# FORMS II Lite™

## Version 5.0

**Presented By Dr. Anand R. Mudambi**

**USACE Chemists Business Meeting**
**Jekyll Island, GA**
**6 March 2002**

# What is FORMS II Lite?

- A flexible and easy-to-use, stand-alone, Windows-based application for:
  - Generating bottle and tag labels;
  - Generating Chain of Custody (COC) / Traffic Report forms;
  - Tracking samples from field to laboratory;
  - Facilitating electronic capture of sample information into databases; and
  - Exporting data electronically as XML, .dbf or .txt files.

# How is FORMS II Lite used?

- The user enters information prior to or during the sampling event.
- The wizard-like format takes the user through a logical sequence of steps paralleling processes associated with documenting sampling activities. Users enter information on:
  - Site and project;
  - Sampling team members;
  - Analyses to be performed;
  - Location, matrix, date/time collected, measurements;
  - Sample and tag numbers;
  - Laboratories receiving samples; and
  - Sample shipments.

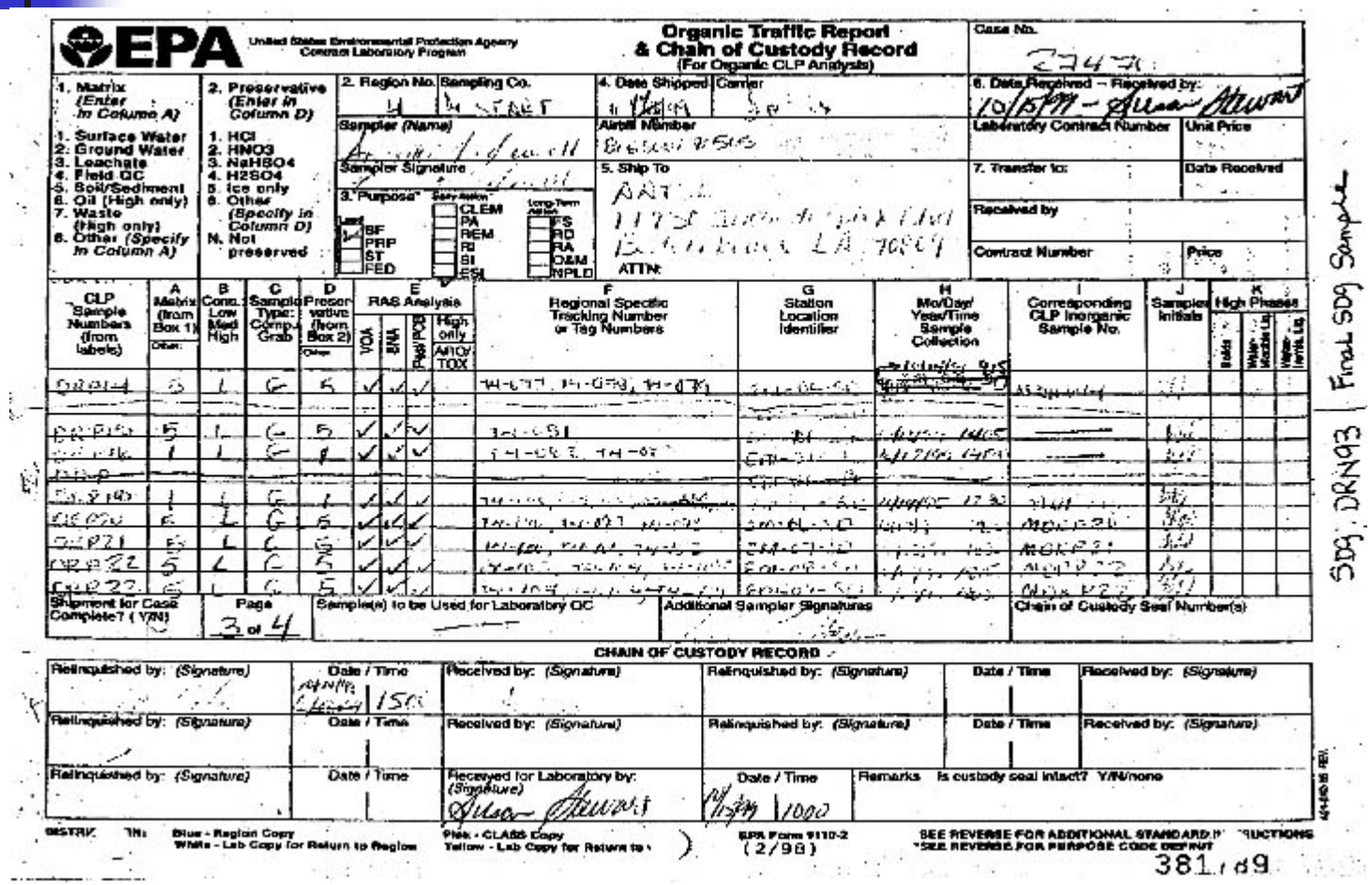
# Benefits

- Applicable to all environmental data;
- Customizable to meet everyone's needs;
- Reduces time and effort of field sampling activities;
- Eliminates manual transcription errors; and
- Produces customized electronic output for input into user-specific databases.

# Case Study

- Calcasieu Estuary, Louisiana 800-sample project
- Remedial investigation/ feasibility study
- Feedback provided by samplers - parallel testing
  - 10-15 minutes saved per sample
  - Reducing labor hours by 50% and increasing productivity by 100%
  - Saving approximately 200 labor hours
  - (25 working days) for an 800-sample project

# Handwritten COC



EPA — United States Environmental Protection Agency — Contract Laboratory Program

**Organic Traffic Report & Chain of Custody Record** (For Organic CLP Analysis)

Case No.: 2747

1. Matrix (Enter in Column A): 1. Surface Water; 2. Ground Water; 3. Leachate; 4. Field QC; 5. Soil/Sediment; 6. Oil (High only); 7. Waste (High only); 8. Other (Specify in Column A)

