EarthSoft Info

Southeast User Group

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Topics

- 2023 Priorities

- 2024 Goals

- Governance and Gamification

- Australia Case Study

- Business Partner Program

2023 Priorities

- EQuIS Geotech

- Data Governance

- Australia Visit

- Compliance Journey

2023 Priorities – EQuIS Geotech

Modernize and automate geotechnical data management

Standardized and Centralized Data

Boring Logs and Subsurface Profiles

Built-in Standard Reports and Forms

Built-in Dashboards for Data Entry and Analysis

EQuIS Geotech Workflow

Project Planning

Field Activities & Data Collection

Boring Log Data Review
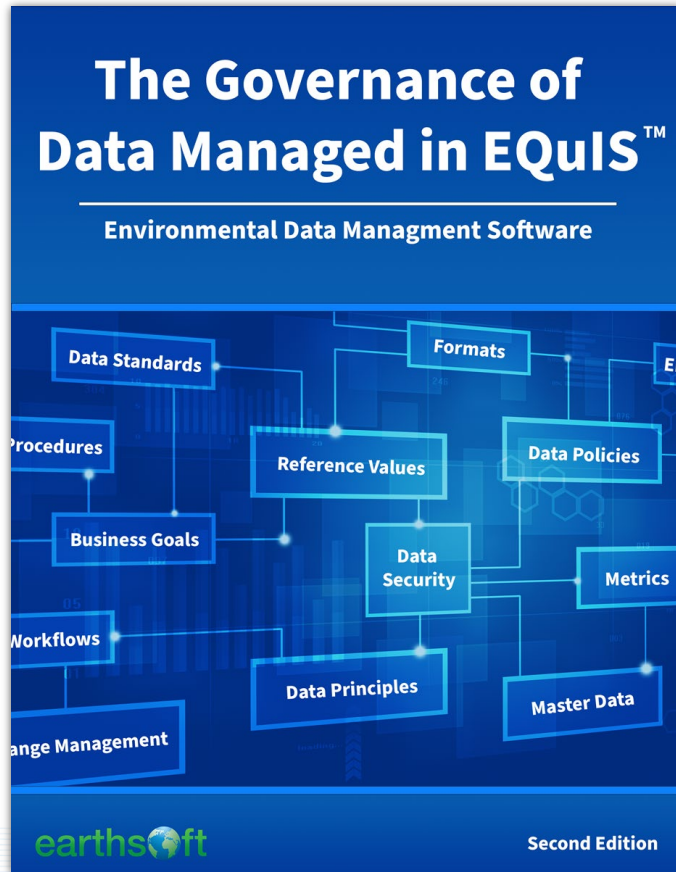
Lab Assignments & Testing

Instrument Data

Analyze Visualize & Report

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2023 Priorities – Data Governance

The Governance of Data Managed in EQuIS™

Environmental Data Managment Software

Data Standards · Formats · ED...

Procedures · Reference Values · Data Policies

Business Goals · Data Security · Metrics

Workflows

...ange Management · Data Principles · Master Data

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Second Edition

EQuIS™ Data Governance Checklist

EarthSoft works with organizations to establish EQuIS Data Governance programs based upon their business goals and drivers and data principles. This checklist provides an overview of data governance elements that are important for maximizing investments in their EQuIS data management system.

Organizational Framework

☐ Define roles and responsibilities relating to data governance and data management.

☐ Gather contact information for all stakeholders (e.g., organizational contacts, subject matter experts, laboratory contacts, field data collectors, data users, regulatory agency contacts, contractor contacts, and EarthSoft contacts).

Create Data Policies

☐ Data Acquisition – Ensures data uploaded to EQuIS are fit for use. Defines use of EQuIS Collect or EDGE.

☐ Data Integrity – Ensures data in motion between the EQuIS ecosystem and other systems are transferred in a secure way from known authenticated sources that can be audited.

