

# PRODUCTION ENHANCEMENT STUDY CASE STUDY

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Onshore Uzbekistan

## AWT DISCIPLINES

**Reservoir Engineering**  
**Production Technology**  
**Completions Engineering**  
**Facilities Engineering**

## PROJECT BACKGROUND

The objective of the Urga Field production enhancement study was to provide technical recommendations for short term (immediate) gas production gain on a well by well basis which could be implemented in a short time period. A few challenges were identified at the commencement of the study:

- the availability of only quarterly and monthly allocated production data
- limited accessible data on well history (requiring translation)
- uncertain well completion status and well construction conditions
- very limited time frame to conduct study.

### Location:

Muynak Region of the Republic of Karakalpakstan, a semi-autonomous region of Uzbekistan

### 1<sup>st</sup> Oil:

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## AWT WORK SCOPE

The Objective of this study was as follows:

- To review available field data in Tashkent
- To travel to the Urga Field to evaluate potential field limitations to future production
- To build well models to investigate the merits of various short term production gains
- To evaluate restoration methods for idle wells

A prioritization process was done by classifying wells in different tiers based on perceived need for action and potential gain.

### ➤ Short Term – Tier 1

Wells which are currently being 'blown' to remove water since these wells are 'at risk' to serious production decline

### ➤ Medium Term – Tier 2

Wells which have declined sharply in gas production over the life of the well – these wells may have potential for significant production increase (if depletion is found not to be the major cause)

### ➤ Medium Term – Tier 3

The remaining producers not included in Tier 1 or 2 by definition

### ➤ 4. Long Term – Tier 4

Wells shut in within the past 5 years, exhibited good productivity at some time during their life, and are currently either monitor or waiting on abandonment wells

No routine periodic well interventions for data acquisition have been conducted since the field started production. Thus AWT strongly recommended performing strategized data acquisition, according to ranking as above. Opportunities for water shut-off, perforation or re-perforation to be examined after data acquisition complete. Remedial work to commence as soon as required equipment and contract services are available.

## AWT VALUE ADDED

- Probability of success of various production enhancement techniques:
  - Gain attributable to adding compression – 90%
  - Gain attributable to water shut-off – 50%
  - Gain attributable to velocity string installation – 90%
  - Gain attributable to perforation (re- or new) – not assessed
  - Gain attributable to other methods – 50%
- Total risked production gain assessed as 21.16 MMSCFD.

\*No estimates made of production gains from adding perforations or re-perforations as these are dependent on outcome of petrophysical review and data acquisition program