2. Preservative (Enter in Column D): 1. HCl; 2. HNO3; 3. NaHSO4; 4. H2SO4; 5. Ice only; 6. Other (Specify in Column D); N. Not preserved

2. Region No.: 4 — Sampling Co.: [illegible] STAFF

4. Date Shipped: 10/15/97 — Carrier: [illegible]

6. Date Received – Received by: 10/15/97 – Susan Stewart

Sampler (Name): [illegible]

Airbill Number: [illegible]

Laboratory Contract Number: — Unit Price: —

Sampler Signature: [illegible]

7. Transfer to: — Date Received: —

3. Purpose: Last: ✓ SF, PRP, ST, FED; Sampling Action: CLEM, PA, REM, FS, SI, ESI; Long-Term Action: FS, RD, RA, O&M, NPLD

5. Ship To: ART [illegible] LA 70809

ATTN:

Received by: —

Contract Number: — Price: —

| CLP Sample Numbers (from labels) | A Matrix (from Box 1) | B Conc.: Low Med High | C Sample Type: Comp. Grab | D Preservative (from Box 2) | E RAS Analysis: VOA | BNA | Pest/PCB | High only Air/Oil/TOX | F Regional Specific Tracking Number or Tag Numbers | G Station Location Identifier | H Mo/Day/Year/Time Sample Collection | I Corresponding CLP Inorganic Sample No. | J Sampler Initials | K High Phases: Solids | Water (Middle Liq.) | Water (Aq. Liq.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 5 | L | G | 5 | ✓ | ✓ | ✓ | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |
| [illegible] | 5 | L | G | 5 | ✓ | ✓ | ✓ | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |
| [illegible] | 1 | L | G | 1 | ✓ | ✓ | ✓ | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |
| [illegible] | | | | | | | | | | | | | | | | |
| [illegible] | 1 | L | G | 1 | ✓ | ✓ | ✓ | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |
| [illegible] | 5 | L | G | 5 | ✓ | ✓ | ✓ | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |
| [illegible] | 5 | L | G | 5 | ✓ | ✓ | ✓ | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |
| [illegible] | 5 | L | G | 5 | ✓ | ✓ | ✓ | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |
| [illegible] | 5 | L | G | 5 | ✓ | ✓ | ✓ | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |

Shipment for Case Complete? (Y/N): — Page: 3 of 4 — Sample(s) to be Used for Laboratory QC: — Additional Sampler Signatures: — Chain of Custody Seal Number(s): —

SDG DRN93 Final SDG Samples

**CHAIN OF CUSTODY RECORD**

| Relinquished by: (Signature) | Date / Time | Received by: (Signature) | Relinquished by: (Signature) | Date / Time | Received by: (Signature) |
|---|---|---|---|---|---|
| [illegible] | 10/15/97 1500 | [illegible] | | | |
| Relinquished by: (Signature) | Date / Time | Received by: (Signature) | Relinquished by: (Signature) | Date / Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date / Time | Received for Laboratory by: (Signature) Susan Stewart | Date / Time 10/15/97 1000 | Remarks: Is custody seal intact? Y/N/none | |

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - CLASS Copy; Yellow - Lab Copy for Return to [illegible]

EPA Form 9110-2 (2/98)

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS; *SEE REVERSE FOR PURPOSE CODE DEFINIT

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# FORMS II Lite COC

**EPA** **USEPA Contract Laboratory Program**
**Inorganic Traffic Report & Chain of Custody Record**

Case No: 99999
DAS No:
SDG No: L

Date Shipped: 04/09/2001
Carrier Name: FedEx
Airbill: 41033427133
Shipped to: Inorganic Lab
555 Clp Street
CLP VA 22044
(703) 555-5555

**Chain of Custody Record**

| Relinquished By | (Date / Time) | Received By | (Date / Time) |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

Sampler Signature:

**For Lab Use Only**
Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

| INORGANIC SAMPLE No. | MATRIX/ SAMPLER | CONC/ TYPE | ANALYSIS/ TURNAROUND | TAG No./ PRESERVATIVE | STATION LOCATION | SAMPLE COLLECT DATE/TIME | ORGANIC SAMPLE No. | FOR LAB USE ONLY Sample Condition On Receipt |
|---|---|---|---|---|---|---|---|---|
| MC0103 | Sediment/ DAN SAMPLER, BOB SAMPLER | /G | TM (7) | 35 (Ice Only) (1) | 4 | S: 04/09/2001 11:45 | | |
| MC0104 | Sediment/ DAN SAMPLER | /G | TM (7) | 37 (Ice Only) (1) | 5 | S: 04/09/2001 11:55 | | |
| MC0106 | Sediment/ DAN SAMPLER | /G | TM (7) | 311 (Ice Only) (1) | 3 | S: 04/09/2001 9:52 | | |
| MC0107 | Surface Water/ DAN SAMPLER | /G | TM (7) | 312 (HNO3, Ice) (1) | 1 | S: 04/09/2001 10:52<br>E: 04/09/2001 10:54 | | |
| MC0108 | Sediment/ JOE SAMPLER | /G | TM (7) | 313 (Ice Only) (1) | 3 | S: 04/09/2001 10:51 | | |
| MC0109 | Surface Water/ JOHN SAMPLER | /G | TM (7) | 329 (HNO3, Ice), 330 (HNO3, Ice), 331 (HNO3, Ice) (3) | 14 | S: 04/09/2001 13:00 | | |
| MC0110 | Surface Soil (0"-6")/ BOBBY SAMPLER | /G | TM (7) | 335 (Ice Only) (1) | 16 | S: 04/09/2001 13:00 | | |
| MC0111 | Surface Water/ JOE SAMPLER | /G | TM (7) | 342 (HNO3, Ice) (1) | 15 | S: 04/09/2001 14:00 | | |
| MC0112 | Sediment/ JOHN SAMPLER | /G | TM (7) | 346 (Ice Only) (1) | 17 | S: 04/09/2001 14:00 | | |