☐ Data Security – Addresses EQuIS Facility and User permissions, use of EQuIS REST API, and data exports. Determines who will host and provide IT support for EQuIS database.

☐ Data Quality – Ensures high-quality data, which are accurate, complete, consistent, reasonable, timely, and valid. Describes use of EDP, SPM, and DQM.

☐ Data Use and Sharing – Ensures data are not misused or abused, and are used ethically, according to any applicable law, and with due consideration for individual privacy.

Data Management Workflow Review

☐ Examine current data workflows and identify desired improvements. The workflows should maximize use of electronic exchanges of data between field and laboratory personnel (e.g., use of Collect Data Form, eQuote, eCOC, and eSRN). Includes:
  ☐ Planning for data collection
  ☐ Performing field data collection (manual and automated data logging)
  ☐ Processing for laboratory data analysis and review
  ☐ Assessing, reporting, and/or visualizing the collected data

☐ Identify responsible party or parties for performing each workflow step.

☐ Identify EQuIS application(s) for each workflow step.

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Data Governance and EDMS — The Short Story

What is Data Governance?

Data Governance can be defined as the "exercise of authority and control (planning, monitoring, and enforcement) over the management of data assets."

Data governance focuses more narrowly on the issues surrounding its access, protection, compliance, and usage of data with the goal of bringing maximum benefit to an organization.

♦ Who can access which segments of data (and how to minimize unnecessary access and risk)?

♦ Determine who will manage enterprise data and establish a system of accountability for those roles.

♦ Develop policies to maintain compliance with local, state, federal, and other regulations.

♦ Identify and implement tools that can be leveraged to make the most of the data.

The overall goal of data governance is to enable an organization to manage and protect data as an asset in a sustainable way. Data governance is not data management. Data governance functions to guide data management activities and ensure that data are properly managed.

Why Perform Data Governance?

Businesses that have environmental compliance requirements frequently invest in an environmental data management system (EDMS). Common business drivers for organizations to invest in an EDMS and data governance are as follows:

♦ Growth / Business Agility – Arrive at decisions and recommendations faster with increased efficiency and accuracy.

♦ Lower Cost / Operational Efficiency – Achieve business goals by streamlined workflow and automation of data-related business processes.

♦ Risk Management / Compliance and Security – Ensure compliance to internal and external policies and regulations by defining data standards, policies, and processes with clear roles and responsibilities to control adherence.

♦ Sustainability – Operate in a sustainable manner by implementing a data governance program and EDMS.

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Several clients have multiple consultants implementing EQuIS very differently.

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2023 Priorities – Australia Visit

- Many New Clients
  - EPA Victoria

- Staff Growth and Changes
  - Manila Technical Support Team

- Project Management
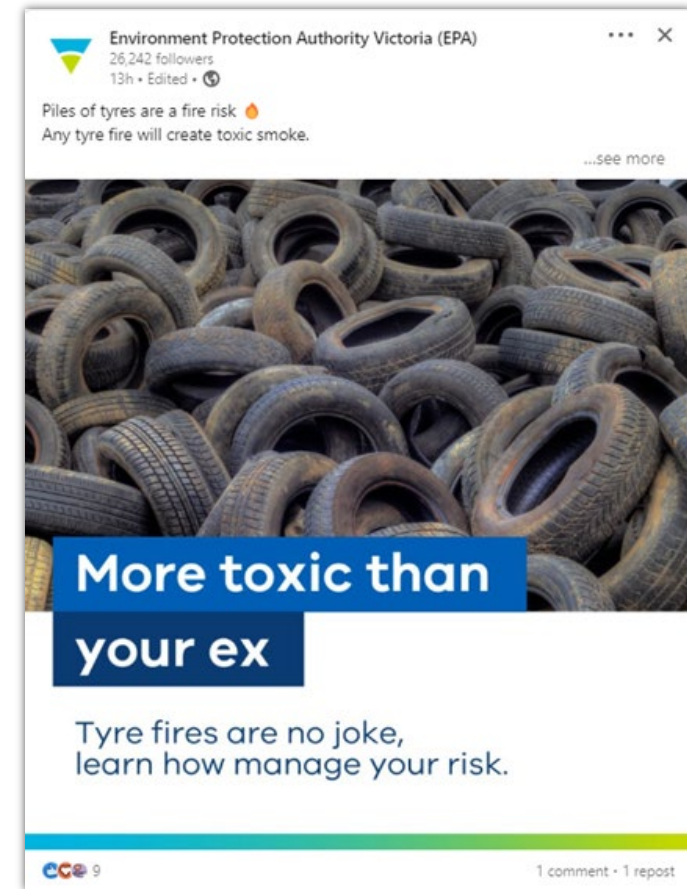
2023 Priorities – Compliance

