

Distribution and prospect of heavy oil in Marañón Basin, South America

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From the time people started using fossil fuels, they have always been consuming conventional oil (oil with API gravity greater than 20° API, or a density less than 0.934 g/cm³). After more than a hundred years of consuming, conventional oil reserves are going to be depleted gradually. As a result, heavy oil resources will become increasingly important. The Marañón basin, one of the heavy oil-rich Andean foreland basins, is the target of this research. This research focused on three aspects of heavy oil in Marañón basin in Peru. The distribution of heavy oil in Andean foreland basins, both spatial and stratigraphic, is examined and summarized. A distribution pattern was documented and fully explained with data and diagrams. The resource amount of heavy oil in different regions in Marañón basin is calculated. Finally, the prospect of heavy oil is evaluated by analyzing the distribution and the resource amount of heavy oil, as well as the geological characteristics. Several prospective areas for heavy oil within Marañón basin have been found. For the prospective amount of heavy oil, two methods of calculation and even more sets of calculation parameters were used to cover all the possible geological settings in areas that are not fully explored. The result of this research can provide images of current and future heavy oil in Marañón basin: its location and quantity.

Keywords: heavy oil, Marañón basin