The Caribbean & Central America

New technologies, new geology & new opportunities

CaribX is a private UK registered company headquartered in Marlow, near London, with regional offices in Managua, Tegucigalpa and representation in Kingston/Jamaica, Houston, Singapore and Calgary/Canada. The company was founded by Chris Matchette-Downes (MSc.), co-founder of East African Exploration, Black Marlin Exploration Limited Adamantine Energy Limited and MDOIL Limited. CaribX directors working alongside Chris include Dr Chris Atkinson, founder of Serica Energy plc and Stuart Lawrenson (BA) formerly of Price Waterhouse Coopers.

The CaribX team has studied the entire Caribbean and Central America over the past decade. From this work we have high-graded selected frontier opportunities and submitted exploration applications in Honduras, Nicaragua, Cuba, Haiti, Dominican Republic, Guyana and Surinam during 2010/2013. CaribX is also evaluating several production-related opportunities in the region.

Between 2012 and 2013 CaribX has signed four exploration agreements with multinational E&P companies.

Our unique approach to exploration is possible because of our exclusive access to patented airborne screening technology that combines gradiometry, magnetics and seep detection. Thus we are able to review, comprehensively, vast areas of on-shore and off-shore acreage which then enables us to target the more expensive technologies such as seismic (2D & 3D). This approach also allows early relinquishment of areas of no interest whilst leaving no footprint. The seep data may even be used as an environmental baseline.

CaribX’s approach is strongly steered by petroleum geochemistry referenced to a geological framework and reconstructed plate tectonics. Key to this strategy is the use of biomarkers, stable isotopes data, basin modelling and bulk and optical analysis of potential source systems.

The CaribX team include former CONOCO, British Gas, ARCO, Shell and DEMINEX staff whose combined experience in exploration and development is some 300 man years.

CaribX is fully funded to take on its challenge of acquiring, upgrading and preparing prospects for drilling in all of its areas of interest.
Why the Caribbean and Central America?

In recent years the industry has tended to focus on the more easily explored world-class basins which surround the Caribbean and Central American region such as the Gulf Coast of the USA and northern South America. The Caribbean has largely been overlooked in exploration terms and the region has therefore not benefited from the use of modern exploration technologies or modern geological understanding. In the meantime, the political scene in the Caribbean and Central America has matured, as too has the business environment. Everything is about to change.

It is our opinion that the Central America and Caribbean region is currently in the same position as was East Africa in 2005 prior to the very successful Tanzanian 3rd round and Mozambique’s early success. Most major oil companies have now re-invested back into East Africa, ignoring the old mantra that East Africa was gas prone at best. However, it should be borne in mind that it was the smaller exploration companies such as Aminex, Heritage Oil, Black Marlin, Dominion, etc. who helped to kick-start this return and CaribX is emulating this investment approaching the Central America and Caribbean region to marry CaribX’s technical expertise and extensive knowledge with the financial might of the international oil and gas industry who otherwise would overlook these opportunities.
It is CaribX’s firm view that we must first discover and then understand the workings of any petroleum systems in frontier regions. Without this, there can be no hydrocarbons. When these systems are source rock rich, mature hydrocarbons are usually found in both conventional reservoirs (such as sandstone in onshore Cuba) and in exotic reservoirs such as serpentinites.

Proven hydrocarbon systems are located immediately to the north of the Caribbean in the Gulf of Mexico and to the south along the northern margin of South America from Trinidad, through Venezuela and Colombia. Source rocks are known to exist in the Caribbean, but it is not widely appreciated that they can be widespread and rich. Examples are the emerging tertiary and cretaceous source rocks of the Central American and Nicaraguan Rise region, several of which have been documented for the first time by CaribX. The Cretaceous Cobán Formation are sources of the Guatemalan fields and the south-eastern Mexican fields. The Jurassic Smackover-equivalent supplies most of the oil in Belize. There are natural or drill-related oil seeps and shows in all the Central American countries plus several of the Caribbean islands, for example Jamaica and Saba.

CaribX has studied the palaeogeographic setting of all Central American and Caribbean source rocks and has built a comprehensive understanding of their relationship to the plate tectonic evolution of the region to the extent that it has already successfully predicted regions where source rocks have now been found.
**Investors and finances**

**Projects funds**

Our initial raise enabled the CaribX team to research the entire Caribbean and Central America region and hone in on the sweet spots. Applications have now been submitted for several frontier exploration permits.

CaribX retains several industry respected consultants on a mix of fee and equity, in order to complete the necessary geological, geophysical and geochemical project work during the next phase of work.

The strategic investor-base includes the founder members, corporate and private investors who collectively bring not only finance but also specific skills, knowledge and contacts.

