

# **First-Time Implementation: Comprehensive Vertical Seismic Profile (VSP) Data Management in Kuwait Oil Company**

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## **ABSTRACT**

In present increasingly challenges over the hydrocarbon exploration and development efforts, the usage of Vertical Seismic Profile is significantly increase and applies wider. As renowned VSP establish precise correlation of surface seismic data with depth and provides great image resolution. In depth, VSP has been a useful measurement to obtain rock properties, to monitor hydraulic fracturing and perform repeated surveys (4D) for reservoir characterization and other cutting-edge advantages. It's now the right time to manage effectively the VSP data to get the optimum benefits for better interpretations and decision making. Over six (6) decades, it has done a lot of VSP acquisition and processing works in Kuwait Oil Company. In previous works, the VSP data has not been managed in effective manner that resulting the typical problems occurred as the data spread across multiple repositories and shared drives. The users was having severe difficulties to search and obtain the data as their time was spent a lot in this leg. In that period, the legacy data was mainly in unknown condition of quality level, completeness, and uncertain data flow. All these elements lead to low confidence over data quality, uncertain data availability and users time consuming. The project has made plenty of efforts in data availability assessment, implemented newly standards & workflow, made available all authenticated data in the database, improved communications and created newly ease of use online access to the data. It has successfully implemented which delivered these key benefits: Provided complete and accurate VSP data to all KOC's users through an easy single online access. Immense Time saving - Data searching/preparation for the earlier works was taken 3-5 days and with the new system, it now take only few minutes. Complete Entire Datasets - Successfully made available for all complete authentic legacy and new VSP data. Retrieved missing/incomplete data – Data recovery for about 210 VSP wells which gain direct benefit of ~US\$ 28.5 Million. Created new communication panel to ensure all data custodians receiving new updates and it also assure the workflows running well. Data Tracking System – from now each step of data acquisition/processing are trackable and prevent no more missing data. Strong-bonds of digital and physical documents that will ease in finding the associated physical documents, facilitate new re-processing and future review/new insight methods.