



Afghanistan Infrastructure and Rehabilitation Program (AIRP)

Sheberghan Gas Fields Reserve Study



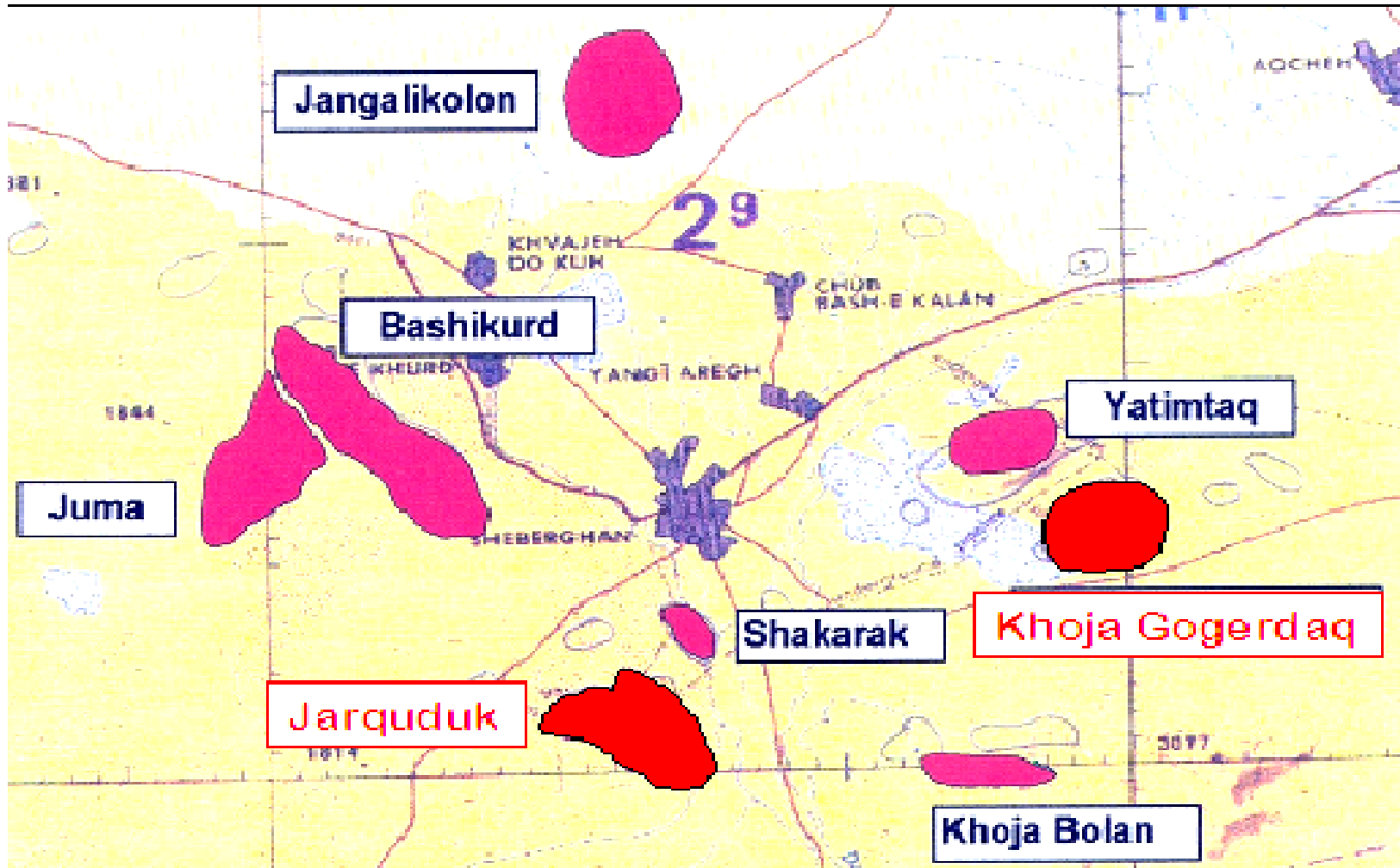
**Report to the Inter-ministerial Council on Energy
Islamic Republic of Afghanistan
26 February 2009**

Location

Jawzjan Province, near Sheberghan
Geologically on the Eastern Edge of the Amu Darya Basin



Sherberghan Gas Fields



Yatimtaq Recoverable Reserve Estimates

Previous Estimates

- **3.2 bcm (Sofregas, 2004)**
- **7.0 bcm (AEAI, 2006)**

(calculated from available data without well tests)

Gerquduq Recoverable Reserve Estimates

Previous Estimates

- **5.4 bcm (Sofregas, 2004)**
- **3.2 bcm (AEAI, 2006)**

(calculated from available data without well tests)

Goals

Natural gas reserve confirmation for 100MW Sheberghan power plant

- **Re-enter, log, test up to seven Soviet-drilled gas wells**
- **Confirm reserves for 20 year fuel supply at estimated 0.2 bcm/yr**
- **Reserves proven, elaborate design for plant, delivery to NEPS**
- **Additional benefit of encouraging interest in further exploration and development of gas resources**

Parties

- **USAID** - funding
- **MINISTRY OF MINES** – owner on behalf of people of Afghanistan
- **AFGHAN GAS** – field operator
- **AIRP (LBG/BV)** – implementer, project manager
- **ARAR, Inc. (Houston, Ankara)** – workover subcontractor
- **WEATHERFORD INT’L (Houston, Kazakhstan)** – wireline services
- **HART SECURITY** – security services

Operations

- **Well Operations scheduled to begin first half of March**
- **Yatimtaq Field: four wells – estimated 9 days per well; wells open and easier to re-enter**
- **Gerquduq Field: three wells – estimated 23 days per well; one well producing, two wells plugged and abandoned**
- **Estimated time operations – 168 days including moves**
- **Final Reserve Report -- within four weeks of field completion**
- **Potential delaying factors: severe casing corrosion, collapsed casing, abandoned equipment downhole**
- **Final results approximately end of September if all wells can be tested without technical problems**

Operations - Procedure

- **Re-enter, clear wellbore, drill out plugs**
- **Run cased hole logs, check casing/cement integrity, confirm perforations, review gas-bearing zones**
- **Attempt to repair casing or re-cement if necessary**
- **Perforate or re-perforate**
- **Test flow rates, flowing and shut-in pressure, gas quality**
- **Shut in wells safely or recommend to plug and abandon**
- **Provide well report within two days after well completion**
- **Re-equipping wells not included**

Reports

- **Daily report** - on field activity and status
- **Well reports** - test results, preliminary reserves, deliverability (2 working days after each well completion)
- **Final Reserve report:**
 - estimated reserves
 - deliverability
 - , recommendations and cost estimates for further field development
 - four weeks after last well completed