CaribX will continue to raise funds in order to meet its obligations set out in its Minimum Work Programmes in the areas of interest and has ready-access to the financial markets in the UK and Canada.

**Private shareholders** 42.9%

**Corporate shareholders** 57.1%

**Governance**

CaribX (UK) Limited and subsidiaries and associates comply at all times with international anti-bribery legislation, and specifically:


- www.legislation.gov.uk/ukpga/2010/23/contents which came into full legal force and effect on 1 July 2011 and applicable legislation in the countries in which it operates.
Within CaribX’s areas on interest, several trap structures and reservoir types and lithologies are present.

They range from the huge carbonate build-ups such as Isabella and Tyra recently drilled (dry) by Noble and Infinity, the tilted fault blocks of the Atlantic break up margin, large stratigraphic features and basin floor fans, slope fans and channel heads, salt features recognised on both sides of the continent, regional folds and vast anticlines in the Mosquitia basin and other several stratigraphic pinch out features.

The terms generally found in the Caribbean and Central America are generally good and are better than some of those offered in other frontier regions. There are no signature bonuses, low rentals and cost recovery mechanisms. The graph compares, in approximate terms, the total government-take in the area of interest with other frontier areas and with those of producing nations within the region.

### Terms

<table>
<thead>
<tr>
<th>Country</th>
<th>Resource potential</th>
<th>Target field size</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuba (south coast)</td>
<td>ca 5 (USGS)</td>
<td>20-100</td>
<td>for the offshore, IHS have 6 BBO</td>
</tr>
<tr>
<td>Dominican Republic and Haiti</td>
<td>20-50+</td>
<td></td>
<td>relates to established fairways</td>
</tr>
<tr>
<td>Guatemala</td>
<td>1000 plus (MOME)</td>
<td>50+</td>
<td>/4/20, Xan 81 MMBO 90% of country’s production</td>
</tr>
<tr>
<td>Honduras</td>
<td>100+</td>
<td></td>
<td>BG offshore +1 BBO</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>8.3 (IHS)</td>
<td>100+</td>
<td>Caribbean and Pacific margin</td>
</tr>
<tr>
<td>Panama</td>
<td>50</td>
<td></td>
<td>Pacific margin</td>
</tr>
<tr>
<td>Colombia (Chocó)</td>
<td>ca. 0.5-1.45 (ANH)</td>
<td>100</td>
<td>Son Juan 0.6 (P50), Alonzo 0.850 MBOE, ? mainly gas</td>
</tr>
<tr>
<td>Barbados</td>
<td>2.5 (BA)</td>
<td>100+</td>
<td>2.2 MMB proven</td>
</tr>
<tr>
<td>Guyana</td>
<td>2793 (USGS)</td>
<td>100+</td>
<td>P95 (with Surinam)</td>
</tr>
<tr>
<td>Surinam</td>
<td>2793 (USGS)</td>
<td>100+</td>
<td>P95 (with Guyana), Tambaredo 1,000 MMBOP, ca. 170 MMBOI</td>
</tr>
<tr>
<td>French Guiana</td>
<td>100+</td>
<td></td>
<td>several undrilled structures</td>
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CaribX Projects

CaribX is a specialised exploration company committed to identifying and opening up neglected regions and overlooked assets.

Exploration project areas are selected following an extensive review of available material and any previous drilling activity. Within the areas of interest, CaribX has typically undertaken a potential fields study using satellite gravity tied into published sources, undertaken field work, collected oil seeps or shows and source rock samples prior to submitting an application for acreage.

In Honduras and Nicaragua, CaribX is pursuing the previously established Eocene and upper Cretaceous plays using the results of nearly a decade of in-house knowledge and experience at the eastern end of the Nicaragua Rise for the Jamaican government and Petroleum Corporation of Jamaica.

The same plays are developed in the Dominican Republic, where oil and gas have been tested, and Haiti where CaribX has undertaken extensive studies to understand the country’s future petroleum potential.

In Cuba, CaribX has identified a new tertiary sourced play where oils are much lighter and less degraded than oils found in the northern coastal thrust belt.

The upper cretaceous is an important source rock system in the Trinidad - Barbados areas and both countries are subject to current review by CaribX, as are Guyana, Surinam and French Guiana to the South.
Exploring the Caribbean & Central America

New technologies, new geology & new opportunities

Following a decade of research by CaribX of the Petroleum Geology of Jamaica at the eastern end of the Nicaraguan Rise, supporting the Petroleum Corporation of Jamaica in both rounds, petroleum geochemical and geological projects through the region CaribX has submitted applications to explore Honduras, Nicaragua, Dominican Republic, Haiti and Surinam is actively reviewing opportunities in Cuba, Guyana, Barbados, Guatemala, Trinidad and Columbia.

In the Honduras and Nicaragua area CaribX has signed agreements with major oil companies to determine whether further opportunities would merit further investment.

