**Critical Comparison of Pre-drill Assessments and Drilling Outcomes Using Open Source Data on Petroleum Exploration in Mexico in 2018-2021**

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This study compares key pre-drill exploration assessments and drilling outcomes for conventional petroleum prospects/wells evaluated and drilled in Mexico in 2018-2021. All data come from open sources, which facilitates an independent and unbiased performance analysis of the exploration industry (21 operating companies). The study includes 390 exploration prospects/wells and 61 drilled wells with at least some known exploration outcomes. The geological success rate (59%) is much higher than the average probability of geological success (PoS, 37%). Explorer, in general and on average, significantly overestimated geological risks before drilling and made more discoveries than expected. The 53 drilled wells with known volumetric outcomes delivered the total recoverable resources (2403 million barrels of oil equivalent, mmboe) that are close to the average risked expectation (2346 mmboe), which is a good outcome. However, assessments of success-case volumes in individual prospects were rather poor. The majority of discoveries contain recoverable resources that differ by a factor of two or more (from 15 times less to 66 times more) from the pre-drill assessed volumes. The national Mexican company Pemex and the local oil companies, on average, significantly underestimated the success-case volumes, while the international oil companies, on average, significantly overestimated them. Based on this study of recent petroleum exploration in Mexico and previous similar studies in Norway and in the Netherlands, we observe that the pre-drill assessments of geological PoS values and success-case volumes have not improved over the last 30 years.