| Shipment for Case Complete? N | Sample(s) to be used for laboratory QC: | Additional Sampler Signature(s): | Cooler Temperature Upon Receipt: | Chain of Custody Seal Number: |
|---|---|---|---|---|
| Analysis Key: TM = TAL Total Metals | Concentration: L = Low, M = Low/Medium, H = High | Type/Designate: Composite = C, Grab = G | | Custody Seal Intact?___ Shipment Iced?___ |

**TR Number: 3-235781339-040901-0001**

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Contract Laboratory Analytical Services Support, 2000 Edmund Halley Dr., Reston, VA. 20191-3436 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY

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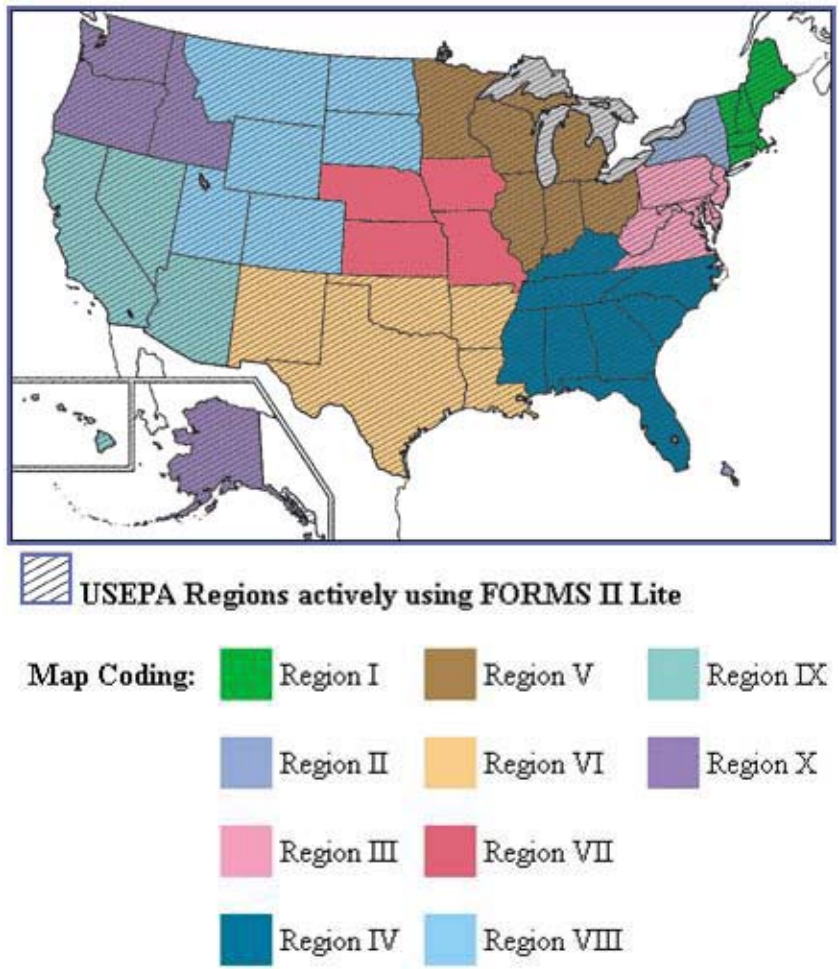
# Current Status

- In the field today
  - FORMS II Lite ™ is now in use in nine of 10 USEPA Regions: 1, 2, 3, 4, 5, 6, 8, 9 and 10.
  - EPA has provided hands-on training for all 10 Regions.
  - Feedback is always gathered for future enhancements.
  - In FY2001, the documentation associated with over 40% of the samples shipped through the Contract Laboratory Program (CLP) was generated using FORMS II Lite.



