID      │
                    │   FIELD POINT NAME  │
                    └─────────────────────┘
                               │
                               ▼
                    ┌─────────────────────┐
                    │       SAMPLE        │
                    │      (EDFSAMP)      │
                    └─────────────────────┘
                               │
                               ▼
┌───────────────────┐    ┌─────────────────────┐
│                   │──▶ │        TEST         │
│                   │    │      (EDFTEST)      │
│  QUALITY CONTROL  │    └─────────────────────┘
│     (EDFQC)       │               │
│                   │               ▼
│                   │──▶ ┌─────────────────────┐
│                   │    │       RESULTS       │
└───────────────────┘    │      (EDFRES)       │
                         └─────────────────────┘
                                    ▲
                                    │
                         ┌─────────────────────┐
                         │   CONTROL LIMITS    │
                         │      (EDFCL)        │
                         └─────────────────────┘
```

EDF 1.2i

Sample Information

SAMPLE

Field Point Name
Collection Date
Collection Time
Field Organization
COC Sample ID
Matrix
Project Name
Work Order Number
Global ID
Laboratory

EDF 1.2i

Test Information

TEST
Field Point Name
Collection Date
Collection Time
Field Organization
COC Sample ID
Matrix
Laboratory
Lab Sample ID
QC Type
Analytical Method
Prep Method
Analysis Date
Prep Date
Prep Batch Number
Lab Report Number

TEST (cont.)
Modified Param List
Leach Method
Run Number
Received Date
Chain-of-Custody Number
Basis
Preservative
Subcontracted Laboratory
Report Date
Approved By
(Requested Method Group)
(Procedure Name)
(Lab Method Group)
(Method Design ID)
(Cleanup Method)

EDF 1.2i

Results Information

RESULTS

Matrix
Laboratory
Lab Sample ID
QC Type
Analytical Method
Prep Method
Primary Value Type
Analysis Date
Run Number
Parameter
Parameter Value
Parameter Value Qualifier
Method Detection Limit
Reporting Detection Limit
RepDL Qualifier
Units of Measure

RESULTS (cont.)

Parameter Uncertainty
Retention Time
Dilution Factor
CL Revision Date
Standard Reference Material
Laboratory Result Notes
(Procedure Name)
(Lab Method Group)
(Method Design ID)

EDF 1.2i

Quality Control

```
                        QC
Matrix
Laboratory
Prep Batch Number
Analytical Method
Parameter
QC Type
Lab QC Sample ID
Lab Reference ID
Expected Parameter Value
Units of Measure
(Procedure Name)
(Lab Method Group)
(Method Design ID)
```

Control Limits

S W R C B

CL

Laboratory
Matrix
Analytical Method
Preparation Method
Parameter
CL Revision Date
Control Limit Type
Upper Control Limit
Lower Control Limit
(Procedure Name)
(Lab Method Group)
(Method Design ID)

EDF 1.2i

Data Verification

- **Blank hits**

- **Holding time**

- **Spikes outside of limits**

Data Verification Cont.

- **Method sensitivity**

- **Preparation appropriate for analysis**

- **Method parameter list**

- **Proper preservation**

Advanced Concepts

- **Detection Limits**

- **Notes**

- **Modified Parameter List**

- **Expected Field**

- **Batching**

- **Non-Client Samples**

- **Special QC Entry**

- **Control Limits**

Blind Field Point Name

GEO_FLDSAMP

Global ID
Field Point Name
Collection Date
Collection Time
Field Organization
COC Sample ID

EDF 1.2i

Please RSVP Mary Rogers at (916) 341-5715 or rogersmac@cwp.swrcb.ca.gov.

- **NEW** [SWRCB Staff-Level Public Outreach Workshops](#)

  These workshops are inteneded to provide an opportunity for owners/operators, contractors, and local agency inspectors to understand the newly adopted amendments to the UST Regulations.

