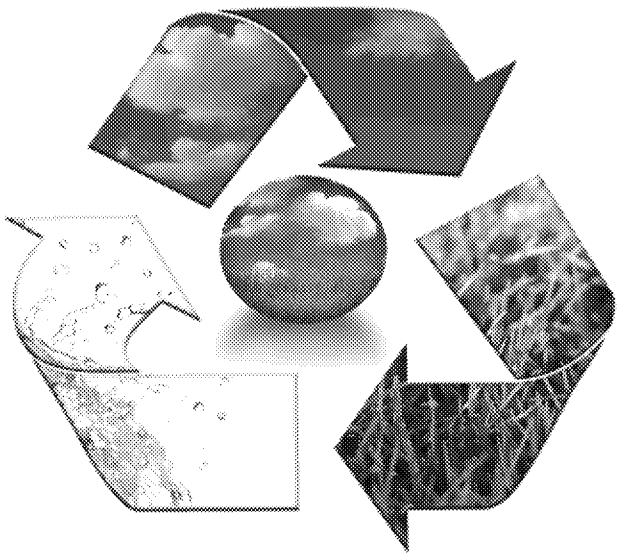
LA-UR-16-24719

# Environmental Data Management at Los Alamos National Laboratory

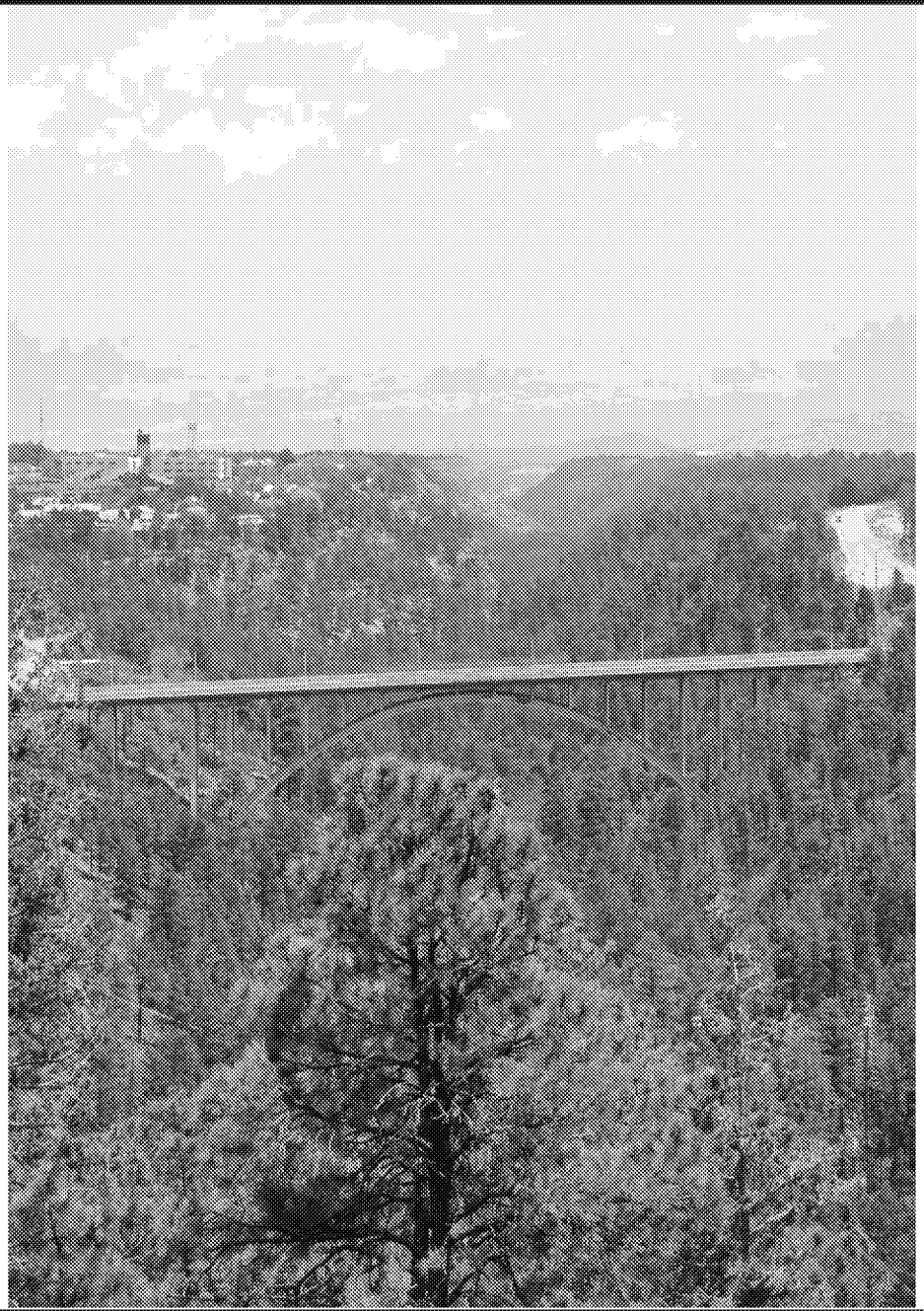
## Environmental Data Processing

**Nita P. Patel**
**Project Manager**
**July 12, 2016**



Los Alamos
NATIONAL LABORATORY
EST. 1943

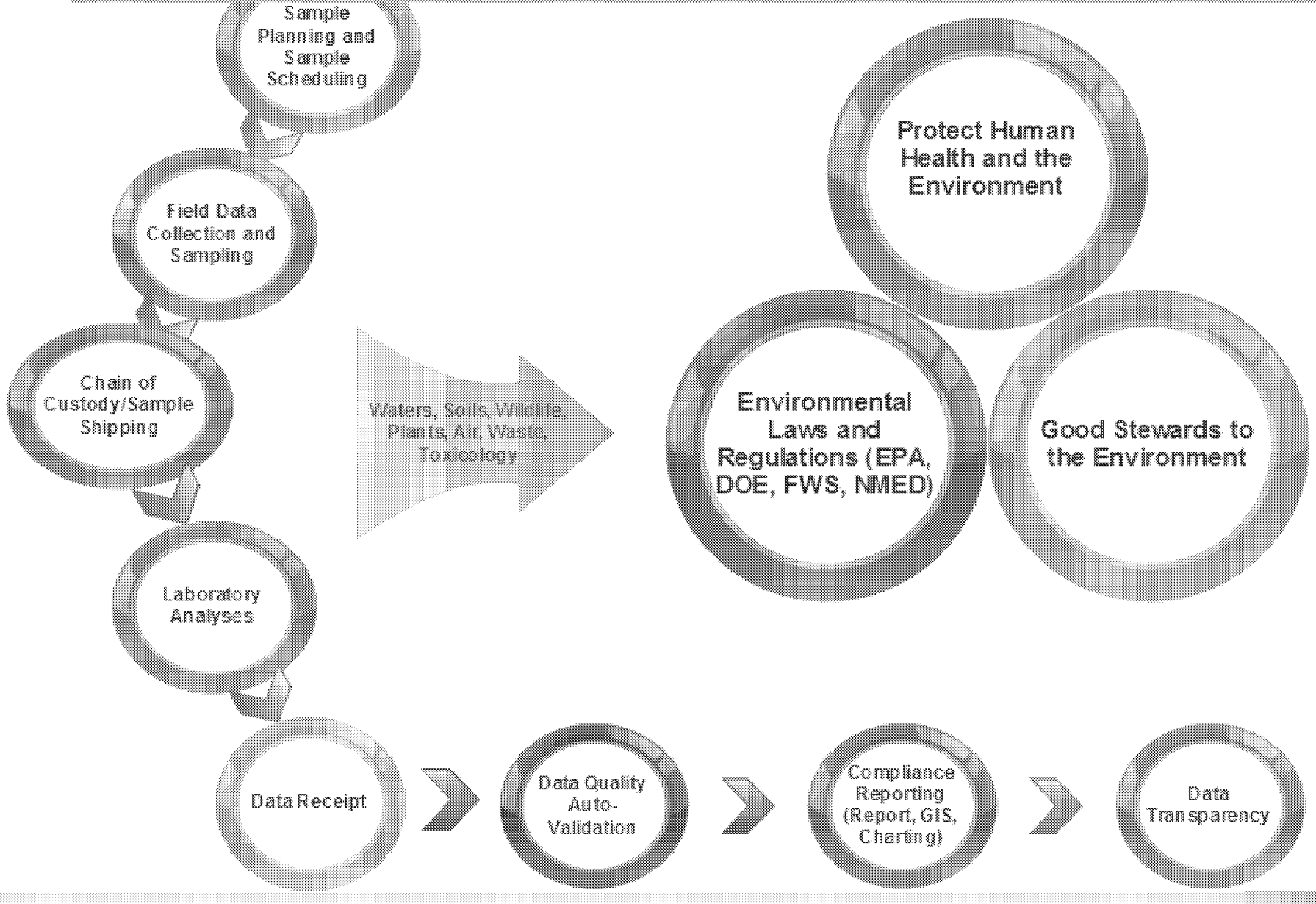
Operated by Los Alamos National Security, LLC for the U.S. Department of Energy's NNSA