# Our Partners

- Thirteen state and tribal environmental agencies use it for non-CLP sample paperwork as well.
- Environmental state agencies in NC, SC, OH, IL, MI, MN, UT, TX, NM, MD, NJ, and IN are trained in and submit FORMS II Lite generated paperwork.
- State of IL used it on 100% of the CLP projects shipped during FY2001.

# FORMS II Lite and USACE

- FORMS II Lite tested by Seattle District - December 2001
- Presentation on FORMS II Lite given to Baltimore District - January 2002
- FORMS II Lite Training provided to Omaha District – February 2002

# FORMS II Lite Training

- Upcoming Training on FORMS II Lite – April 17-19, 2002 in Edison, NJ
- West Coast location and date - TBD.
- Training will be FREE (District ONLY pays travel and per diem)
- EPA has limited resources – not many more free training sessions
- Call soon to reserve spaces

# Future Initiatives

- Sample Login Interface with LIMS (F2Lims)
  - Capitalizes on Electronic Chain of Custody
  - Decreases Laboratory Data Entry
  - Increases Accuracy
- Electronic Chain of Custody Submission
  - Web based COC Submissions
  - Central Hub for COC – Regions, CLASS/SMO, Labs
- PDA Version
  - Gets Data at The Source
  - More Convenient and Less Costly Than Using Laptops

