CONCEPT

Subsurface Data Management with PPDM and OSDU: Well and Seismic Data QC

27 September – 1 October 2027
London - Central London four-star



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Introduction:

Subsurface data management with PPDM and OSDU gives exploration and production teams one consistent way to identify wells, store logs and seismic and prove the quality of both. Without it, asset teams reconcile duplicate wellbores, mispositioned surveys, unreadable SEG-Y variants and log curves with unknown units before any interpretation starts. This Core Concept course trains E&P data practitioners to structure records in the PPDM data model and OSDU schemas, load and check LAS, DLIS and SEG-Y files and measure defects. Participants produce a Subsurface Data Governance and Quality Improvement Plan for a case operator.

Course Objectives:

- Classify well header, directional survey, log, core, well test, seismic and cultural datasets by their stage in the subsurface data lifecycle
- Structure well, wellbore and completion records using PPDM What is a Well definitions, PPDM data rules and OSDU schemas
- Assign master well identifiers and confirm coordinate reference systems before well and seismic positions enter a store
- Load and check LAS, DLIS and SEG-Y files against header, unit and geometry rules, logging every defect found
- Measure store quality with completeness, validity and duplicate-well KPIs and allocate owner, custodian and steward duties
- Produce a Subsurface Data Governance and Quality Improvement Plan for a case operator, covering legacy recovery and archiving

Target Audience:

- Professionals who catalogue, load and maintain well and seismic records in geoscience project stores
- Petrotechnical IT specialists who support interpretation applications, PPDM-based databases and OSDU Data Platform deployments
- Asset data team members who prepare well and seismic datasets for exploration, development and production studies
- Staff who transcribe, recover and archive legacy logs, field tapes and physical well files
- Information stewards who prepare submissions to corporate or national subsurface repositories

Course Outline:

Day 1: Upstream Data Types, Lifecycle and Store Assessment

- Well Header, Directional Survey and Well Log Data Classes
- Core, Fluid Sample and Well Test Data Records
- Pre-Stack and Post-Stack Seismic Volumes and Navigation Files
- Cultural, Lease and GIS Layers in a Subsurface Inventory
- Subsurface Data Lifecycle Map and Store Maturity Baseline Checklist

Day 2: PPDM Data Model and the OSDU Standard

- PPDM Data Model Subject Areas and PPDM Lite Scope
- PPDM What Is a Well: Well, Wellbore and Completion Hierarchy
- PPDM Well Status and Classification Values and Data Rules
- OSDU Standard: Data Model, Schemas and API Specifications
- OSDU Data Platform Records, Reference Data and Entity Relationships

Day 3: Loading and QC of Well and Seismic Files into PPDM and OSDU Stores

- Master Well Identifier Assignment with the PPDM Global Framework for Well Identification
- Coordinate Reference System Selection Using EPSG Registry Codes
- LAS and DLIS Log Loading: Curve Mnemonics, Unit Checks and Load Logs
- SEG-Y Loading: Textual, Binary and Trace Header Mapping with Geometry QC
- Legacy Well Table Crosswalk to PPDM Tables and OSDU Schemas

Day 4: Spatial Errors, Legacy Seismic and Quality Controls

- Datum Shift and Projection Error Diagnosis in Well and Seismic Positions
- Quality KPIs: Completeness, Validity and Duplicate Well Metrics
- Legacy Tape Transcription, Non-Standard SEG-Y Variants and Recovery Triage
- Metadata Catalogue Entries, Search Tagging and Lineage Records
- Owner, Custodian and Steward Duties for Repository Submission and Archiving

Day 5: Case Study: Subsurface Data Governance and Quality Improvement Plan

- Case Operator Audit: Well and Seismic Inventory Profiling
- Quality Scorecard Build from Rule Results and KPI Thresholds
- Remediation Backlog Ranking by Business Impact and Effort
- Stewardship Calendar, Change Control Procedure and PPDM or OSDU Target Model Choice
- Improvement Plan Assembly and Peer Review

Skills You Will Gain:

- Upstream Data Classification
- PPDM Well Hierarchy Modelling
- OSDU Schema Mapping
- Coordinate Reference System Verification
- Log and Seismic File QC
- Subsurface Metadata Cataloguing
- Legacy Seismic Recovery
- Subsurface Data Stewardship

Why Attend This Course:

- Return with a Subsurface Data Governance and Quality Improvement Plan built on a case operator's well and seismic inventory
- Stop duplicate wellbores and mispositioned surveys reaching interpretation projects by checking identity and position at load time
- Explain PPDM and OSDU structures to geoscientists, vendors and IT colleagues when choosing or migrating a subsurface store
- Compare loading, cataloguing and archiving practice with data practitioners from other operators, service firms and research bodies

Conclusion:

Trusted subsurface data depends on a clear well identity, a verified spatial reference, measurable quality rules and named stewards. The week moves from upstream data types and their lifecycle, through the PPDM data model and the OSDU Standard, to loading and checking LAS, DLIS and SEG-Y files, then to spatial errors, legacy tapes, cataloguing and repository hand-over. The final day applies each step to a case operator, and every participant completes a Subsurface Data Governance and Quality Improvement Plan ready for review with their asset team.