EarthSoft is ISO 27001:2022 Certified!

ISO 27001:2022 is an information security standard published by the International Organization for Standardization (ISO), the world's largest developer of voluntary international standards, and the International Electrotechnical Commission (IEC).

2023 Priorities

- Business Partner Program
  - Added Labs: ALS and Eurofins

- Teamed for R&D and Marketing

- The Business of Environmental Data Management

  - Data Quality is hard to "sell".
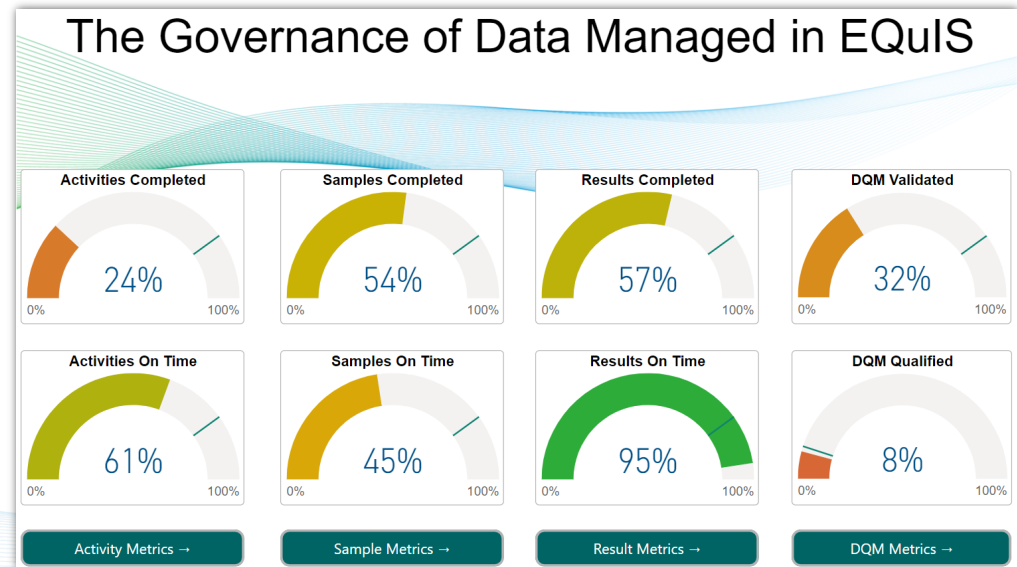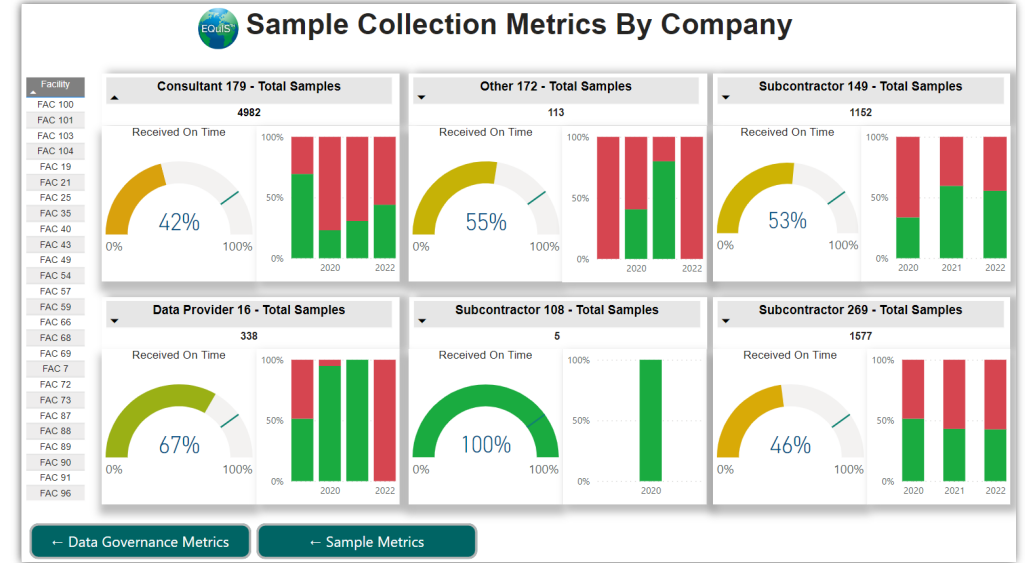
  - Show something...