## Objectives:

- Environmental data management and its process have a common shared mission for regulatory obligations.
- What is LANL's business practice for environmental data management?
- A closer look at Environmental Information Management (EIM) database and Intellus.

# Environmental Data Management is a Continuous Process for every Sample



# Environmental Laws and Regulations

- Regulators
- **Environmental Protection Agency (EPA) enforces the Code of Federal Regulations**
  - EPA - Region VI
- **U.S. Department of Energy (DOE)**
  - DOE Environmental Policy
- **U.S. Fish and Wildlife Service (FWS)**
  - Southwest Region 2
- **New Mexico Environment Department (NMED)**
  - NMED
  - NMED DOE Oversight Office
- **The specific requirements of environmental laws are published in the Code of Federal Regulations and the New Mexico Administrative Code.**

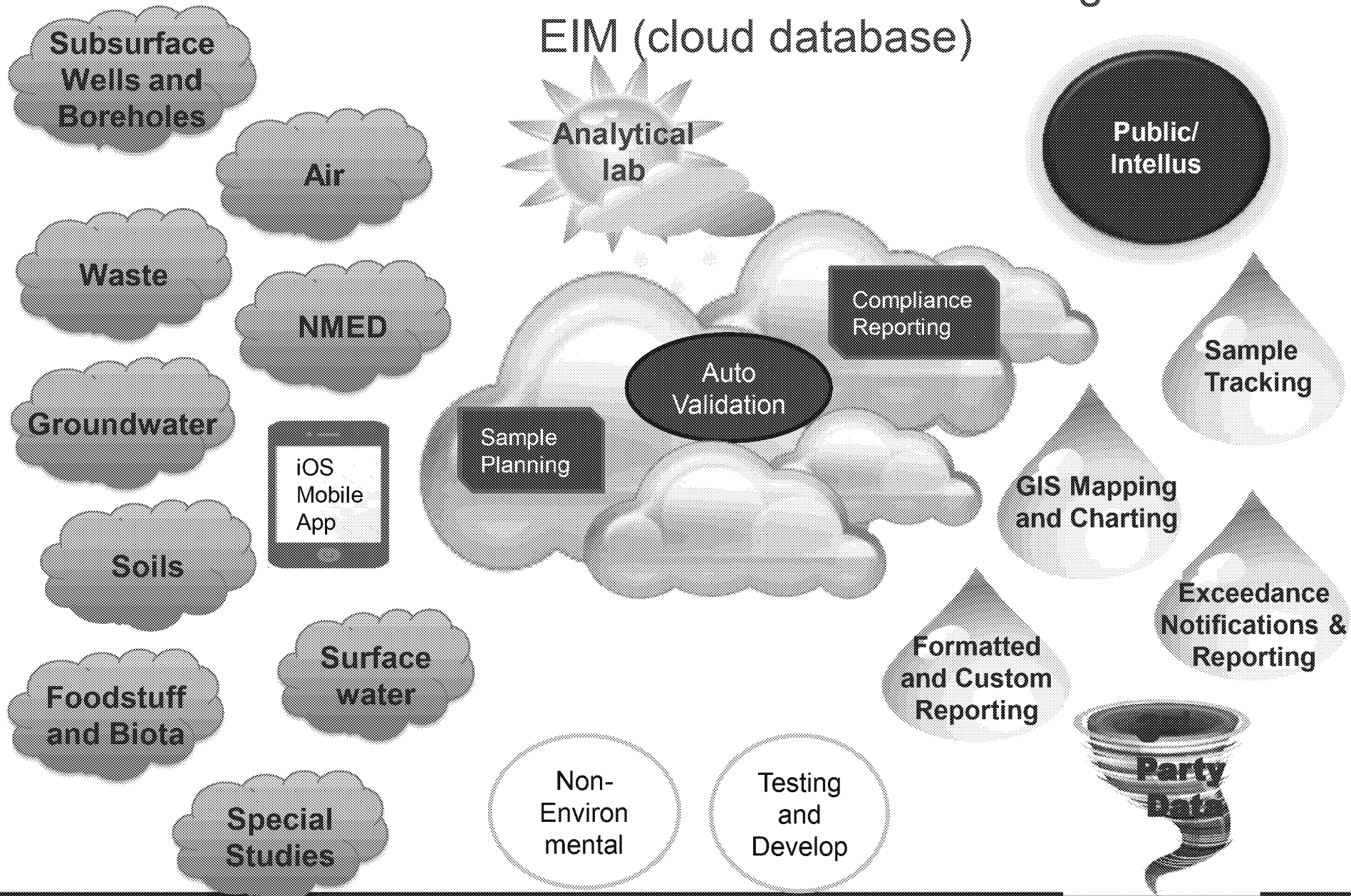
## Summaries of U.S. Environmental Laws and Executive Orders

- **Clean Air Act (CAA) (Title V)**
  *Requirements for air quality and air emissions from facility operations*
- **Clean Water Act (CWA)**
  *Requirements for water quality and water discharges from facility operations*
  - **National Pollutant Discharge Elimination System (NPDES)** *permits are for monitoring all surface water discharges on Laboratory properties. (storm water)*
- **Compliance Order on Consent**
  *Order between the State of New Mexico Environment Department and the United States Department of Energy and Los Alamos National Laboratory for specified investigations, cleanup, corrective action of all of the solid waste management units, areas of concern, canyons, and watershed aggregates (soils, sediments, groundwater, mixed wastes)*
- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**
  *Mitigation of pollution and contamination on LANL property*
- **Emergency Planning and Community (EPCRA)**
  *Public's right to know about chemicals released into* **Right-to-Know-Act** *the community*
- **Endangered Species Act (ESA) and Migratory Bird Treaty Act (MBTA)**
  *Protection of rare species of plants and animals and their habitat*
- **National Environmental Policy Act (NEPA)**
  *Projects evaluated for environmental impacts*
- **National Historic Preservation Act (NHPA)**
  *Projects evaluated for environmental impacts to historical sites*
- **Resource Conservation and Recovery Act (RCRA)**
  *Regulates generation, transportation, treatment, storage of solid waste, hazardous waste, and underground tanks storing petroleum products and other hazardous substances*



