

July 2017

AGI AND ANCAP ARE PLEASED TO ANNOUNCE A MULTICLIENT GEOCHEMICAL STUDY FOR OFFSHORE URUGUAY

OBJECTIVES:

- Establish the presence of a working petroleum system
- Evaluate the geochemical response for petroleum phase indications

SCHEDULE: Offshore work completed and results are now available

AGI and ANCAP have completed a sea bottom sediment geochemical study as part of an offshore environmental survey by ANCAP.

The primary objective of the survey will be to evaluate petroleum systems of the area with emphasis on source rocks. This study provides a new perspective on the hydrocarbon potential in the region, supporting both on-going and future exploration.

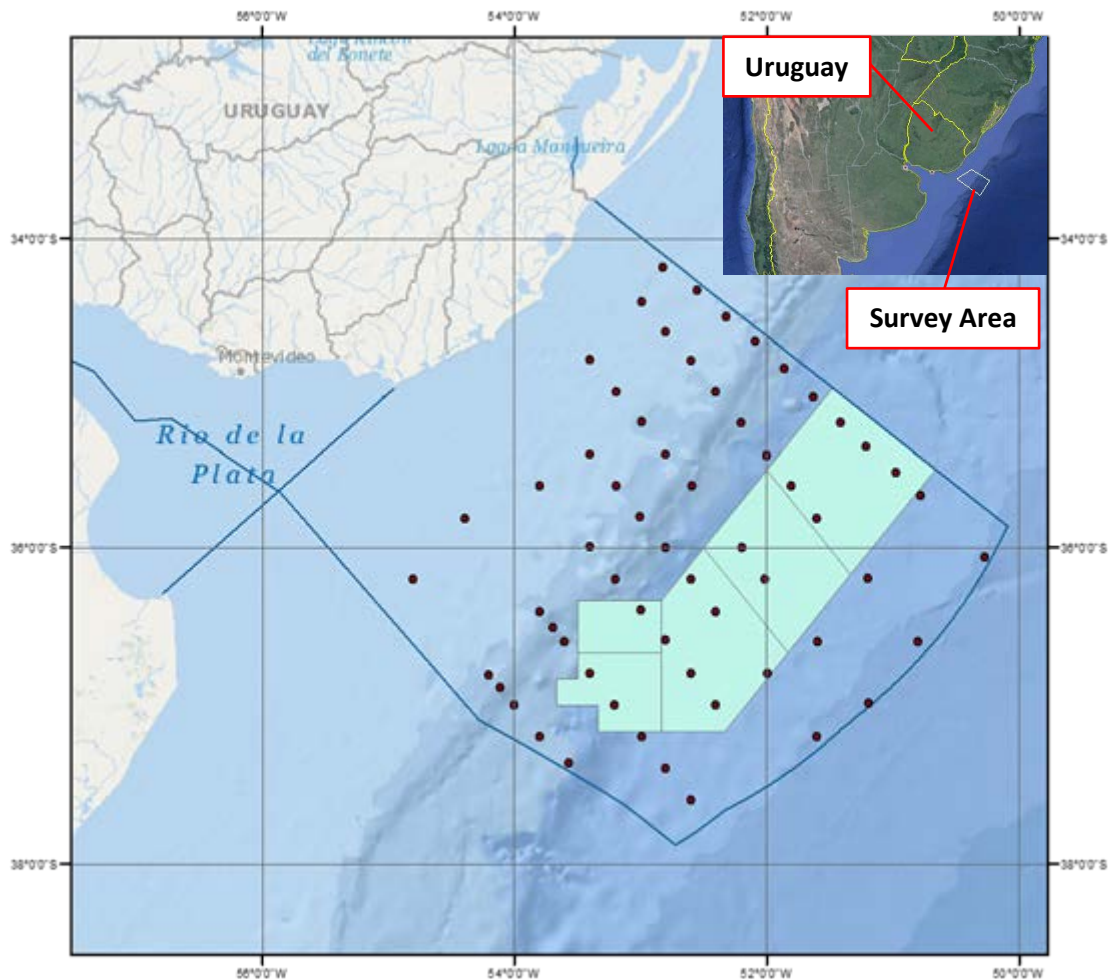
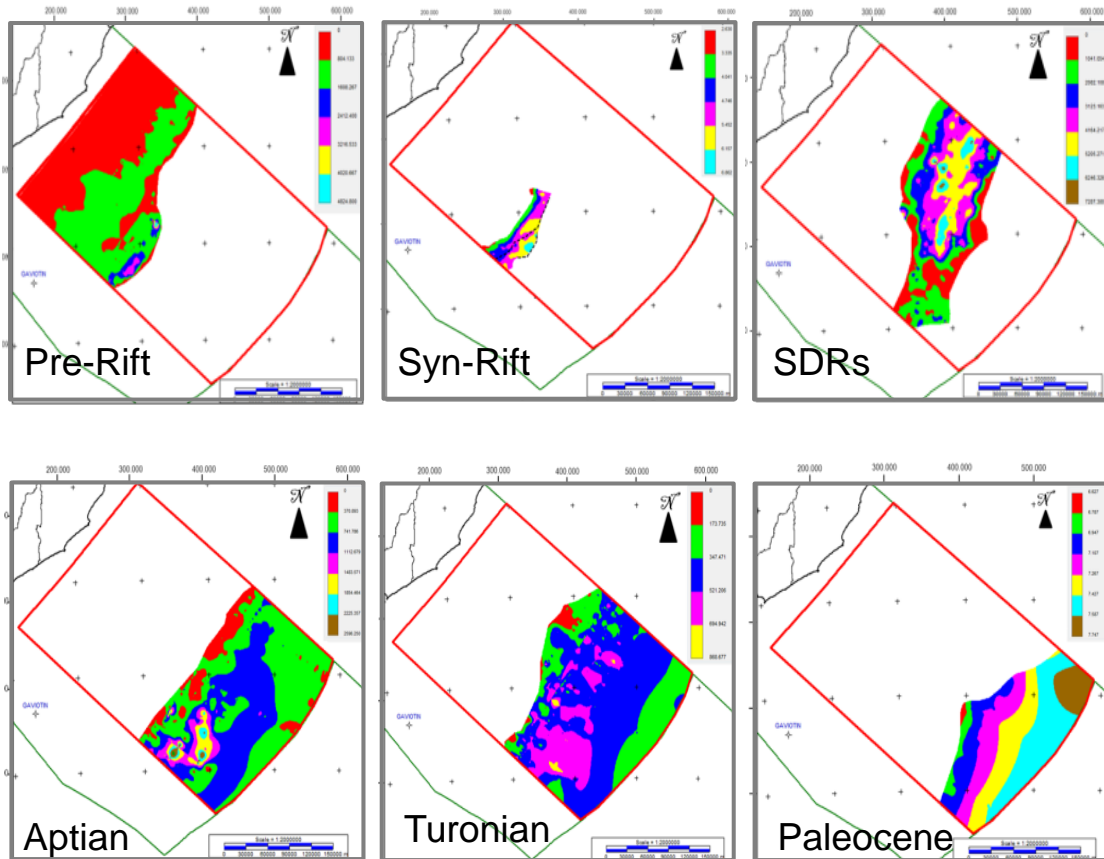