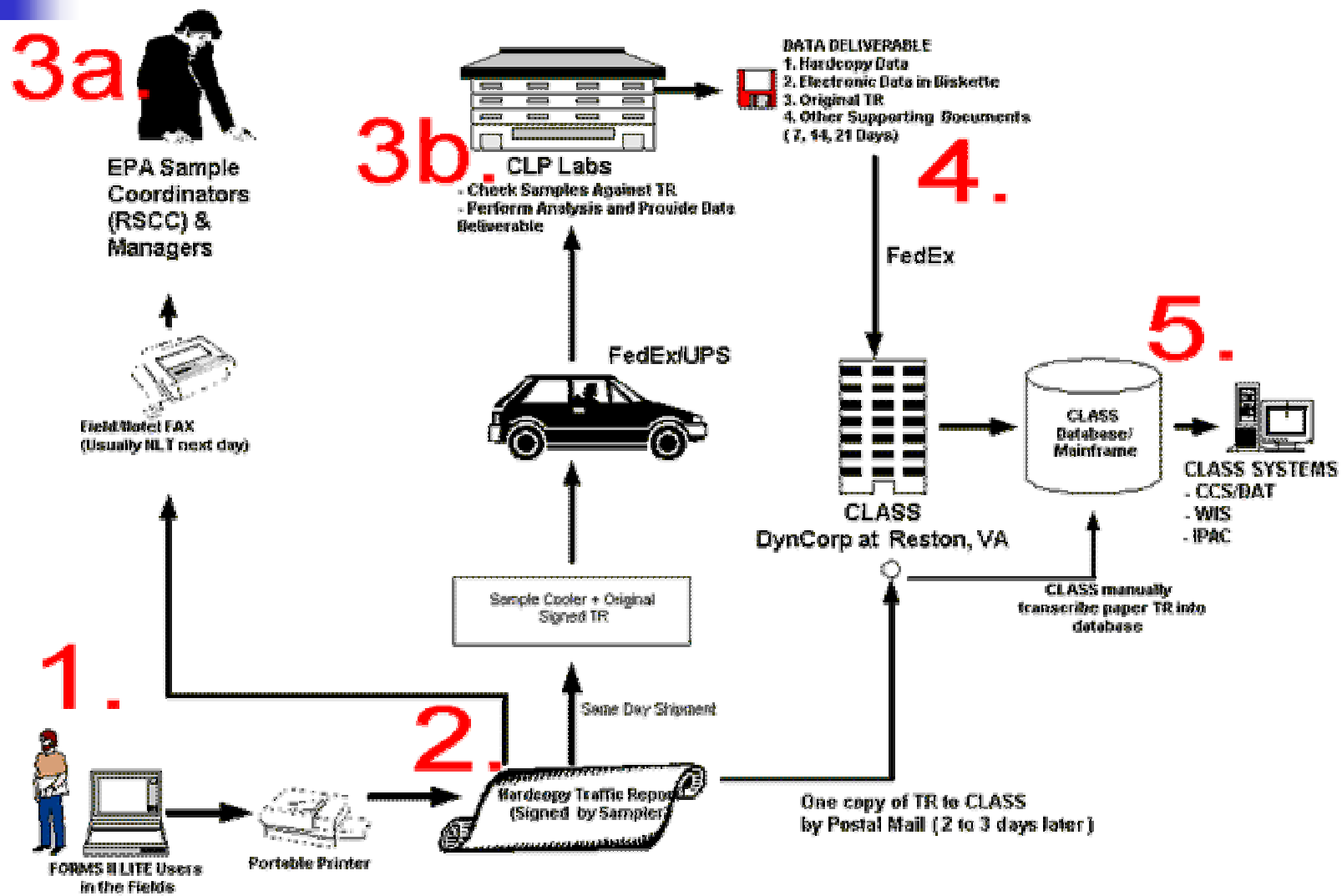
# Contact Information

- Willie Wong, 703-603-8846
  US EPA AOC FORMS II Lite™ Project Manager
  wong.willie@epa.gov

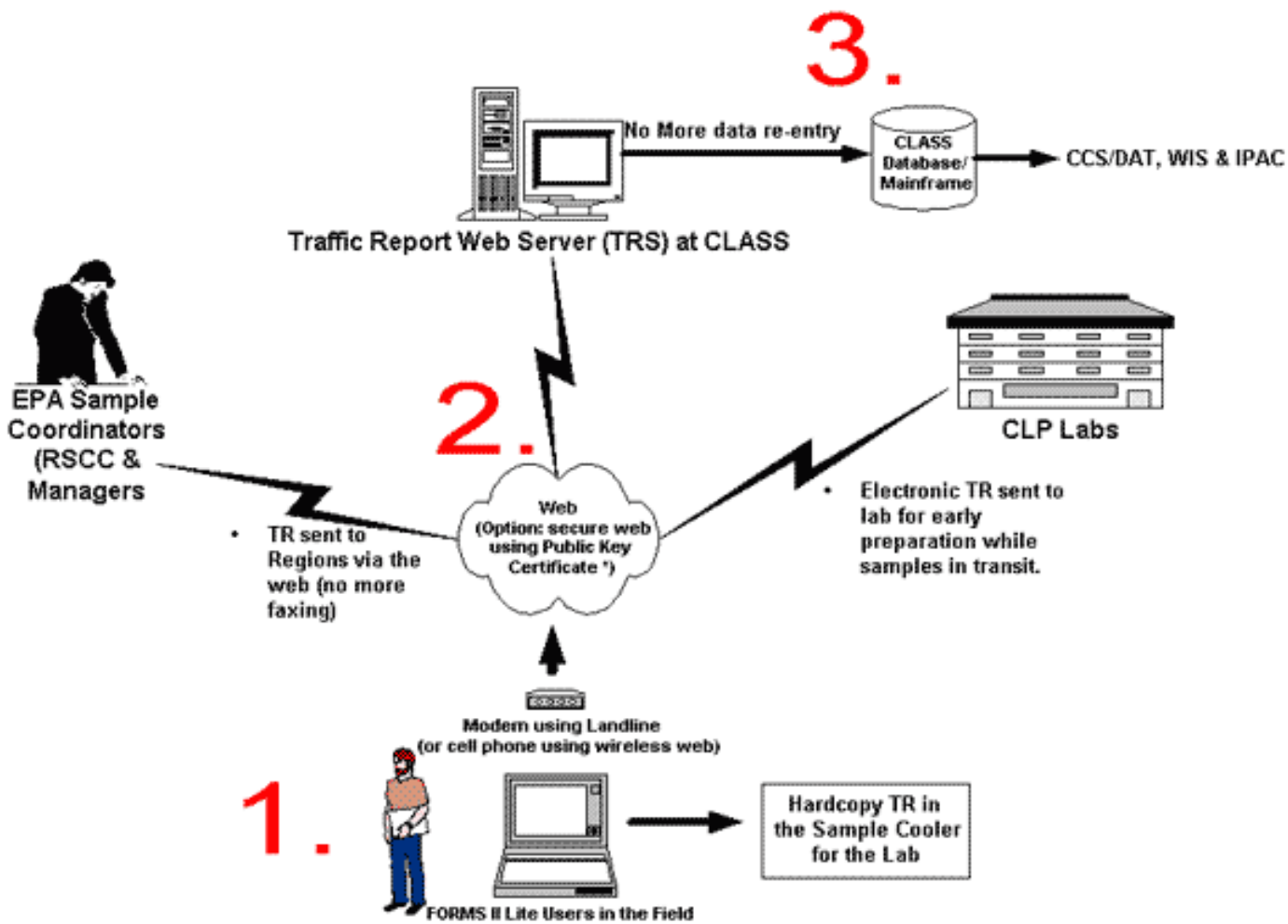
- Anand Mudambi, 703-603-8796
  USACE Superfund Technical Liaison
  mudambi.anand@epa.gov

