

TRAINING AGENDA

INTRODUCTION TO SES 5.51

January 15, 2018
Stoner Engineering LLC
Golden, CO

07:45-08:00 Check-in & Laptop Setup

08:00-12:00 Morning Session

Introduction

- SES Installer
- Main Menu (WELLS, SES, GRIDS, UTILITIES) & SESdata.mdb
- >15 Example Wells
- SES (Surveys, Planner, Type Log, LWD, Geosteer, THD, & Cross-Sections)

Data Loading Basics

- Clipboard copy/paste; key punch
- File import (log ASCII standard...LAS; other...XL*/CSV/TXT)
- Survey with MD > 0 at first station (survey tie-point & round-off concepts)
- WITSML server data transfer
- Data updating — CTRL+click repeats; file drag/drop from Explorer or Outlook

3D Well Planner & 3D Geologic Model from 3rd-Party Software (Grid Data)

- General discussion & 2D/3D quick plots
- Load training Grid data
- Design Training Well #1 horizontal well plan using training Grid data
 - Assume vertical well at 8300 ft MD/TVD tie-in
 - Build gradient 12°/100 ft at KOP; azimuth 7°; lateral length 2200 ft
 - Surface Coordinates — GridX=1,000,000 ft, GridY=750,000 ft, KB=3000 ft

Technical Hole Deviation (THD) Technology

- Calculate & view Training Well #1 THD and THD Logs
- Directional control monitoring
- MD-domain enabling technology for cross section displays

Populate Data from scratch & Geosteer **Training Well #1**

- Load all raw data (survey, type log & target top, LWD gamma ray)
 - Target top 9187 ft
 - 16 ft thick payzone
- ParamTuner screen & SES 3D technical geosteering discussion
- Geosteer landing
- Create derived type log; switch type logs; auto type log switching

- Stack offset beds (5 ft above, 6 ft below); import/copy/editing; making variable
- Geosteer lateral (add/edit/delete/insert 3DSBs; gaps/overlaps; tune assist)
- Shortcut keys, shortcut menus, zooming, mouse+keyboard features
- Annotations, bed layer fill opacity, & setting many other display options
- Advanced cursor tracking mode
- Centerline display/editing/copying
- Grid data display (wellbore interpolation & extrapolation) and TVD bulk-shifting

12:00-13:00 Catered Lunch

13:00-17:00 Afternoon Session

Create Training Well #1 Cross Sections

- Depth ranges & display content
- Annotations display & properties
- Automatic zone in/out statistics
- Update planned path for DD (centerline/parallel-lines)
- Grid data display
- Inset map view
- Inset RSD track
- Custom images/logos
- Copy/paste-special to apply/transfer preferred "display templates"

Update Geologic Model & 3rd-Party Software through Data Exports

- Coordinates & properties; tops; synthetic logs; depth-merged LWD
- Summaries (PayZone, GrossZone, Completion)
- CSV, LAS, XLS, TXT, PRN, MDB (SESout.mdb) file formats; clipboard

SES Well Data Transfer between People/Computers/Databases

- SES xml file export & import; well copy
- SESdata.mdb management discussion
- LAS file export from data table screens

3D Viewer — Survey, Plan, Survey|Plan, Single-Well, Multi-Well, Grid Data

Import SES xml file & Geosteer **Training Well #2**

Transfer Well Plan into SES from Service Company PDF file

One-click Data Update (Survey/LWD1/LWD2/THD; LAS or WITSML server)

8-Sector Azimuthal Image Log Example (Gamma Ray)

Import SES xml file & Geosteer **Training Well #3**

(16:30 pm) Final Review

- SES User Manual — Chapter Tips & Geosteering Trade Secrets
- www.makinhole.com