Figure 1. Location Map.

Petroleum systems include:

- Pre-rift: Lower Permian
- Syn-rift: Cretaceous
- Post-rift: Cretaceous/Paleocene

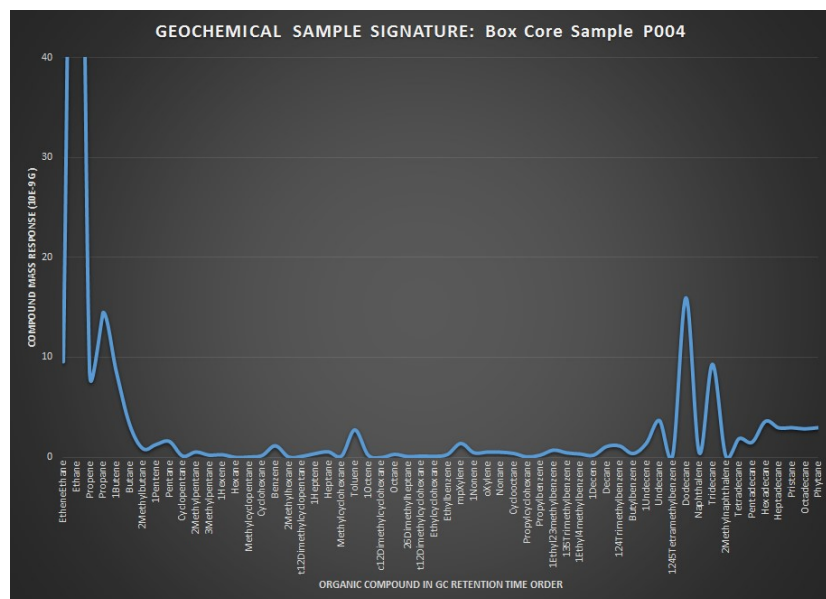
Petroleum Systems-Offshore Uruguay



From: Conti, B. 2015. *Sistemas Petrolíferos especulativos da Bacia de Pelotas (Offshore do Uruguai)*. Master Thesis in Geoscience and the Environment, at the Universidade Estadual Paulista (USP), Brazil.

Background

Site selections were made by ANCAP. The reasoning behind including geochemical sampling into this program is to provide evidence of working petroleum systems and determine the phase of the thermogenic hydrocarbon signatures possibly noted at these locations. The focus of this geochemical investigation was to evaluate microseepage and not macroseepage signatures based on the understanding



that the Uruguayan offshore basins were not “leaky” (in deeper waters). The survey was comprised of seven (7) transects, from shallow (< 20 m WD) to ultra-deep waters (4500 m WD), from which seabed samples were collected. The sampling included fifty nine (59) box core locations along with one (1) gravity core from the sampling stations (Figure 1).

AGI has experience in analysing both conventional cores and box core samples from such areas as offshore Greenland, SE Asia and Norway. Figure 2 is an example from the Barents Sea, Norway where both light compounds (C2, C3) and heavy (C10+) were encountered.

The scope of work included:

Box Corer samples:

- fifty nine (59) surface sediment samples were taken with box corer (sediment thickness 40-50 cm, sampling area 50x50 cm);
- Samples were preserved at – 20°C and shipped to AGI’s laboratory for analysis;

Gravity corer samples:

- one (1) samples was taken with gravity corer
- Samples were preserved at – 20°C and shipped to AGI’s laboratory for analysis;

AGI Sea surface and seafloor sampling

AGI analysed for 86 compounds from C2 to C20, and evaluated the geochemical response from the sediment samples (2 samples per location, totalling 120) collected from this survey with several samples exhibiting a positive thermogenic hydrocarbon response.

Deliverables

Geochemistry reporting will include AGI analysis of all cores to identify hydrocarbons present in the C2-C20 range (and reported in nanograms).

Results to include:

- Compositional data along with total ion chromatogram plots
- Differentiation between positive and negative areas for hydrocarbon presence
- Statistical analyses as appropriate
- One single comprehensive report

Standard acquisition reporting deliverables will be available.

AGI Sampling

- Complements other core analyses
- Use as cores/box samples collected or on frozen or stored cores/box from other excursions
- Directly measures actively migrating hydrocarbons
- Define petroleum phase: gas, condensate, oil
- Delineate type and source
- Can define reservoirs, field limits and areas of missed pay depending on survey design and sampling resolution



Airbus Defence & Space Offshore Oil Slick Database

AGI is an authorized Reseller of the Airbus Defence & Space Global Seeps Database. The database contains over 25,000 potential seepage slicks identified, including slick source points, slick vectors, probable slick type and confidence levels. Global Seeps screening uses satellite data acquired over the ocean to detect any oil slicks that may be present on the sea surface. The imagery is interpreted to identify slicks which may be sourced from natural seepage from hydrocarbon reserves.

When oil leaks from a reservoir under the sea floor, small oil coated gas bubbles travel up through the water column to the sea surface, where they form a very thin film on the water. This film can then be detected on satellite imagery and mapped, providing the data is collected under the correct weather and ocean conditions (Figure 3).

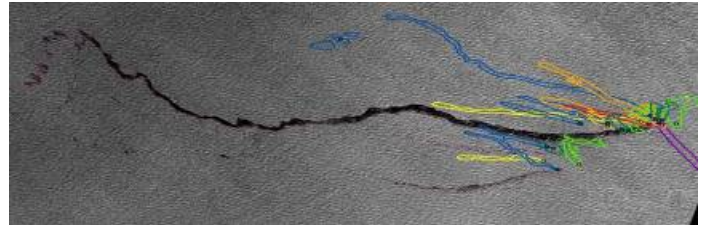


Figure 3 Example Repeat slick mapped on 6 dates of imagery

Figure 4 below shows the location of the Global Slick images available for the project area. Some of these images do contain possible surface slicks and correlations between the Airbus and AGI data have been observed.

