



Geología Regional y Prospección

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Geología Regional y Prospección

For over 20 years, we have been providing integrated consulting services for mining, oil & gas, renewable energy, environmental studies, and risk management, combining technology and sustainability

About us

We are a highly skilled, multidisciplinary team of natural resources and energy specialists. We provide advisory and consulting services for mining, hydrocarbon, and renewable energy projects, as well as environmental and aquifer studies, and risk management.

Our goal is to integrate the concept of economic development and environmental conservation into every project within a framework of viability and sustainability. Through the use of cutting-edge technology and sustainable practices, We ensure the success of each project while protecting the environment.

Our Services

We provide comprehensive **Geological and Geophysical Consulting** services, including cartography, remote sensing, stratigraphy, and specialized analyses such as petrographic, petrological, core tomography, and biostratigraphic studies. Our expertise also covers the acquisition and interpretation of key geophysical data, including magnetometric, magnetotelluric, gravimetric, and seismic information.

In the field of **Gas and Oil Exploration and Petroleum Geology**, our work encompasses structural and stratigraphic analysis using seismic data, well logs, and potential fields. We conduct geochemical prospecting, XRD and XRF analysis, and petroleum system mapping. Our integrated approach includes petrophysical evaluation, regional studies, basin analysis, and the critical assessment of technical risk and financial feasibility for exploration and production projects.



Our Services

We deliver **Mining Exploration Consulting** provides comprehensive support, from the technical evaluation of areas of interest and regional geological analysis to the definition of prospective mineral targets. We specialize in risk, economic, and financial feasibility analysis, project mineral reserve scenarios to client specifications, and conduct supply and demand studies for a wide range of commodities.

Our **Technical-Environmental Consulting, Risk Management, Aquifer Evaluation, and Auditing services** include the assessment of soil use, degradation, and salinization, as well as multitemporal analysis of land cover and land use. We conduct recharge and aquifer studies, along with hydrogeochemical and hydrological evaluations for the management and conservation of water resources. Our risk management is focused on the identification, assessment, and mitigation of risks associated with natural phenomena.



Our Services

In the field of **Photovoltaic Energy Consulting, Supervision, and Production**, we offer an integral suite of services covering everything from supply to the operation and maintenance of photovoltaic systems. We deliver turnkey projects, including the supply, construction, and installation of both interconnected and isolated systems. Our comprehensive services encompass topographic surveys, proposals and plant design, land improvement, engineering, structural design, and the installation and commissioning of photovoltaic systems and solar parks. Furthermore, we provide complete solutions for the continuous operation and maintenance of solar plants, guaranteeing optimal performance over time.



Our Value Proposition

Uncompromising Quality

We deliver high-standard results tailored to our clients' specific needs.

Proven Expertise

More than 2 decades of certified experience guiding every project.

Collaborative Sustainability

We build consensus among stakeholders to ensure projects are not only successful but also sustainable and viable.



Detailed Services

01.

Geological Consulting

- Regional geological mapping at various scales.
- Analysis of remote sensing data applied to geology.
- Stratigraphic surveys.
- Facies and paleo-environmental analysis.
- Petrographic and petrophysical analysis.
- Paleontological and geochronological dating, including apatite and zircon fission-track analysis.
- Stratigraphic analysis of drill cores and cuttings.
- Core tomography analysis, and high-resolution 3D visualization and analysis.
- Paleogeographic and palinspastic reconstructions.
- Detailed regional structural analysis.
- Structural section restoration and balancing.

02.

Geophysical Consulting

- Acquisition and interpretation of magnetometric and gravimetric data.
- Acquisition and interpretation of magnetotelluric (MT) data.
- Joint Inversion of magnetotelluric, gravimetric, and seismic data to generate consistent parametric models that enhance the deep seismic image.
- Seismic-stratigraphic and structural interpretation.

03.