ED_006024_00003339-00004

# LANL's Environmental Information Management-EIM (cloud database)



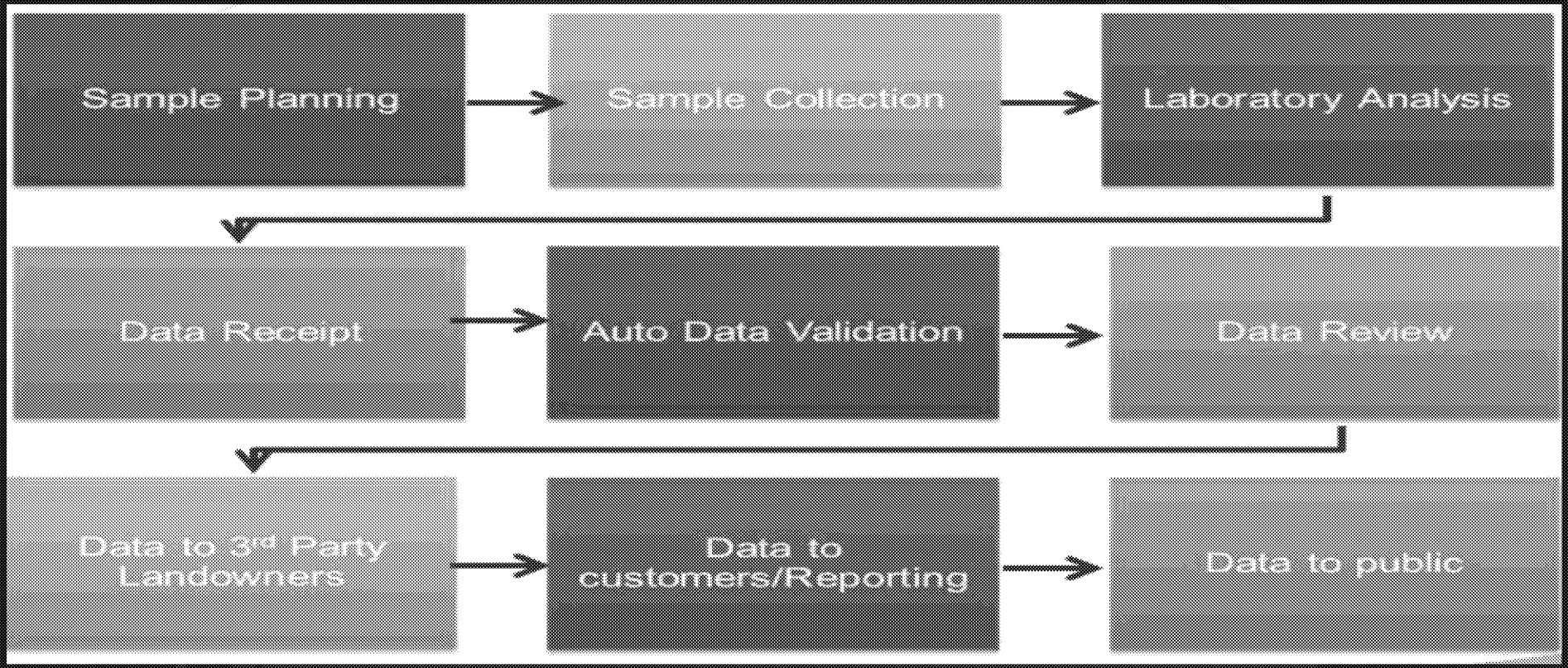
# Cost Savings

- $15,289,333 Cost saving verified by six sigma study (validated through 2015)
  - Integrated and consolidated into cloud-based database system which streamlined process.
  - Eliminated 12 internal databases and 9 supporting staff who were available for other assignments.
  - Automated data validation
  - Reduced sample process time from 60-120 days to 28 days.

# Partnerships in EIM

- Record count by site:
  - LANL- 15,496,502 records
  - NMED DOE OB – 479,772 records (New Mexico Environmental Department of Energy Oversight Bureau)

# Overview of data process in EIM




**EIM live demonstration**

- LocusFocus.com
- Need internet connection
- User name and password
- Permissions to database based upon your work tasks

**Intellus live demonstration**

- www.intellusnm.com
- Open to world wide web without username and password

# Planning for Samples

## Utilities

New

Copy Plan

Switch To Another Plan

Delete Plan

## Plan Attributes

No. Of Locations: 8

No. Of All Samples: 66

No. Of QC Samples: 0

No. Of Analyses: 79

No. Of Distinct Sampling Intervals: 4

Tabular View Of Generated Samples and Analyses

Calendar View Of Generated Samples and Analyses

Review Estimated Plan Analytical Costs

Update Analytical Costs

View Samples/Analyses Not Taken

## Build/Edit Fast-Track Sampling Plan (NPDES 2013 4th Qtr)

*Plan ID: 4399*

**Create Plan**

- Enter/Edit General Information
- Enter/Edit QC Sample Info (Not Plan-Specific)

**Build/Generate Plan**

- Samples And Analyses
- Assign QC Samples And Analyses
- Field Parameters

**Review**

- Locations
- Analyses
- Schedule

**Edit**

- Individual Planned Samples And Analyses
- Batch Mode
- Move

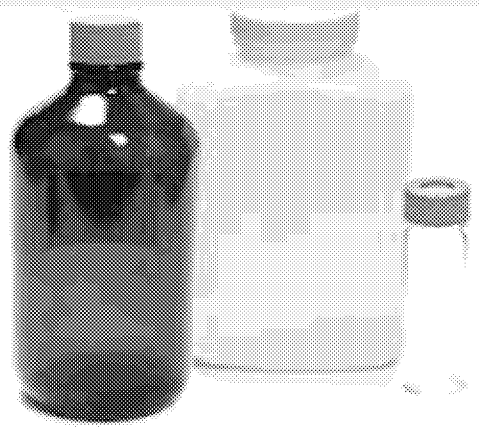
# Automated Bottle Labels and Sample Collection Log

**Los Alamos National Laboratory**

| | |
|---|---|
| **Sample ID:** NP001-14-76583 | |
| **Container:** 60 ML POLY | 1 of 2 |
| **Preservative:** NA2SO4 ICE | |
| **Analysis:** NPDES-E Coli | |
| **Date:** | **Time:** |

**Los Alamos National Laboratory**

| | |
|---|---|
| **Sample ID:** NP027-14-76590 | |
| **Container:** 60 ML POLY | 1 of 2 |
| **Preservative:** NA2SO4 ICE | |
| **Analysis:** NPDES-E Coli | |
| **Date:** | **Time:** |



Los Alamos National Laboratory

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**SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY**

**EVENT ID:** 4399 **EVENT NAME:** NPDES 2013 4th Qtr

**SAMPLE ID:** NP001-14-46057 **WORK ORDER:**

| | AS PLANNED | AS COLLECTED | | AS PLANNED | AS COLLECTED |
|---|---|---|---|---|---|
| DATE COLLECTED (MM/DD/YYYY): | | 11/14/13 | FIELD MATRIX: | W | OK |
| TIME COLLECTED (HH:MM): | | 12:00 | MEDIA: | | |
| FRS ID: | | | SAMPLE TECH CODE: | DC | |
| LOCATION ID: | NPDES Outfall 01A001 | | FIELD PREP: | UF | |
| LOCATION TYPE: | | | FIELD QC TYPE: | FB | |
| TOP DEPTH: | | | SAMPLE USAGE: | QC | |
| BOTTOM DEPTH: | | | EXCAVATED: | | YES / NO / NA |

| PRIORITY | ORDER | CONTAINER | # | PRESERVATIVE | COLLECTED Y/N | SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|
| | NPDES-PCBCONG | 1 LITER AMBER GLASS | 2 | ICE | Y | |

SAMPLE COMMENTS:

LOCATION COMMENTS:

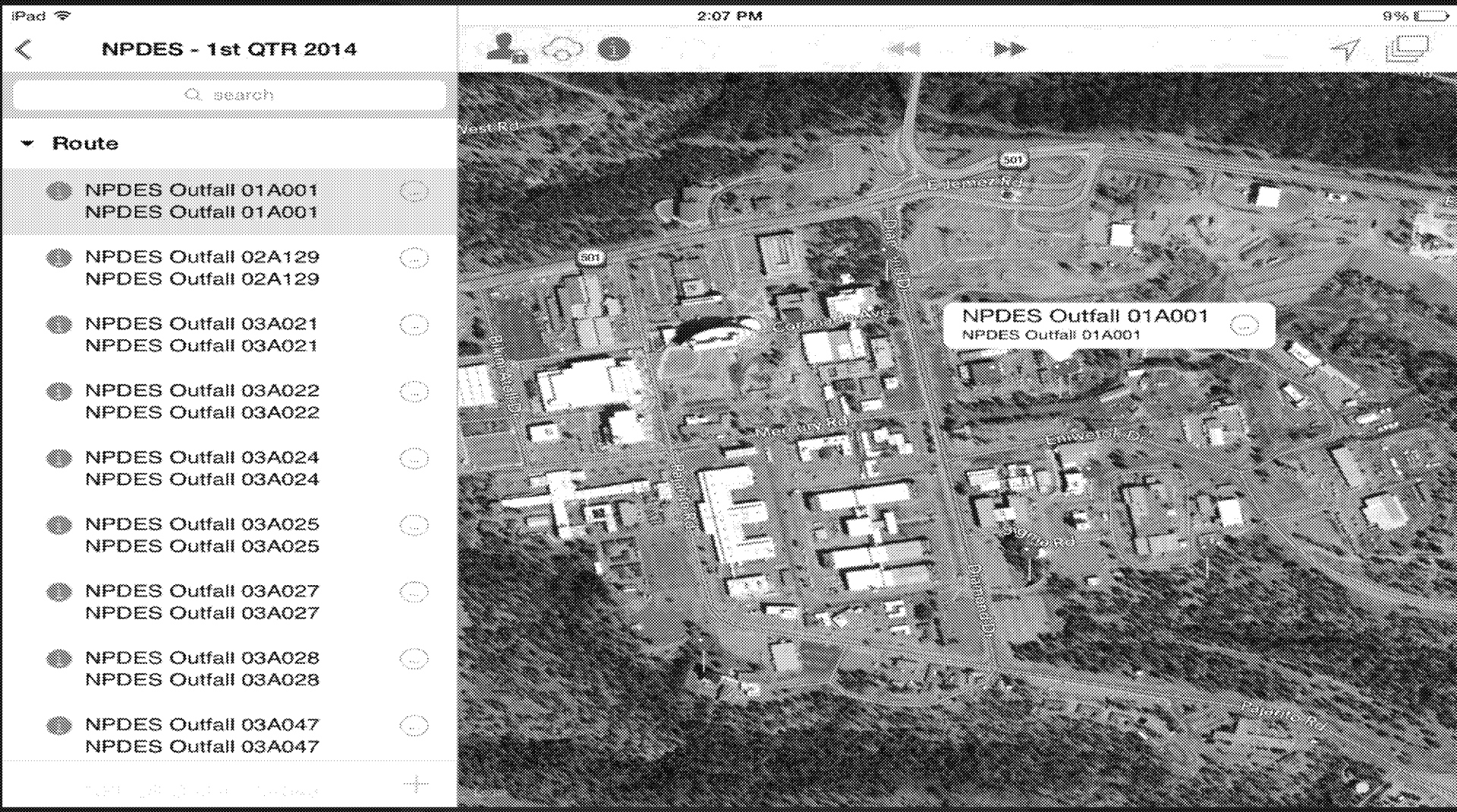
FIELD PARAMETERS:

COLLECTED BY (PRINT) B. Gray

| | | | |
|---|---|---|---|
| RELINQUISHED BY (Printed Name) (Signature) | Date/Time 11/14/13 1220 | RECEIVED BY (Printed Name) (Signature) | Date/Time 11/14/13 1220 |
| RELINQUISHED BY (Printed Name) (Signature) | Date/Time | RECEIVED BY (Printed Name) (Signature) | Date/Time |

Report Date 11/08/2013

# EIM Mobile (for NPDES Outfall sampling)



# Chain of Custody

## Sample Processing Options

**Create A COC[1]**

1. Using Work List Sample Groups
2. From Lists Of Planned Samples
3. From Calendar Of Planned Samples

**Identify Voided Or Otherwise Not Collected/Not Processed Samples/Analyses**

1. Using Work List Sample Groups
2. From Lists Of Planned Samples
3. From Calendar Of Planned Samples

**Other**

1. Reprint A COC
2. Populate Sample, COC, and Field Tables
3. Delete/Cancel A Pending COC
4. View Uploaded Information
5. View Current Lab Workload (i.e., Samples Shipped But Results Of Analyses Have No

Note: You must first set up a sampling plan before you can use the options on this form

Cape Fear Analytical
3208 Kitty Hawk Road, Suite 103
Wilmington NC 28405

**Chain of Custody/Analysis Request**

COC/Lab Request #: 2014-2466
Page 1 of 1

Client Contact:

Lab Agreement # : R041-001-10
Project Number :
Analysis Turnaround Time:
24 Hour - ☐ Other - ☐
7 Day - ☒
14 Day - ☐
21 Day - ☐
28 Day - ☐

Site Name: Los Alamos National Laboratory

Rad Screening Info: Yes, Below Background

Lab Reporting Limit Type: Sample Detection Limit

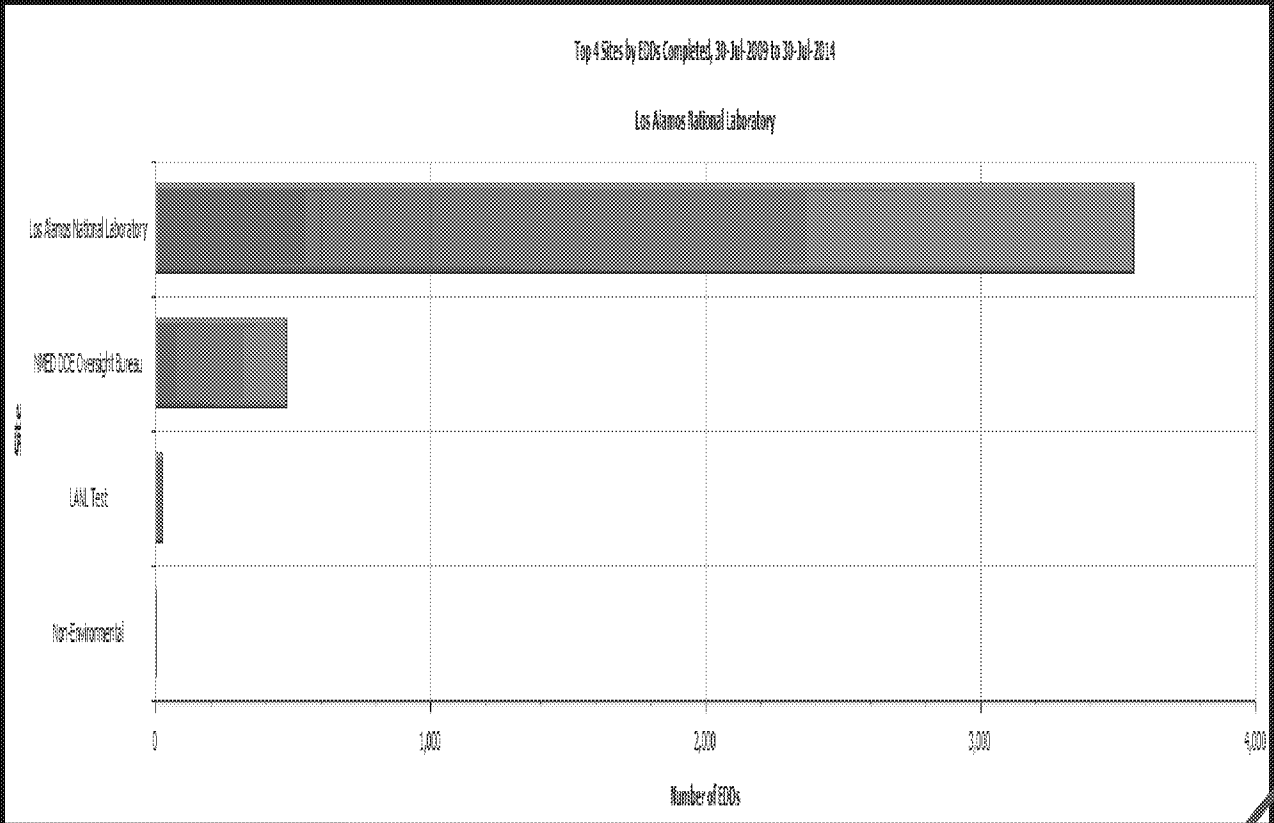
Special Instructions:

| Field Sample ID | Sample Date | Sample Time | Sample Matrix | NPDES-PCBCONG |
|---|---|---|---|---|
| NP001-14-46056 | Nov 14 2013 | 12:30 | W | 2 |
| NP001-14-46057 | Nov 14 2013 | 12:00 | W | 2 |

Special Instructions:

| Relinquished by: | Print Name: | Date/Time: | Received by: | Print Name: | Date/Time: |
|---|---|---|---|---|---|
| Relinquished by: | Print Name: | Date/Time: | Received by: | Print Name: | Date/Time: |
| Relinquished by: | Print Name: | Date/Time: | Received by: | Print Name: | Date/Time: |

# Laboratory Analysis




- More than 4000 Electronic Data Deliverables (EDD) loaded
- Laboratories upload data directly to system,
- View turn around times from lab

| Sample Delivery Group | Lab ID | Turnaround Time (days) | Last Sample Date | Upload Date |
|---|---|---|---|---|
| 26971 | ARS | 13 | 02/06/2013 | 02/19/2013 |
| 39436 | ARS | 41 | 06/11/2013 | 07/22/2013 |

# Automatic Data Validation

Process | Delete | Validate | Views/Notifications

1. Summary Of Findings (View)
2. Sample Counts/Completeness Reports (Lab and Field Samples) (More)
3. Validation Settings For Current Dataset (Existing Settings/Potential Problems)
4. Blank Contaminants (Blanks Only)or (Potentially Affected Samples)
5. Holding Times (View All) or (QC Problems Only)
6. Missing QC Samples (View)
7. Matrix Spikes (View All) or (QC Problems Only)or (Samples With Too High Initial Concentrations)
8. Lab Control Samples (View All) or (QC Problems Only) or Summary Counts)
9. Surrogates (View All) or (QC Problems Only) or (Summary Counts)
10. Field Duplicates (View All) or (QC Problems Only)
11. Lab Duplicates (View All) or (QC Problems Only)
12. Total vs Dissolved Metals Analysis (View All) or (QC Problems Only)
13. Reporting Limits Not Met (View)
14. Percent Solids (View)
15. Sample Condition Upon Arrival At Lab (View)
16. Lab Used Inappropriate Field Sample For QC Analyses (View)
17. Individual Results With Links To Associated QC Problems (View)
18. Assigned Validation Qualifiers And Reason Codes (View/Edit)
19. Download Data For Offline Validation (Download)
20. Upload Offline Validated Data (Upload)
21. Best Result Findings (Review/Edit)
22. Validation Comments (Enter/Edit)
23. Validation Status Code (Change)
24. File With Validation Information (Download)
25. Miscellaneous Validation Reports (Display Report Options)
26. Run/Rerun Validation Checks
27. Do Not Validate This Dataset
28. Manual Validation Of This Dataset Is Complete
29. Change Validation Options Set
30. Send Notification That Validation Is Complete
31. Move All Validated Data Into Destination Tables

- Data Validation is a process that determines analytical data quality of a specific data set.
- Based upon EPA National Functional Guidelines and LANL SOP.
- Auto assign data qualification codes based upon quality control range checks.
- It helps determine data usability and defensibility.

**Dataset Status:**

Initial Records: 522
Errors: 0
Warnings: 0

**Validation Status:** (Change)

Validation Options Set: *Default Validation Options Set*
Awaiting validation: **No**
Awaiting qualifiers: **No**
Offline validation required: **No**

**Manual Review Status:** (Reset)

Awaiting review
☐ Check here if review has been completed

Rerun database checks
Select another dataset
Load another file of the same format

# Data Validation Report

## Create A Data Validation Report For Selected COCs/EDDs

Select A Chain Of Custody No*: 2014-2453, 2014-2454, 2014-2455, 2014-2457, 2014-2458, 2014-2459, 2014-2460, 2014-2462, 2014-2463, 2014-2464, 2014-2465, 2014-2466, 2014-2467, 2014-2468, 2014-2469

Associated EDDs: 2014-2466.txt, 2014-2466ra.txt

Field Sample IDs: To filter by Field Sample, select an EDD.

* You are only allowed to select one COC at a time. If you s... your report will include these other COCs as well.

Formatted PDF | Text Output

**DATA VALIDATION REPORT**

Chain Of Custody No. 2014-2466

1. Distribution Of Samples In EDD.

| SDG | Analytical Method | Regular Samples | Field Duplicates | Trip Blanks | Field Blanks | Equipment Blanks |
|---|---|---|---|---|---|---|
| 5611 | EPA:1668A | 1 | | | 1 | |

| SDG | Analytical Method | Analysis Lot ID | Prep Lot ID | Regular Samples | Field Duplicates | Trip Blanks | Field Blanks | Equipment Blanks | Method Blanks | Matrix Spikes | Matrix Spike Dups | Analytical Spikes | Post-Digestion Spikes | Lab Control Samples | Lab Control Sample Dups | Blank Spike | Blank Spike Dups | Lab Duplicates | Storage Blanks | Preparation Blanks | Reagent Blanks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5611 | EPA:1668A | 24912 | 24910 | 1 | | | 1 | | 1 | | | | | 1[1] | | | | | | | |

2. Distribution Of Analytes In EDD.

| Analytical Method | Analytical Method Category | Field Sample ID | Lab Sample ID | Sample Purpose | Target Analytes | Surrogates | Spiked Compounds | TICS |
|---|---|---|---|---|---|---|---|---|
| EPA:1668A | PCBCONGENERS | LCS | 12809468a | LCS | 0 | 29 | 26 | 0 |
| EPA:1668A | PCBCONGENERS | LCSD | 12809469a | LCSD | 0 | 29 | 26 | 0 |
| EPA:1668A | PCBCONGENERS | MB | 12809467a | MB | 177 | 29 | 0 | 0 |
| EPA:1668A | PCBCONGENERS | NP001-14-46656 | 5611901 | REG | 177 | 29 | 0 | 0 |
| EPA:1668A | PCBCONGENERS | NP001-14-46657 | 5611902 | FS | 177 | 29 | 0 | 0 |

3. Are any analytes missing?

No.

4. Were any holding times exceeded?

No.

