



## Development & Prospectivity Assessment – UAE

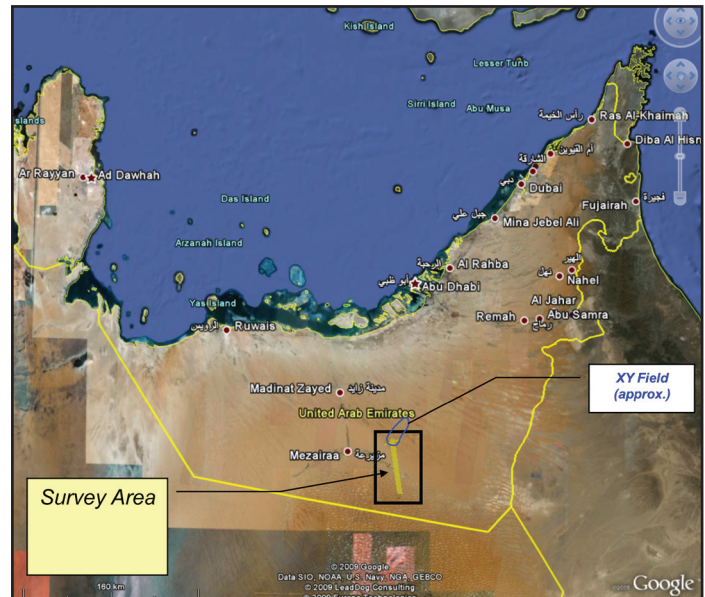
### Introduction

The survey is located about 155 km SSW of Abu Dhabi city in the south central United Arab Emirates (Figure 1). A giant oil field produces high API oil with gas and condensates from several Lower Cretaceous-age (Thamama Group) carbonate reservoirs. The goal of the survey was to demonstrate the ability to image the existing field and to assess hydrocarbon prospectivity over several unidentified leads located somewhere along a narrow fairway.

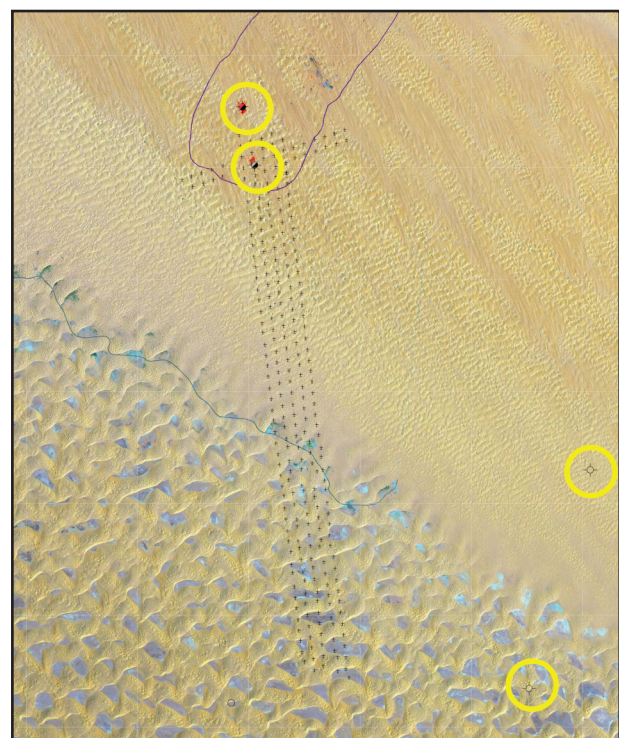
### AGI Survey

270 grid samples were collected from five parallel transects oriented more or less N-S. Transects were 1 km apart and extend for a length of about 50 kilometres. Along each transect, grid samples were spaced at intervals of 1km. Samples were also installed along two parallel transects aligned more or less perpendicular to the main transects. These latter two transects were located so as to cross the SW and SE margins of a large oil field and extend “off structure”.

Model calibration data was acquired from several analogue sites, including two producing wells from the field and two background wells devoid of preserved hydrocarbon accumulations (Figure 2).