Petroleum Geology

- Structural and stratigraphic analysis using seismic data, well logs, and outcrop information.
- Geochemical prospecting, including rock and fluid sampling for analysis (TOC, Ro, Pyrolysis, H-index).
- Determination of source rock and reservoir rock characteristics and qualities.
- XRD analysis of clays within sandstone matrices to determine crystallinity indexes and infer diagenesis ranges and burial conditions.
- Correlation of XRD results with vitrinite reflectance data, combined with apatite and zircon fission-track analysis, to establish a thermo-chronological framework for formations of interest.
- Petroleum system mapping by integrating stratigraphic, structural, geochemical, and fluid models.
- Petrophysical evaluation of reservoir rock.
- Definition of petroleum systems.

04.

Oil Exploration

- Oil exploration project assessment.
- Evaluation of exploratory concepts for unconventional hydrocarbons (Tar Sands and Shale Oil).
- Regional studies and basin analysis.
- Definition of prospective areas and/or prospects.
- Technical risk analysis.
- Economic and financial feasibility analysis.
- Determination of hydrocarbon potential and reserve scenarios.
- Short, medium, and long-term oil and gas supply and demand studies.

05.

Mining Exploration Project Consulting

- Technical evaluation of mineral prospects and areas of interest
- Regional geological studies and structural analysis
- Definition of prospective mineral targets and exploration zones
- Technical risk assessment for mining projects
- Economic and financial feasibility studies
- Mineral reserve estimation and resource scenario modeling
- Commodity market analysis and supply-demand studies

06.

Photovoltaic Renewable Energy Consulting

- Supply, construction, and installation of both grid-tied and off-grid photovoltaic systems.
- Topographic surveys, plant proposal and design, and land improvement.
- Engineering, structural design, installation, and commissioning of photovoltaic systems.
- Plant operation and maintenance.

07.

Risk Management Studies

- Preparation of hazard, vulnerability, and risk studies for mass movements, floods, and torrential floods.
- Integration of risk management into land-use planning.

08.

Technical-Environmental Consulting

- Evaluation of soil use, degradation, and salinization at various scales.
- Groundwater recharge and aquifer studies based on geological assessments, hydrological reconnaissance of critical points, and geophysical evaluation using magnetotelluric and georadar techniques.
- Hydrogeochemical and hydrological evaluation, including assessment of aquifer and recharge zone vulnerability to damage or contamination.
- Multitemporal analysis of land cover and land use to generate thematic digital cartography, measuring area impacts such as droughts, deforestation, watershed degradation, and land misuse. Fundamental tools for Land Use Planning (POTS).

09.

Other Consulting Services

- Socialization activities and prior consultation with communities, including logistical and field support for oil exploration projects.
- Supervision and auditing of oil and gas exploration and production projects.
- Geological studies for civil works.
- Studies for risk management and regional and local planning.

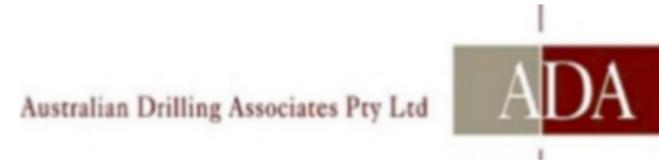


Project Highlights

- CAR Jurisdiction: Monitoring, diagnosis, and zoning of soil degradation due to erosion at a 1:25,000 scale.
- ANH SINU-SAN JACITO: Hydrocarbon cartography and exploration.
- UCOIL LLANAS 2D: Seismic interpretation.
- GUAVIO PZ: Stratigraphy.
- RIO QUEJAR: Unconventional hydrocarbon potential study.
- LETICIA: Geochemistry.
- SGC Sierra Nevada: Geological cartography and mineral exploration.
- Rémora Sumapaz: Unconventional hydrocarbon potential study.
- Minandes Guaduas: Mineral exploration.



Some strategic allies



HytecAltoAmericas





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