- Summarizes data and QC deficiencies
- Display data qualification and reasons

# Where's my data?

Input | Analysis | Reporting | Visualiz

- Locations
- Samples
- Field Data
- Data Uploads
- Data Uploads (Updates Only)
- Analytical
- Tracking
- Subsurface
- Mobile Apps
- Multi-Record Edit Options
- Multi-Record Delete Options
- Customer-Specific

EIM Pro

- Analytical EDDs
- Other EDDs
- Invoices
- Mobile EDDs
- Samples
- Activities

## Sample Tracking

### Planned Sample and Analysis Status

**STEP 1: Samples and analyses filter options**

Samples to show:
- Only samples not yet collected
- Only samples that have been collected
- All samples

Analyses to show:
- Only analyses that are still outstanding
- Only analyses that have been received
- All analyses

Group by:
- Sample and analytical group[1]
- Sample, analytical group, and method[1]
- Sample, analytical group, method, and parameter

[1] When you choose to group by (1) "Sample and analytical group" or (2) "Sample, analytical group, and method", EIM will declare the Sample/Analysis to be 'Received' if at least one member result has been received from the lab and uploaded into EIM.

Conversely, EIM will declare the Sample/Analysis to be Outstanding only if no member result has

## Notifications

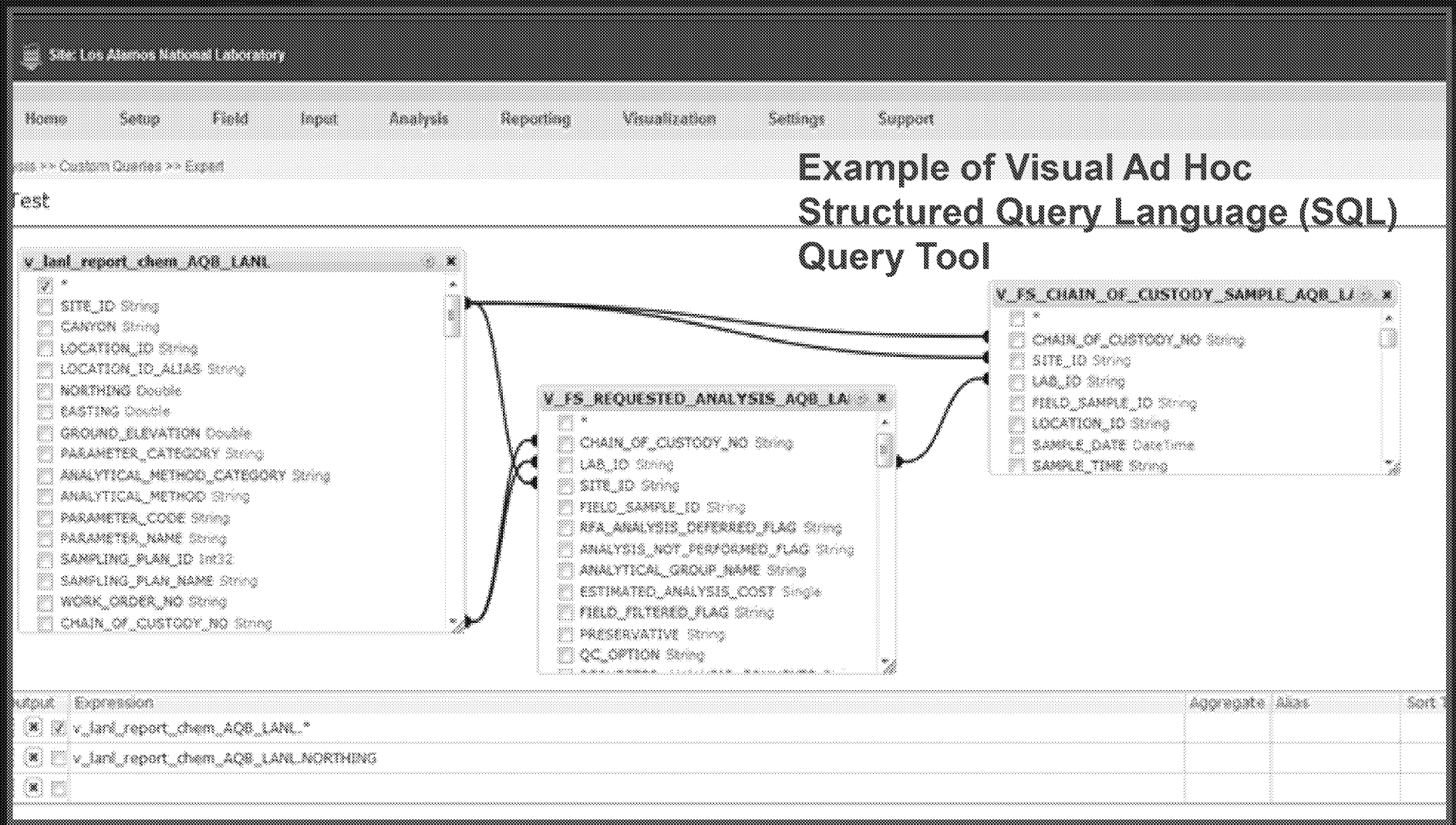
Select a notification type, then assign users to receive email notifications.

Notification type:

Sampling Programs:

- 24-hour ATAL/MTAL Exceedances for Sampling Program
- 24-hour Validated EDD Insert for Sampling Program
- EDD Insert Notifications
- EDD Insert Notifications for Sampling Program
- EDD Upload Notifications
- EDD Upload Notifications (Automatic)
- EDD Upload Notifications for Mobile Stormwater Samples
- EDD Upload Notifications for Sampling Program
- Exceedances for Field Measurement Parameters on EDD Upload
- Exceedances for Sampling Program on EDD Insert
- Exceedances for Sampling Program on EDD Upload
- Holding Time Exceedances for Sampling Program on EDD Insert
- Rejected Result for Sampling Program on EDD Insert

# Many different ways to view data in EIM



# Bulk Data Editor

## Ability to Bulk Edit data

**Select Data Columns To Update for FIELD_SAMPLE_RESULT[1]**

**Available columns are on the left below; selected ones on the right.**

Up
Down

BASIS
BEST_VALUE_FLAG
BEST_VALUE_STATUS_CODE
CUSTOM_SAMPLE_RESULT_1
CUSTOM_SAMPLE_RESULT_2
CUSTOM_SAMPLE_RESULT_3
DETECT_FLAG
DILUTION_FACTOR
ERROR
FIELD_FILTERED_FLAG
FILTERED_FLAG
HARD_COPY_DUE_DATE
INITIAL_PREP_AMOUNT
INITIAL_PREP_AMOUNT_UNITS
LAB_BLANK_SAMPLE_ID
LAB_DETECTION_LIMIT
LAB_ID
LAB_MATRIX
LAB_QUALIFIER
LAB_RECEIPT_DATE
LAB_REPORT_APPROVED_BY
LAB_REPORT_DATE
LAB_REPORTING_LIMIT_TYPE
LAB_RESULT
LAB_UNITS

<
>

FIELD_SAMPLE_ID
FIELD_SAMPLE_RESULT_RECNO

Up
Down

Save
Return

# Audit Tables

— *npp Audit table*

| Audit Trail Record No. | Modified By | Date Modified | Reason For Modification | Nature of Modification | Deleted Records Flag |
|---|---|---|---|---|---|
| 2947 | kgreene | 01/16/2014 | The incorrect validation setting was applied to this edd. Will Re-load original edd from laboratory with correct validation setting applied. | Deleted following EDD from GELC:2014-2672.txt | Y |
| 2946 | npatel | 01/15/2014 | triggers by the totals MBCR > Results), LANL understands the current practice for assigning qualifiers to PCB congeners is to: 1. apply the qualifier rules to the results, 2. correct results to MBCR and then 3. reapply the qualifier rules once again to the MBCR. LANL would like to modify this procedure. Basically, 1. Assign qualifiers to the results, 2. calculate the MBCR and 3. transfer the qualifier for the results to the MBCR. | Focus Validation. Update qualifier and RC to R,CB19 and Best Select flag to N. | |
| 2945 | kgreene | 01/13/2014 | Updated detect flag from yes to no because the lab qualifier was U but system did not mark it correctly. | Updated detect flag from yes to no because the lab qualifier was U but system did not mark it correctly. | |
| 2944 | kgreene | 01/13/2014 | Updated detect flag from yes to no because the lab qualifier was U but system did not mark it correctly. | Updated detect flag from yes to no because the lab qualifier was U but system did not mark it correctly. | |