- Web Sites
  http://www.epa.gov/superfund/programs/clp/index.htm
  http://dyncsdao1.dyncorp.com/f2lite

# Paper Based COC Flow



# Future Concept of COC Flow



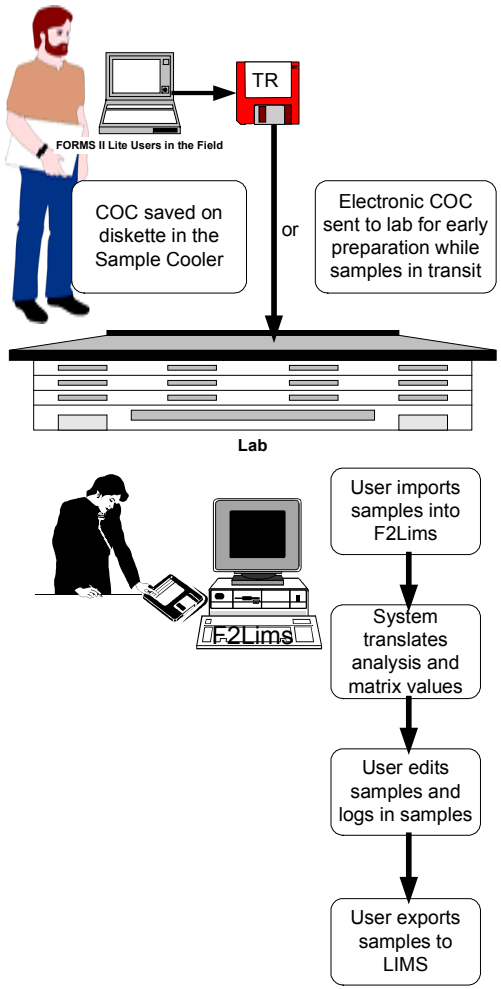
# F2Lims Features

- F2Lims will allow a user to:
  - Import a F2Lite TR XML file,
  - Automatically translate analyses, matrices and preservatives based on user-set definitions,
  - Easily edit sample data, and
  - Export the data in a variety of custom LIMS-ready formats.

# F2Lims Flexibility

- F2Lims is designed to be flexible, allowing a user to:
  - Define field names,
  - Set the order of fields' appearance in the editing screen,
  - Define translation mappings,
  - Edit values from the COC (Chain of Custody),
  - Set the order of the fields in export,
  - Define the delimiter in their exports,
  - Save and reuse export templates.

# F2Lims:COC from Sampler to Lab



# F2Lims Application Flow