2024 Goals

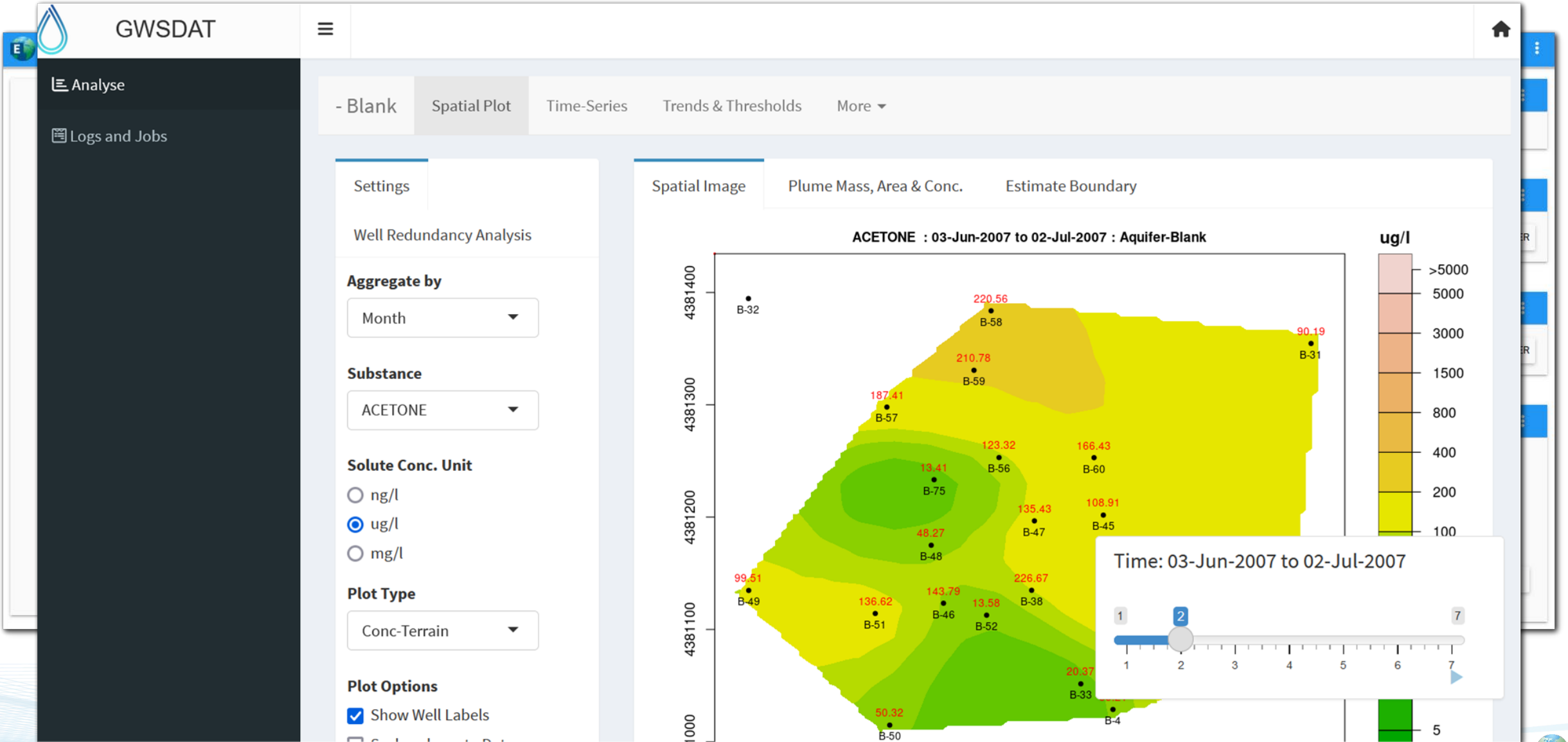Data Governance – Gamification

Software Acquisition from Major Oil

Collaborative R&D, Marketing with
　　　Consultant Business Partner

The Almighty Billable Hour is
under assault

2024 Goals

2024 Goals

1. **Integration with Collaboration Tools:** Integrates with popular collaboration tools like Microsoft Teams, SharePoint, and Viva Engage. It also integrates with Azure Blob storage and other databases. This allows for seamless access and management of data and documents from these platforms.

2. **Central Storage and Search Capability:** It acts as a central hub for storing and searching data and documents from multiple sources. This makes it easier to find and manage information within an organization.

3. **Built on Microsoft Azure AI Stack:** Utilizing Microsoft Azure's AI capabilities, offers advanced search functionalities. This includes natural language processing and machine learning algorithms to enhance search results and efficiency.

4. **Data Extraction and Document Summarization:** The portal provides tools for data extraction and summarization of documents. This can be particularly useful for quickly understanding the content and context of large documents without reading them in entirety.

5. **Identification of PII and Profanity:** Can identify personal identifiable information (PII) and profanity within documents. This feature is crucial for maintaining privacy standards and ensuring a professional environment.

6. **Unique Security Features:** The security aspect is addressed by ensuring that only authorized users can search and access documents specific to the repositories to which they have access. This is vital for maintaining data confidentiality and integrity.

