



Subsurface Well and Seismic Master Data Management Training Course



AGILE LEADERS
Training Center

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Overview

Subsurface Well and Seismic Master Data Management Training Course is a one-week course for subsurface data managers, geoscience information specialists, GIS teams, exploration data professionals, and governance staff, who leave with a Subsurface Master Data Control Pack. Participants govern well identity, spatial references, seismic metadata, quality rules, lineage, ownership, catalogues, exchange, access, and retention. The course connects technical standards with operational controls across data lifecycles. Agile Leaders Training Center develops subsurface data management capability.

Who Should Attend

- Subsurface data functions responsible for technical information quality and availability
- Well information functions responsible for identity, hierarchy, and lifecycle records
- Seismic data functions responsible for survey metadata, formats, and exchange
- GIS functions responsible for coordinates, reference systems, and spatial integration
- Exploration functions responsible for trusted inputs to interpretation workflows
- Data governance functions responsible for ownership, controls, access, and retention

The course assumes participants can interpret basic well, seismic, and spatial records, and leaves out geophysical interpretation, reservoir modelling, survey acquisition, software administration, and certification preparation.

Departments and Industries

The course supports departments and industries that depend on trusted spatial and subsurface technical information.

- Subsurface data, geoscience information, GIS, and data governance
- Exploration, drilling, wells, reservoir, and production
- Energy, mining, geotechnical, and environmental services
- Engineering, infrastructure, utilities, and construction
- Technical consulting, research, archives, and information technology

Learning Objectives

By the end of this course, participants will be able to:



- Build well identity and hierarchy control rules
- Apply coordinate reference system controls and audit trails
- Analyze seismic metadata, headers, formats, and exchange risks
- Build quality rules, issue workflows, and ownership matrices
- Evaluate catalogues, lineage, access, and lifecycle controls
- Build a Subsurface Master Data Control Pack

Course Agenda

Day 1: Govern Subsurface Master Data

- Domain, Asset, Record, and Lifecycle Map
- Master, Reference, Transaction, and File Data
- Data Owner, Steward, Custodian, and User Matrix
- Vocabulary, Definition, and Business Rule Register
- Subsurface Master Data Governance Charter

Day 2: Control Well Identity and Records

- Well, Wellbore, Completion, and Sidetrack Hierarchy
- Global and Internal Well Identifier Principles
- Alias, Duplicate, Merge, and Survivorship Rules
- Well Header and Lifecycle Status Controls
- Well Data Governance Rulebook

Day 3: Control Spatial and Seismic Data

- Coordinate Reference System Controls
- Datum, Units, Axis Order, and Transformation Metadata
- Survey, Line, Volume, Trace, and Position Relationships
- Seismic Metadata Management and Header Validation
- Format, Version, Exchange, and Ingestion Checklist

Day 4: Build Quality, Catalogue, and Lineage

- Completeness, Validity, Consistency, and Uniqueness Rules
- Threshold, Exception, Root Cause, and Remediation Workflow
- Metadata Catalogue and Search Profile
- Subsurface Data Lineage and Transformation Audit
- Quality Scorecard and Issue Ownership Dashboard



Day 5: Operate the Data Lifecycle

- Exercise: Reconcile Well Identity and Hierarchy
- Exercise: Detect Spatial Reference and Seismic Metadata Risks
- Exercise: Trace Source-to-Consumer Lineage
- Exercise: Apply Access, Exchange, and Retention Controls
- Capstone: Subsurface Master Data Control Pack

Practical Exercises

The course uses suggested activities based on well headers, survey records, seismic files, coordinate metadata, catalogues, and technical-data exchanges.

- Suggested activity: reconcile aliases, identifiers, wellbore relationships, lifecycle states, and authoritative sources into a survivorship decision.
- Suggested activity: validate coordinate reference metadata, units, axes, transformations, survey positions, and seismic-header relationships.
- Suggested activity: define quality rules, exception thresholds, owners, remediation steps, evidence, and monitoring measures.
- Suggested activity: assemble catalogue fields, lineage links, access roles, exchange checks, retention rules, and operating reviews.

FAQs

Who suits a subsurface data management course, and what does it assume?

Subsurface data, well information, seismic, GIS, exploration, and governance functions suit the course; it assumes familiarity with basic technical records and spatial concepts.

How does subsurface data management differ from a general GIS course?

It governs well identity, seismic metadata, technical file exchange, spatial references, lineage, and lifecycle controls, while a general GIS course concentrates on spatial datasets, mapping, and analysis.

Why is well data governance dependent on identifiers?

Stable identifiers connect names, aliases, well components, lifecycle events, files, interpretations, and business records without relying on ambiguous labels or locations alone.

Which coordinate reference system controls prevent integration errors?

Controls should capture the reference system identifier, datum, axes, units, epoch when relevant, source coordinates, transformation method, parameters, output system, validation evidence, and audit trail.



What belongs in seismic metadata management?

Useful metadata covers survey identity, acquisition and processing context, coordinate references, units, geometry, lines and volumes, trace headers, format and version, provenance, quality checks, ownership, and access.

Conclusion

Participants take back a Subsurface Master Data Control Pack containing definitions, identities, hierarchies, spatial controls, seismic metadata, quality rules, ownership, catalogue fields, lineage, exchange checks, access, retention, and operating measures. It changes disconnected technical files into governed information. The pack supports integration, discovery, interpretation readiness, controlled exchange, auditability, and lifecycle stewardship.



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