Integrated Cloud Based Environmental Data Management System

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Cloud Based Data System

What is it?

Leveraging 3rd party computing capability over the network to cut costs, increase scale, improve agility, and access best practices through shared resources.
Integrated Data and Systems
Cost

- Resource constraints and project requirements forced LANL to investigate new technology
- Shared resources with other customers including IT staff, software development, software maintenance, hardware, version updates, and licenses
- Fixed price competitively competed small business development contract
- Annual subscription based fee dependent on number of records

Information at http://www.locustec.com/eim.asp
Public Interface (Intellus)

- Complete transparency
- Visibility into LANL data process
- No data feeds, transfers, data transformations
- Immediate availability of data
- Ability to accommodate new data providers
- Requirements from NMCF based on RACER improvements list
- Data available at www.intellusnmdata.com
- New Mexico Community Foundation outreach at www.intellusnm.com
NMED-OB

- Share system and tools
- Full control of their data
- Full administration of roles and privileges
Third Party Data Providers

- Environmental data from Northern New Mexico area
- Final data loaded into system by NMED-OB
- LANL and NMED-OB data available to public, 3rd party data available depending on data provider conditions for use
Mapping and Graphing

- Interactive maps, boring logs, and well diagrams
- Integrated GIS
- Layers/backgrounds: Google Terrain, Google Map, Google Satellite, Google Hybrid, USGS Topographic, USGS Aerial, LANL GIS
- Statistical tests
Reporting

- On-line reports
- Reports can be run at any time with any set of data
- Data are current
- Possible transition from static hardcopy reports
Reporting

Select Data Provider:
- Los Alamos National Laboratory
- NNSA DOE Oversight Bureau

1 As of Feb 1, 2012 the Los Alamos National Laboratory data source is the only active link. The NNSA data source is still under construction and the link will be made active after data has been uploaded. Until then NNSA data can be accessed via http://chevronal.com

Note: some queries will produce very large results sets that may not be able to be imported into some programs, such as some versions of Microsoft Excel. If you are unable to import query results in older versions of some programs, try to refine your query via filters such as fewer location groups, fewer parameter groups, or smaller date ranges.

Reports

Analytical Reporting
Query analytical data and download query results for field and laboratory samples for all available media. Queries are performed on validated data made available in the database. Multiple output formats are available. Users must specify filter criteria for each query and some query criteria are limited to improve performance. Query and filter selection is similar for all available options.

Non-Analytical Reporting
Query non-analytical data including locations, field measurements, field sample and Chain of Custody (CC) information. Multiple output formats are available. Users must specify filter criteria for each query and some query criteria are limited to improve performance. Query and filter selection is similar for all available options.

Pre-Designed Reports
Saved pre-designed reports created by Los Alamos National Labs and others. Click reports to provide quick access to common queries.

Sampling Calendar
Provides the planned samples for the data source - such as Los Alamos National Laboratory planned samples. Click on the data link and view information on planned samples and planned analysis.

Note that data include the projected date range for a given sampling campaign, not the exact date the sample will be collected. Data are presented in a data grid for download in multiple formats.

Track Changes
List of changes made to data as a result of the data review process by data owners.

Reference Tables
List of database vital values, list of values, and lookup tables. These tables are loaded with mass and other acceptable values in the database and allow meaningful queries.

Public Data Files
To accommodate the over 10,000,000 groundwater level and flow data records, LANS has provided these data files as flat file download. Users can download current and historical data in selected categories by selecting the desired file and downloading the file to their computers. This can then be imported into other programs for review and analysis.

Charts

Note: All charts are based on Flash and require an Adobe flash player. If you do not have any Adobe Flash Player you can click here to download.

Note: All maps open in a new window. Make sure any pop-up blockers are turned off.

Analytical Chemistry
Create a wide variety of customizable charts based on location and sample type. All charts are limited in the number of parameters or locations that can be charted. Once charted, the charts can be customized by clicking on the "Edit Chart" button below the chart. To save the chart, right click and select "save as image" and save the file. Once saved, the image file can be printed with standard software or viewed in any photo viewer.

Subsurface
The Subsurface option provides chart of groundwater level data. Please note that LANS may provide groundwater level data in text downloadable files and as such charting options may only be limited and the recent data. Refer to Intellus for more information on data options.

Note: you are able to download data associated with the Chart by clicking on "show data" and clicking on the small document icon above the data.
Reporting

View Field Sample Analytical Result Information: Select Data Filters And Output Options

Primary Filter | Parameter Filters | Data Fields/Output

Select Data Fields To Display:
- Analysis Date
- Analysis Deferred Flag
- Analysis Lot ID
- Analysis Subcontracted
- Analysis Suite Code
- Analysis Type Code
- Analytical Method
- Approved by
- Background Comparison Media Code Basis
- Best Value Flag
- Best Value Status Code
- Calibration Reference ID
- Chain Of Custody No.
- Composite
- Composite Description
- Composite Field Sample ID
- Composite Type Code
- Confidential Flag (Sample)
- Custom Result Field 1

1 Up to 10 items may be selected

Submit Return Help

Note that all tabs must be selected and a selection made (unless the tab has pre-selected options). Failure to select an item on all tabs will cause the query to fail at the end and going backwards through a query deletes all entries.
### Selected Analytical Results:

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<th>Field Sample ID</th>
<th>Location ID</th>
<th>Sample Date</th>
<th>Parameter Name</th>
<th>Report Result</th>
<th>Report Units</th>
<th>Lab Qualifier</th>
<th>Detect. Flag</th>
<th>Sample Matrix</th>
<th>Sample Purpose</th>
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Reliability

- **Servers located in a Tier IV data center**
  - redundant power supplies
  - redundant data communication connections
  - environmental controls
  - security devices

- Collocated facilities

- Offsite backups
Accessibility

- Web based
- No firewall, VPN, portal
- Platform independent
  - internet browser
  - operating system