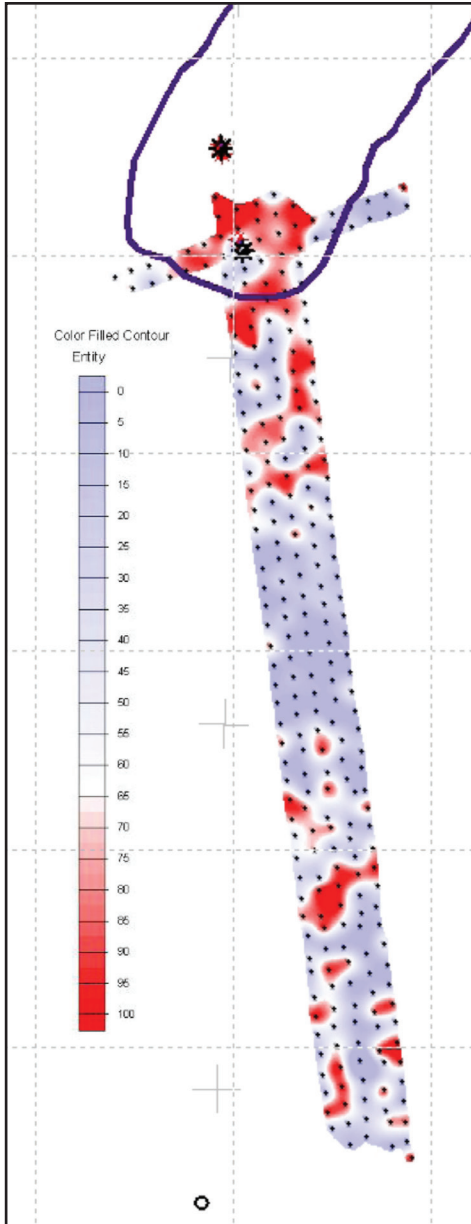
**Figure 1:** Survey Area with oil field boundaries shown.



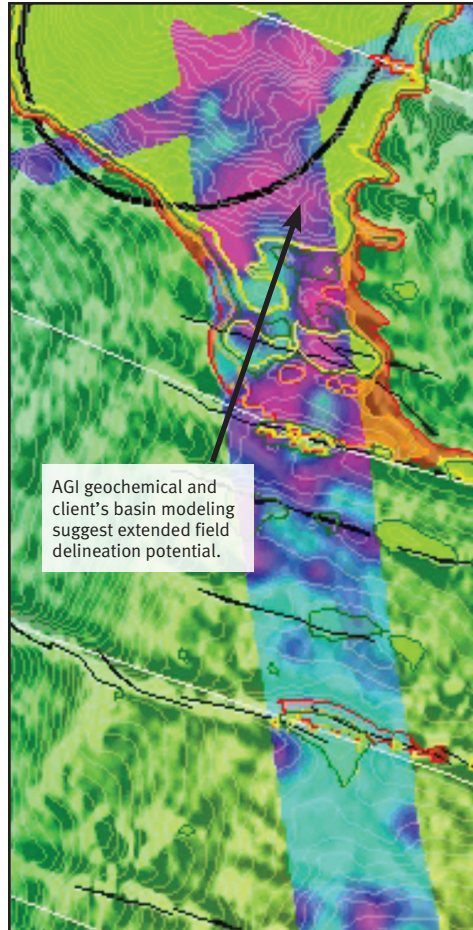
**Figure 2:** Survey Layout & Model Well locations (circled).

#### **Survey Summary:**

- UAE - development & prospectivity assessment.
- Existing field producing high API oil plus gas and condensate.
- 270 AGI Module grid samples installed.
- Four (4) model calibration sites (two producing wells and two non-producer background wells).
- Reconnaissance sample spacing of 1 kilometre in a 4km x 50km fairway.
- Mapped existing field boundaries.
- Identified field extension to south.
- Identified unprospective area and several potential small leads.
- Results consistent with client’s basin modeling.
- Sample acquisition and signal content was unaffected by variations in terrain (dune sand and salt sabkhas).
- Survey area characterized by gently rolling dune sand desert in north and high dunes and sabkhas in the south (see Figure 2).



**Figure 3:** Predicted Gas and Condensate probability distribution (Note: values represent percent similarity of signal to the gas/condensate model site analogue).



**Figure 4:** Client Basin Model.

**Basin Model/Seismic Overlay:**

- Green depth map with edge filter applied (enhance fault visualisation).
- Yellow, Orange and Red polygon (with green fill): Basin modeling results taking into account different fault sealing capacities.

**Survey Results**

The survey imaged the known field limits and identified possible hydrocarbon charge beyond the known southern boundary (Figure 3). This result was consistent with client’s basin modeling (Figure 4), confirming its utility in development applications.

In addition, the central third of the survey fairway was predicted unprospective for analogous hydrocarbon charge, whereas the southern third of the fairway revealed evidence of prospectivity that could not be resolved at reconnaissance sample spacing. These results were also in agreement with the basin model and demonstrate utility in predicting prospective and non-prospective areas, thereby focusing exploration activity where it is likely to achieve the best results.