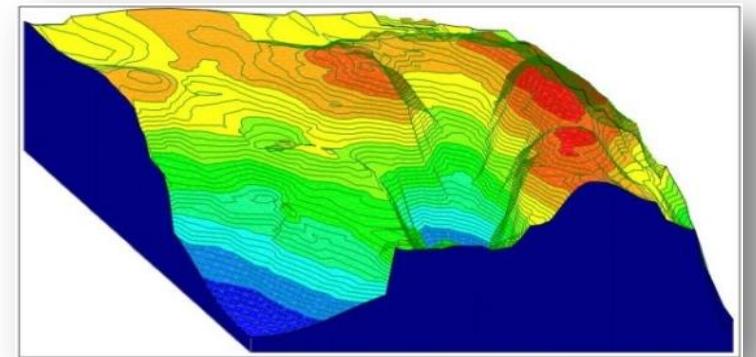




Exploration and Prospects Generation

Target Exploration Consultants has in addition to geological and geostatistical exploration and ranking software, several non-exclusive reports and publications of HC prospects generation and New-ventures studies of concessions, areas and basins in several countries. Recently Target ECL utilised an in-house geothermal gradient mapping and analysis software ([CGG-ESTI©](#)) to generate geothermal energy prospects in addition to exploring for missed and bypassed Hydrocarbon traps by using their geothermal anomalies.



Target's Exclusive Exploration Software

1. **E&P-RANK:** An E&P block ranking software developed to rank large number of concessions in one or several basins in single or several countries. Developed while working on assessing and ranking 137 blocks offered in the Libyan round of 2000. Based on Ibrahim's (2000).
2. **CGG-ESTI:** An interactive geothermal gradient analysis and plotting and cross-plotting programme of single well and basin-wide group of wells to identify geothermal gradient/ surface temperature signature of discovery and producing wells, then use the same criteria to identify old "un-discovery" wells in the same area. It is based on Ibrahim's (1986, 1988, and 1994). [Ibrahim, 1994](#).
3. **LOG-AND:** A bundle of interactive open-hole log analysis programmes for porosity/matrix identification cross-plots and Sw% calculation. Based on Bateman and Konen's (1977).
4. **ST-GRTH:** Local (one or a group of structures) and regional structural evolution analysis programme to recognise the onset of maturation, migration against the development of local and regional structural closures. Based on [Ibrahim's \(1981\)](#).
5. **GCA-DM:** An interactive programme that uses combined modified Pixler's (1969) and Whittaker and Sellens (1987) methods. It lists drilling mud Gas Chromatographic readings, converts and lists them as gas ratios. Then interactively interprets the Gas Ratios using both methods for potentially productive oil, gas zones in matrix, fractured-matrix and fracture-dependent reservoirs, and list the results against drilling depths with higher level of certainty.

Missed, By-passed, Under-estimated and Un-drilled Hydrocarbon Traps in Mature Basins

Global hydrocarbon exploration records attest to many early "dry holes" or "dry" anomalies becoming hydrocarbon producers or oil fields with advancement in seismic, logistics, exploration, drilling and/or production methods. Wells classified as "dry holes" at completion dates, then proved to be producers at later dates could be described as "[un-discovery wells](#)".

Our **CGG-ESTI** Software has been used to locate Geothermal Gradients Anomalies of HC Entrapment in the Southern North Sea, Middle East and North Africa Basins and unpublished studies of other oil basins. [Click title for details.](#)

Geothermal gradients of hydrocarbon bearing basins dictate the subsurface depths of its hydrocarbons thermal preservation limits, (e.g. the depths and thickness the oil and gas windows.

There are thousands of BHT readings that form the inputs for a regional Geothermal Gradient map that provides predicting the temperature realms of deep exploration targets. A correct prediction of the temperature level of deep prospects is an integral parameter of prospect drilling proposal, in order to give a reasonable estimate of subsurface temperatures for the following prospectivity and drilling risk factors:

1. Thermal maturity of known deep Source Rocks.
2. Basin modelling of the times of hydrocarbon generation, migration and accumulation in conjunction with the times of trap formation.
3. Basin modelling of the thermally modified porosity and permeability of the targeted deep reservoirs at the onset of hydrocarbon entrapment, and subsequent times.
4. Basin modelling of the thermally modified sealing properties of cap rocks sealing targeted deep reservoirs, at the onset of hydrocarbon entrapment and subsequent times.

5. Drilling, coring, casing, perforation and testing operations.
6. Preserving Drilling Mud properties and planning the correct Drilling Mud for the proposed well.
7. Logging operations, and log analysis procedures.
8. Predicting the API, GOR and Specific Gravity of the Prospective Hydrocarbons.
9. Thermal alteration and Asphaltene deposition in Producing Reservoirs and Producing Boreholes.
10. PVT calculations and other reservoir engineering calculations.

Target's Nonexclusive Exploration and Prospects Generation and Conferences Publications

1. Petroleum Geology and Hydrocarbon Potential of Western Desert, Iraq, Non Exclusive Report, Target Exploration, London, UK. 75p, 25 figures, 25 enclosures, 10 appendices. [TAR-03](#)
2. Iraq: New-ventures Guide, Exploration Potential, Play Fairways, Oil and Gas Fields and Discoveries, Target Exploration, London, 80P and 28 Maps and Figs. [TAR-4](#)
3. Geothermal Gradient Anomalies of Hydrocarbon Entrapment in Iraq (and adjacent areas in Iran, Jordan, Kuwait, Saudi Arabia, and Syria) Non-Exclusive Report, Target E. C., London, UK, 121 p, 178 figures, 7 enclosures. [TAR-05](#)
4. New E&P Blocks of Onshore and Offshore Libya; Rank, Potential, Undeveloped Fields, Discoveries and Dry Holes (139 Blocks). Target Exploration, 19 P, 56 Maps and Figures, and one CD. [TAR-07](#)
5. Geothermal Gradient Anomalies of Hydrocarbon Entrapment, UKCS Quadrants 35,36,37,38,39,41,42,43,44, 47,48, 49,50,52,53,and 54. Non-Exclusive Report, Target Exploration, London, UK. 60 Pages, 290 Figures and 5 Enclosures. [TAR-08](#)

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Target's External Exploration and Prospect Generation Publications

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