



Project Profile Syria, 2008



- Target** Ground Water exploration
- Country** Syria, UAE
- Regions** Ddeserts
- Areas** Study area located in the Central desert situated at an elevation of 50-120m and covered extremely dry soil, sandy dunes are common
- Client** Private companies



GEOLOGICAL OBJECTIVES

Expected aquifer depth of about 22 to 40 m and groundwater flow will be effective only in the case in which the top of the clays (the impermeable substratum) rest at a lower elevation.

SCOPE OF SERVICES:

Integrated set of three TDEM –IP electromagnetic methods has been applied

I- Induced Induced Polarisation

II- Second Seismo Ecectrical Effect

III- Induced Polarisation

TECHNIQUES

Dipole Receivers array – 1300 м

Symmetrical Source line- 400 м

Record length – 15 sec

Fold - 40 (5x8)

RESULTS

HREM survey was used to accurately determine the depth to the top of clay seal. Totally 3 different layers were detected, with decreasing resistivity from the surface to the bottom.

To get a clearer view of the results, an EM section was constructed using IIP and SSEF techniques.

The section includes results of all tree methods.

A comparison of the stratigraphic data with the EM geophysical model has shown an excellent agreement and assure that HREM method was able to resolve the depth of clays, with negligible error.

Three well have been drilled with successful result but previous wells in different location (even in the order of a few tens of meters) provided negative results. Thus, HREM technique contributed to save money and time by avoiding the drilling of dry wells.