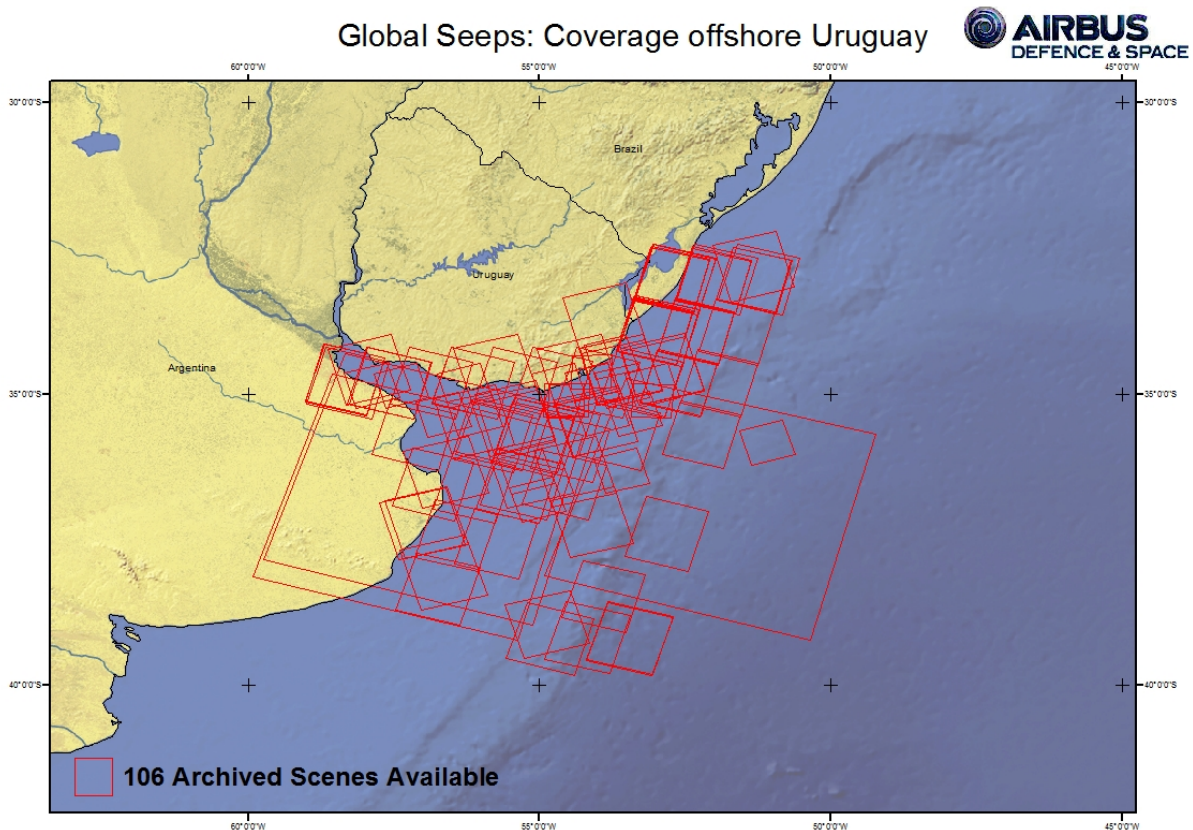


Figure 4 Offshore Uruguay Global Seep Coverage Showing Image Locations



AIRBUS

Purchase Options

Please contact AGI for the single company prefunding and funding fees for this surface and seafloor sampling project. There are three purchase options available:

Option 1

- Combined AGI Geochemical report and the Airbus Defence & Space Global Seep database for offshore Uruguay.

Option 2

- AGI Geochemical report.

Option 3

- Airbus Defence & Space Global Seep database for offshore Uruguay.

Contacts

Amplified Geochemical Imaging

Rick Shrynemeeckers
Business Development Manager
Tel. +1-281-782-8914
schrynemeeckers@agisurveys.net

Mark Arnold
President & CEO
Tel. +1-303-952-4208
arnold@agisurveys.net

ANCAP

Pablo Gristo
Geociencias, Gerencia Exploración y
Producción
Tel.+(598 2) 1931 int. 2105
pgristo@ancap.com.uy