

**Saudi Aramco:**  
**...Steadily Improving Recovery Efficiencies**

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**1. Introduction**

The presentation will address Improved Oil Recovery (IOR) from Saudi Aramco Perspective.

Improved Oil Recovery will be defined and its potential for the World and Saudi Aramco will be discussed. The world has a plenty of resources totaling more than **14 Trillion Barrels**. The proven reserves are just above **1 trillion barrels**. These numbers tell us that we have **a lot of room to grow**, reserves wise and therefore IOR/EOR are critical to our industry future.

The presentation will ascertain that Improved Oil Recovery (IOR) processes is not limited to future Enhanced Oil Recovery (EOR) processes, on the contrary, the real value comes when its a primary objective of the initial development strategy.

**2. Key Features**

For Saudi Aramco IOR is a dynamic process that is built into our practice and its implementation is evolving with advances in technology. Within our long history of continuous production operations, we have been always aiming at steadily improving recovery efficiencies through the use of high impact technologies. The presentation will discuss some of these technologies, such as Advanced and Smart Wells, the I-Field, reservoir simulation and Reservoir Diagnostics and Modeling. We in Saudi Aramco believe that our understanding of the challenges and our possession of the enablers, such as technology and the skilled workforce, are the main constituents to our confidence of remaining in the forefront. The presenter will share the industry IOR challenges and the key enablers that have been working successfully for Saudi Aramco. Some of these challenges are:

- Optimizing implementation timing
- Expediting technology development timing
- Understanding geological complexity
- Integrating of surface & subsurface activities
- Overcoming high production cost

**3. Conclusions**

In order for any organization to achieve its goal of improving Recovery Efficiency, this goal has to be in the heart of the organization focus. It is never early to start the plan for improved oil recovery. In fact, it should be included as one of the basis of any development strategy. Proactive Reservoir Management is a key to IOR, and the results speak for themselves. Finally Collaboration and Teamwork among companies, academia and service companies is critical to maintain an influx of innovative high value technologies that improve the recoveries of our reservoirs.

#### **4. References and Bibliography**

##### **Speaker's Biography**

Mr. Al-Mulhim holds a Bs. in Petroleum Engineering From University of Southern California (1990) and a master degree in Petroleum Engineering from Stanford University (1995). Mr. Al-Mulhim held several supervisory positions in Reservoir Management. He had also worked in the Gas Ventures Department and participated with the team that negotiated the four gas ventures agreement in Rub Al-Khlai. Waleed had also served in a number of Petroleum Engineering committees and taskforces. He is currently holding the position of General Supervisor of Reserves Assessment and Development Studies Division in the Production & Facilities Development Department.