  Open Meeting - All Welcome

- **NEW** *Implementation of Emergency Regulations EDF/COELT*

  [AB 2886 Electronic Submission of Laboratory Data for UST Reports](#)

  - June 20, 2001 Letter to Interested Parties (IPs) Announcing [Summer Training](#) for IPs and Laboratory Personnel

  updated June 19, 2001

- **NEW** [Amended UST Regulations (SB 989) effective May 14, 2001](#)

  updated June 18, 2001

- **NEW** No Monthly Northern California Inspectors Workshop for June 2001 due to state-wide UST staff level public workshops to discuss the Amended UST Regulations (SB 989) effective May 14, 2001
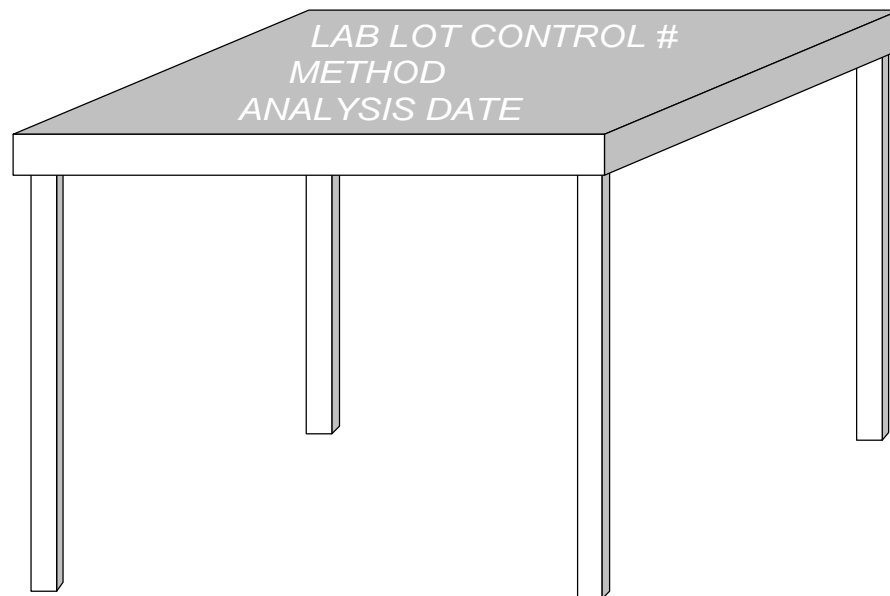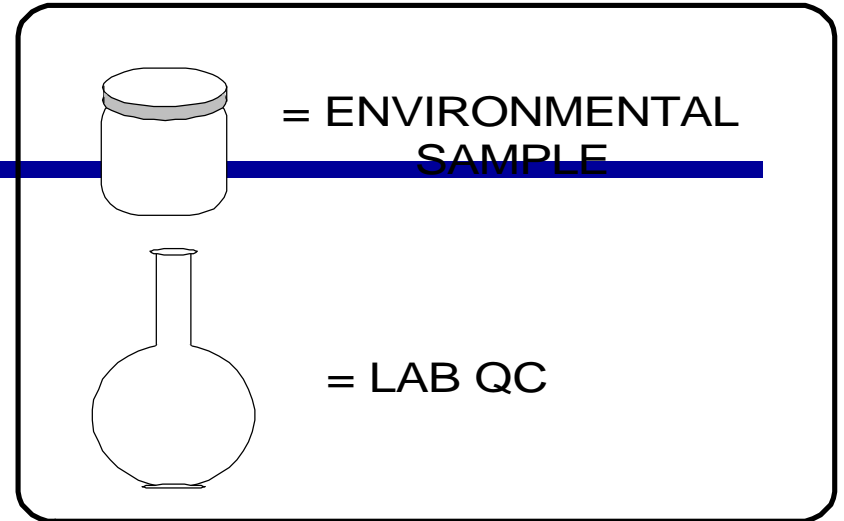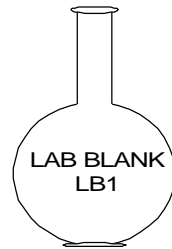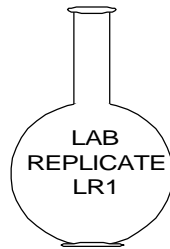
  updated June 18, 2001

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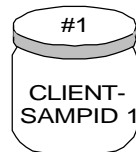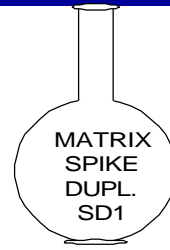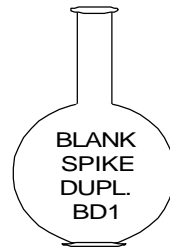**W**
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To Contact Us

edfhelpdesk@arsenaultlegg.com

or

(800)-506-3887 (8am to 6pm PST)

SWRCB

BLANK SPIKE BS1

BLANK SPIKE DUPL. BD1

MATRIX SPIKE MS1

MATRIX SPIKE DUPL. SD1

#1 CLIENT-SAMPID 1

#2 CLIENT-SAMPID 2

LAB REPLICATE LR1

LAB BLANK LB1

LAB LOT CONTROL #
METHOD
ANALYSIS DATE

= ENVIRONMENTAL SAMPLE

= LAB QC

QC BATCH

SWRCB

Value of Spike

+

Original Sample Value

=

Expected Value