7. **Integration with EQuIS:** Is integrated with EQuIS for hosting lab reports, images, documents and Electronic Data Deliverables (EDDs) submitted by field and lab members.

In summary, offers a robust solution for knowledge management, combining AI-powered search and data handling capabilities with strong security and privacy features. Its integration with various data sources and collaboration tools makes it a versatile choice for organizations looking to centralize and streamline their information management practices.

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Australia Case Study

EQuIS Analytical Data Workflow

Data Validation with DQM
Analytical data in EQuIS are validated using the Data Qualification Module.

10

EQuIS SPM Completeness Reports
Completeness Reports are generated tracking a project's field and lab data based on the sampling and analysis plan.

8 **9**

Lab Sends eSRN (Sample Receipt Notification)
Lab imports the eCOC XML, assesses the samples received, and generates an eSRN EDD. The eSRN is a confirmation of the samples received, analysis requested, the scheduled reporting date, and any identified issues. Based on the eSRN, clients can schedule resampling activities with EQuIS SPM or take other needed actions.

6 **7**

Lab Invoice Approval
Lab submits an invoice using the eSRN EDD. The SPM Invoice Report is run on an SDG, COC, or invoice basis and compares the expected analytical costs in the SPM lab contract to the costs in the submitted invoice based upon MAG, method, report level, and TAT. If the submitted invoice is correct, the invoice status is set to approved and then exported for payment.

