

**EVALUATING THE ECONOMICS OF ON-SITE VERSUS CENTRALIZED TREATMENT:
A “VEST-POCKET” PRODUCED WATER MANAGEMENT MODEL**

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Increasing profit margins by reducing produced water (PW) management costs is an important consideration in E&P projects. Within the past two decades, research groups and companies have made a significant effort to bridge the gap between E&P PW and source water by treatment and reuse. As a result, a number of commercial water treatment processes are now available for O&G operators. The GPRI team has developed a straightforward, analytical model that compares the economics of on-site and centralized treatment approaches. This PW management model is based on actual field experiences provided by partnering operators. The model calculates both treatment and logistics cost. Logistics include source water, transportation and disposal costs; water infrastructure, such as pipelines; and benefits, such as reducing truck traffic and road wear-and-tear. To validate the model, sensitivity and uncertainty analyses were conducted to determine significant variables and model robustness. Several scenarios based on actual field projects were evaluated using the model to match actual, field-derived information. The results include water management related costs over the lifespan of each project for on-site reuse, centralized reuse and no treatment or reuse. Results indicate whether or not the most cost effective PW management decision was made in each scenario.

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