1998 Project

Title: *Principles and Design Method for DWS Well Completions with Segregated Inflows Oil and Water.*

Objective: Determine DWS well completion design principles, methods, and production schedules for given well/reservoir conditions.

Tasks:
1. A method for determining DWS design parameters using type curves and water-cut history matching from offset wells;
2. Identification and prioritization of critical design parameters using sensitivity analysis and mathematical modeling of DWS systems.
3. Development of a software for computing dynamic oil-water profiles for active DWS systems;
4. Formulation of the criteria for sustainable production schedules in the wells with DWS completions: criteria of hydrodynamic stability;
5. Qualitative visual study of active DWS systems using physical models;
6. A theoretical model and software for designing DWS completion/production systems for hydrodynamically stable operation.

Deliverables:
1. A report summarizing basic understanding of DWS system principles and design parameters;
2. An analytical method for a DWS input design based upon water-cut history matching;
3. An VB-Excel computer program for performance estimation of DWS well;