

**EVALUATION OF PETROLEUM POTENTIAL OF
CHANDA DEEP-01 WELL, KHYBER
PAKHTUNKHAWA PAKISTAN**



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requirement for the degree of B.S in Geology**

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ABSTRACT

This research work is carried out to evaluate the petrophysical analysis of Chanda Deep-01 well. Geographically, the study area is located in district Shakardarra, Khyber Pakhtunkhawa, Pakistan. Tectonically the area lies in compressional regime. Chanda Deep-01 well has been drilled upto Wargal Limestone of Permian age. Two potential zones have marked in clastic reservoirs of Chanda-Deep-01 well. Two zones have been marked in Datta Formation. First zone of interest is starting from 4651m and having total thickness of 7m, while the second zone lies at the depth of 4709m with thickness of 10m. All the basic logs were run at the level of both reservoirs. First zone of Datta Formation exhibits 26.54% volume of shale, 8% effective porosity and 55.78% hydrocarbon saturation. Second zone of Datta Formation exhibits 27.27% volume of shale, 3% effective porosity and 54.29% hydrocarbon saturation.

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ABBREVIATIONS

| | |
|-------------|---|
| OGDCL | Oil and Gas Development Company Limited |
| LMKR | Landmark Resources |
| DGPC | Directorate General of Petroleum Concession |
| PEF | Photo-Electric Factor |
| LLS | Shallow Lateral Log |
| LLD | Deep Lateral Log |
| MSFL | Micro-Spherically Focused Log |
| SP | Spontaneous Potential |
| B.H.T | Bottom Hole Temperature |
| Vsh | Volume of Shale |
| GR log | Gamma Ray Log |
| GR min | Gamma Ray minimum |
| GR max | Gamma Ray maximum |
| ρ_{ma} | Density of Matrix |
| ρ_f | Density of Fluid |
| Sh | Saturation of Hydrocarbons |
| Sw | Saturation of Water |
| Rmfeq | Resistivity of Mud Filtrate Equivalent |