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# Custom Regulatory Reporting – Discharge Monitoring Reports

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
**DISCHARGE MONITORING REPORT (DMR)**

OMB No. 2040-004

PERMITTEE NAME/ADDRESS: (Include Facility Name/Location if different)

NAME: LANS, LLC
ADDRESS: LOS ALAMOS NATIONAL LABORATORY
PO BOX 1663; MAIL STOP K490
LOS ALAMOS, NEW MEXICO 87545

FACILITY: LANS, LLC
LOCATION: LOS ALAMOS, NEW MEXICO 87545
ATTN: ANTHONY R. GRIEGGS ENV-CP

| NM0028355 | 001Y |
|---|---|
| PERMIT NUMBER | DISCHARGE NUMBER |

DMR MAILING ZIP CODE: 87545
MAJOR
YEARLY REPORTING OUTFALL 001
EXTERNAL OUTFALL
PAGE 2

| MONITORING PERIOD | YEAR | MO | DAY | | YEAR | MO | DAY |
|---|---|---|---|---|---|---|---|
| FROM | 13 | 01 | 01 | TO | 13 | 12 | 31 |

No Discharge

| PARAMETER | | QUANTITY OR LOADING VALUE | QUANTITY OR LOADING VALUE | QUANTITY OR LOADING UNITS | QUALITY OR CONCENTRATION VALUE | QUALITY OR CONCENTRATION VALUE | QUALITY OR CONCENTRATION VALUE | QUALITY OR CONCENTRATION UNITS | NO. EX | FREQUENCY OF ANALYSIS | SAMPLE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Polychlorinated biphenyls (PCBs)* 39516 1 0 | SAMPLE MEASUREMENT | ***** | ***** | ***** | ***** | 0.000762 | 0.001050 | ug/L | 1 | 01/YR | COMP24 |
| Effluent Gross | PERMIT REQUIREMENT | ***** | ***** | | ***** | 0.00064 MO AVG | 0.00064 DAILY MX | | | ANNUAL | COMP24 |
| | SAMPLE MEASUREMENT | | | | | | | | | | |
| | PERMIT REQUIREMENT | | | | | | | | | | |
| | SAMPLE MEASUREMENT | | | | | | | | | | |
| | PERMIT REQUIREMENT | | | | | | | | | | |
| | SAMPLE MEASUREMENT | | | | | | | | | | |
| | PERMIT REQUIREMENT | | | | | | | | | | |
| | SAMPLE MEASUREMENT | | | | | | | | | | |
| | PERMIT REQUIREMENT | | | | | | | | | | |
| | SAMPLE MEASUREMENT | | | | | | | | | | |
| | PERMIT REQUIREMENT | | | | | | | | | | |
| | SAMPLE MEASUREMENT | | | | | | | | | | |
| | PERMIT REQUIREMENT | | | | | | | | | | |

Average of compliance samples collected on 2/1/13 - 0.00105 ug/l and 11/14/13 - 0.000498 ug/l.

Exceed effluent limit of 0.00064 ug/l

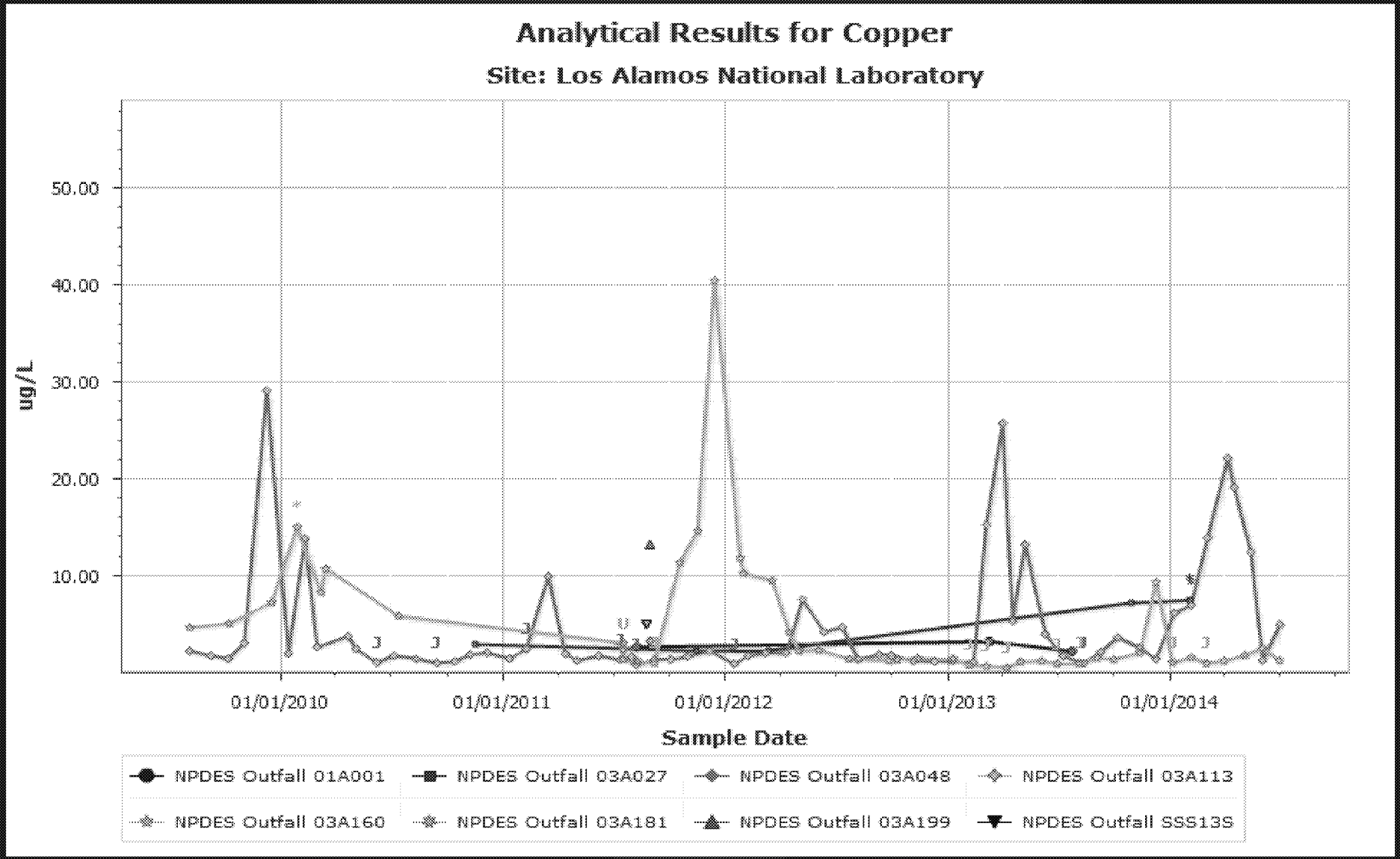
| NAME/TITLE PRINCIPAL EXECUTIVE OFFICER | I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. | | TELEPHONE | | DATE | | |
|---|---|---|---|---|---|---|
| ANTHONY R. GRIEGGS<br>GROUP LEADER<br>ENV-CP | | SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT | 505 | 665-0451 | | | |
| TYPED OR PRINTED | | | AREA CODE | NUMBER | YEAR | MO | DAY |

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
Permit effective date: August 1, 2007. *Permit limit effective 7/31/12. The PCB sample collected on 2/1/2013 was 0.001050 ug/l. This sample exceeded the DAILY MAX permit limit 0.00064 ug/l. A second PCB sample collected on 11/14/13 was 0.000474 ug/l. This sample met the MO AVG and DAILY MAX permit limit of 0.00064 ug/l. Additional operational grab samples for PCBs were collected on 4/23/13 and 5/21/13 with results of 0.000101 ug/L and 0.00017 ug/L respectively. Operational grab samples collected on 2/21/13 and 3/19/13 were reported in the March 2013 DMR Report dated 4/25/13-Document ENV-RCRA-13-0083.