Honduras

CaribX evaluated the entire Mosquitia basin, both onshore and offshore in the east and interior Tela basin. Oil has been discovered in both basins with flow to the surface recorded in the Moskito basin. CaribX’s initial application area occupied some 38,000 km2 of shallow (< 200 m) water / land areas over the northern half of the Mosquitia basin. CaribX is now focussing on the Sanga Sanga onshore Graben and is shortly expecting to be awarded an exploration license to explore the onshore adjacent to the recently award BG’s acreage immediately to the east. To the south CaribX has made a similar application in the Nicaraguan Moskito basin (as it is called south of the Coco River).

Nicaragua

In addition to CaribX’s application in Honduras, two further applications were submitted to MEM in Managua and petroleum geological and
geophysical studies are ongoing to high grade further areas of interest and to support the current applications.

**Dominican Republic and Haiti**

CaribX has reviewed exploration data stretching back to an early phase of minor production in the region and is in ongoing dialogue with both the administrations to survey Hispaniola in order to high grade areas of interest.

**Cuba**

CaribX has identified a new play fairway than is very much more attractive that the Heavy Oil belt of the NE coast of Cuba. Light oil has been recorded in rudist debris on the flanks of large mounded features. Several of these Mid Cretaceous features have been mapped by CaribX. The size and modest depth to target warrant further attention and an exploration licences is being sort and potential partner agreements signed.

**Trinidad**

We have assessed several opportunities through CaribX’s Port of Spain representation and subsequent economics analysis and are ready to acquire producing properties with significant upside with the view to balance our exploration portfolio with production income.

We can bring several technologies and skills to Trinidad to both improve recovery and augment reserves through near field exploration (both vertical and aerially). To date limited science has been applied to exploration so there is much more to be discovered and produced. CaribX will bring Heavy Oil recovery technologies, specialist drilling capabilities and behind the casing technologies as well as full spectrum of exploration capabilities.
Exploring the Caribbean & Central America

Barbados

CaribX has signed an agreement with an exploration company and will shortly be submitting a joint bid to explore the more oil-prone part of the offshore. Onshore Barbados produces some 2,000 bbls a day, but the fields are small. Larger features in less tectonically disturbed areas are likely to hold significant quantities of hydrocarbons.

Guatemala

CaribX have reviewed several opportunities in this region which are on hold at present.

Columbia

CJMD was involved with initial discussions between Jamaica and Columbia regarding the Joint Zone of Authority on the Nicaraguan Rise, studies the Magdalena Basin and more recently reviewed production opportunities in the onshore. CaribX has good connections with ANH both through its Houston office and from earlier activities in the region.

Other

CaribX has reviewed the petroleum geology all of the Caribbean and Central America and has filtered out much, but keeps a close eye on future opportunities, in the regions high graded by CaribX future opportunities.
Our Health, safety & environmental mandate

Our HSE Management System provides the framework for managing HSE issues and business activity throughout the organisation and ensures:

- Clear assignment of responsibilities;
- Excellence in HSE performance;
- Sound risk management, planning and decision making;
- Efficient and cost effective planning and conduct of operations;
- Legislative compliance throughout all operations;
- A systematic approach to critical business activities; and
- Continuous improvement.

Our EHS Management System is based upon a goal setting philosophy and not a regimented and prescriptive approach to operations and business activity. It is aimed at establishing certain performance expectations that also honour CaribX (UK) Limited’s vision and business strategy.

The objective of our HSE Plan is to define and document the application of the HSE MS for a specific project such as a seismic survey, drilling operation). Each individual plan covers:

- Responsibilities Organisation
- Targets and objectives
- Risk assessments
- Emergency response arrangements
- Environmental Assessment
- Incidents and Accidents
- Audit Plan
- Close Out
Exploration technologies employed by CaribX

Exploration technology

Frontier areas with no obvious production do not attract oil company investment and with no investment there is no production. Large areas of the planet have been by-passed and will remain so until the cycle is broken - as it was by the small independent companies in East Africa (such as EAX).

These under-explored basins are vast. CaribX’s offshore approach is to high-grade targets using a unique patented system combining airborne seep, magnetics and gradiometry, and then follow this with targeted seismic and drilling technologies etc.

Our approach is therefore efficient and cost-effective.

Onshore technologies

Satellite data and spectral analysis: are used followed by GoreSorber™ and geochemistry to high-grade areas.

Production technology: near-field exploration and reserve augmentation exploration technologies are used, some of which are unique to CaribX, having secured agreements with a specialist drilling group with expertise in horizontal drilling, multilaterals, coiled tubing, under balance drilling and heavy oil technology.