Collect/EDGE Field Events
Schedule field events with SPM by assigning analytical requirements to sampling locations to create Field EDD Events.

4 **5**

Lab Sends EQuIS EDDs
Lab sends analytical EDDs, zipped with a user certificate, to Enterprise EDP, ensuring data integrity. The Lab reviews "rejection" notifications and ensures data loads with clients.

Lab Sends eQuotes and Costs to EQuIS
eQuote contains analytical information defined by the client: A collection of MAGs/Methods/Analytes/Units/Containers.

2 **3**

eCOCs with Collect/EDGE
After completing the field events, client sends eCOCs containing sample information and analysis requirements to lab.

1

Import eQuote EDDs to EQuIS
EQuIS imports the eQuote EDD files using the eQuote Format automatically creating SPM Labs Contracts.

Define Reference Values, Formats, and QAPP
Upload RefVals (Analytes/Methods) and DQM QAPP for new projects, if not already in EQuIS. Select and/or customize EQuIS format(s) for analytical data.

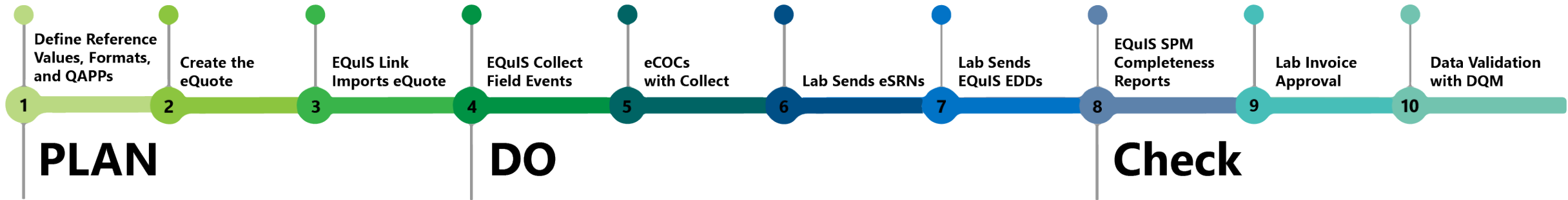earthsoft

Power and Ease of Use

Easier
- Fewer Choices
- Less Complexity
- Canned Templates
- Less Flexibility

Harder
- You can do anything.
- Many selection parameters
- Build New Templates
- Lots of Flexibility

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Australia Case Study

1. **Define Reference Values, Formats, and QAPPs**
2. **Create the eQuote**
3. **EQuIS Link Imports eQuote**
4. **EQuIS Collect Field Events**
5. **eCOCs with Collect**
6. **Lab Sends eSRNs**
7. **Lab Sends EQuIS EDDs**
8. **EQuIS SPM Completeness Reports**
9. **Lab Invoice Approval**
10. **Data Validation with DQM**

PLAN **DO** **Check**

Benefits

Reported by bp include:

- Use of the workflow decreased time in the field from ~4 hours per trip to ~2 hours per trip.

- Fridays were previously consumed with extensive data transcription tasks, which have been eliminated.

Efficiencies

- eCoCs submitted within minutes of each other from site locations that are an hour apart are immediately questioned for confirmation.

- Sampling location IDs are always correct (e.g., there is only one MW3, and it is never called MW03, MW-3, or anything else).

- Reference Values are all correct, with no errors.

Quality

Many of the **lessons learned** from the digital workflow demonstration were related to training and change management issues. In response to the issues encountered, bp reports:

- New users can usually submit correct eCOCs after watching a series of eight 7-minute videos.

- Most users correctly submitted data the very first time after the training.

- About 70 project managers were trained and it was deemed easy to learn.

- EQuIS helps track labs and field crews, and therefore, improve performance in real time.

- A new way to use the EQuIS Sample Planning Module to generate ad hoc sampling plans on-the-fly was developed.

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