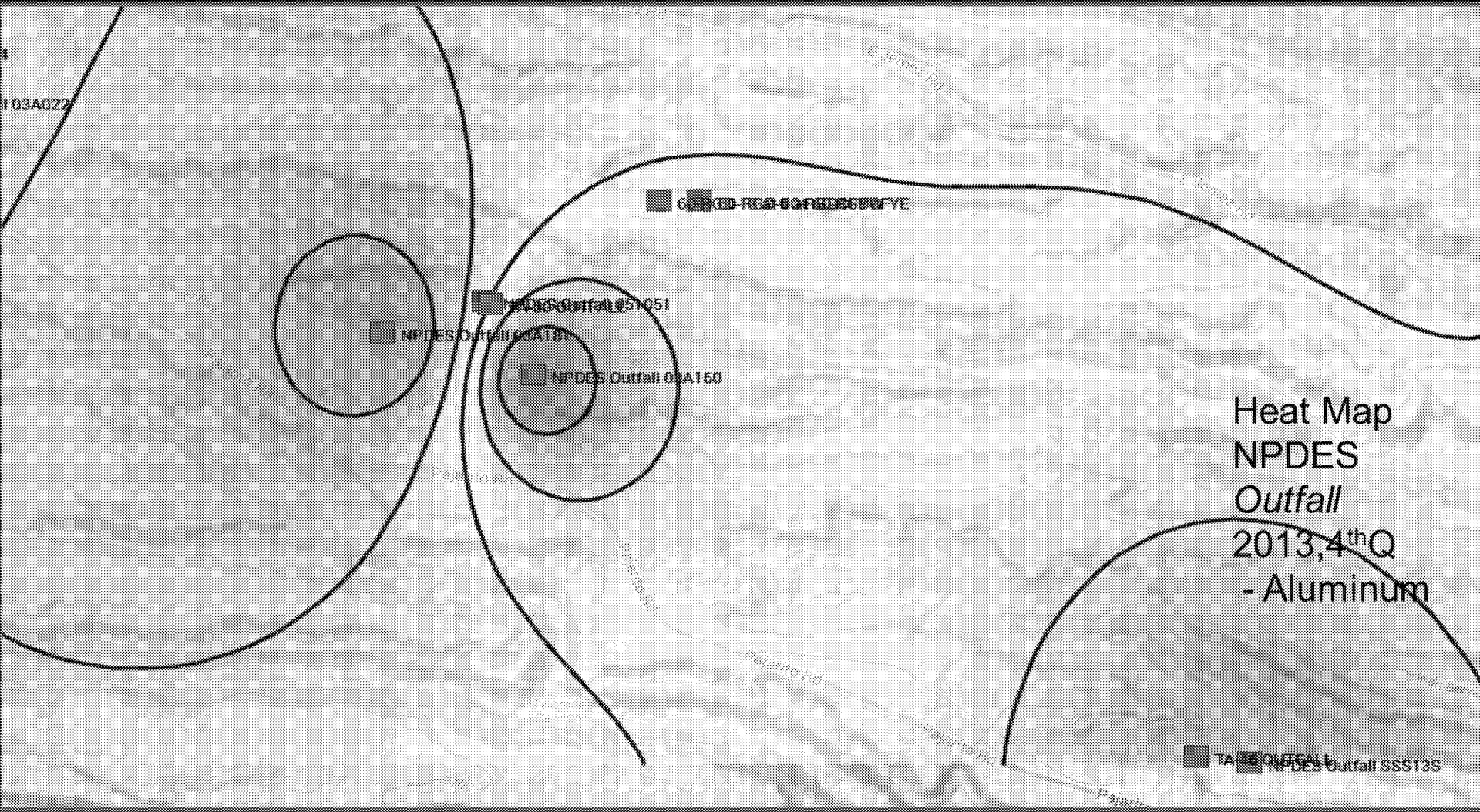
EPA Form 3320-1 (Rev 01/08) Previous editions may be used.

PAGE 1 OF 1

# Charting capabilities.



# eGIS – Different Map Types, Heat Maps, Contouring



# What is Intellus?

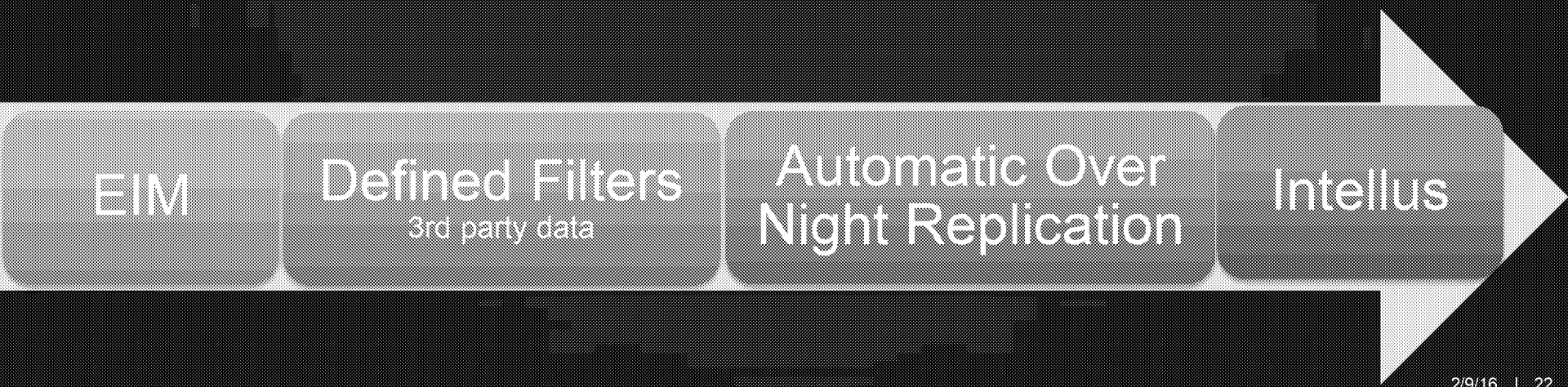
Intellus New Mexico
Connecting Community, Science and Environment

**Intellus is a public website (www.intellusnm.com)**

**accessible by anyone that contains 100% of LANL's (and NMED's) validated environmental data.**

**All validated data replicated nightly to an identical database– if it arrived in LANL's database by 7:00 PM, its available on Intellus the next day (Thanks auto validation!)**

- Complete Data Transparency
- Stakeholder Communication Tool
- Easy User Interface
- Used by LANL and NMED-OD Staff Scientist
- Create custom reports for emerging issues



# What Can Stakeholders and Public Get In Intellus?

- Data - Exact same data that LANL uses for environmental analysis within 24 hours – READ ONLY
- Maps with live queries – What environmental issues are near my house/work/business
- Sampling schedules – Details on what samples are planned each day
- Charts – Are chemicals increasing or decreasing near me
- Documents – Full lab reports, SOPs and data validation reports
- Data additions/edits/deletions – what data are added or modified each day and why



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# Questions?

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