Petroleum geochemistry: is the key to the Caribbean, as it was for Africa, to determine the presence, location and character of the source rocks. CaribX’s work to date has unidentified the four main, regionally extensive source systems - upper Jurassic, Cretaceous Siuna and Chortis oil families and upper Cretaceous La Luna formation and equivalents. We have collected and analysed oil and data from Cuba, Dominican Republic, Jamaica, Belize, Guatemala, Costa Rica, Panama, Honduras, Nicaragua, Venezuela, Trinidad, Barbados and the Dutch Antilles.

Satellite technologies: we have access to airborne seep detection technology that is more accurate for the offshore than conventional SAR (side aperture radar).
**Exploration technologies employed by CaribX**

**Onshore technologies**

**Seepfinder™**: is an airborne technology that covers around 1000Km a day, surveying large areas for high-end exploration activities. CaribX has exclusive access to this technology in the greater Caribbean region. Aeromagnetic and gradiometry data can be collected at the same time.

**Seabed coring**: and subsequent analysis (conventional and/or GoreSorber™) may then be used to ground-truth these anomalies or as in the case of the Bandon discovery, drill a well.

**Magnetic data**: Our technology indicates the presence of faults and migration pathways.

**Gradiometry**: allows us to shift rapidly through vast frontier regions in a way that no other oil company has or can do. It will open up neglected and dismissed areas and high-grade previously under-explored areas at a reduced risk, a fraction of the cost and increased return. It leaves virtually no environmental footprint.

**Gore Sorber™**: detects hydrocarbon microseepage Aliphatic and Aromatic hydrocarbons up to nC20 to include Pristane, Phytane and Methyl Phenanthrenes.

**Other technologies**: We maintain links with specialist service companies, universities (Newcastle, Leicester, Plymouth, University of the West Indies, Kingston, Jamaica) and specialist groups providing such services as: 2D & 3D seismic (marine, transition and land), basin modelling, palynology, biostratigraphy, optical petrology, stable & radioactive isotope analyses, structural geology, reservoir geology, reservoir engineering, economics and reserves evaluation.

Our technologies merge easily with seismic and other data, such as regional well logs, to give a clear picture of both shallow and deeper targets. It provides a strong, 3D image quality, detailed dataset.
The CaribX team is a select group of industry respected exploration geologists and geophysicists - the key CaribX members are:

**Chris Matchette-Downes - Founder & CEO**

Chris has been in the O&G business for over 30 years, including BP, BG and BMEL. A petroleum geochemist, Chris is well-respected for work done in East Africa and in the greater Caribbean region. He is a renowned expert and often speaks at international conferences and seminars on the subject of O&G exploration. In addition, he has a track record of finding and securing exploration opportunities.

**Chris Atkinson - Co-founder and E&P Director**

Chris is ex Shell, ARCO and founder of Serica Petroleum plc. He provides both drilling and frontier exploration, advice, support and direction.

**Professor Simon Mitchell, University of the West Indies**

Simon has studied the Caribbean Cretaceous for 25 years and provides valuable understanding which complements our Caribbean oils review and allows us to focus on likely targets.

**Nick Cameron (C) - Exploration advisor**

Nick Cameron has been a consultant geologist since 1993. He maintains a regular client base and works on a selective basis to include Guyana, Suriname and Jamaica.

**Dr. Phil Roach (C) - Geophysicist**

Phil has over three decades of geophysical exploration experience including senior positions with Shell, ERC, PGS, Atlantis, Candax, Adamantine Energy and Oyster through which he has honed his exploration skills and is consummate global explorer.

**Chris Rivett-Carnac - Co-founder**

Chris, initially a geologist, has spent 30 years generating plays and projects, funded through industry farm-outs, private placements, public companies and IPOs. Chris has discovered several hundred million barrels of oil.
Caribx team

Alan Jessop (C) - Interpretation geophysicist

Alan has a proven track record of finding oil and gas in Africa, Europe, the Middle East and South East Asia. He has taken areas from first seismic to successful drilling and appraisal, controlling all aspects of geophysical work and management.

Dr. John Milsom (C) - Potential fields specialist

John is a geologist/geophysicist and now independent geophysical consultant to the mining, engineering and oil industries on projects in the UK, Canada, Africa and Australia. He is a seismic interpreter and a gravity and magnetics specialist. Projects in the Caribbean include those in Jamaica, Cayman and the Dominican Republic.

Stuart Lawrenson - Co-founder

Stuart is an accountant qualifying with PwC in 1986, then moving into industry as FD and MD of various large businesses. Stuart brings process, structure and financial discipline to the team.

Consultants

CaribX can draw on the expertise of specialist consultants in the countries of operation, Gore-Sorber™, Oilsearch plc (seep, magnetics and gravity/gradiometry) specialists, heavy oil specialists and drilling expertise.
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CaribX also has representation in
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