



Dear Sirs

We are writing to introduce you to our group of companies, operating under the name **VOLADURAS CARTHAGO, S.L.** in Spain and **GEOTRAVER CHILE** in Chile and also to inform you about the opportunities and services we can offer you in Spain and abroad.

We are a family business specialising in **drilling, blasting, specific drilling for solar farm construction and embankment supports in mines and public works** on all types of land with specialist, high precision machinery for every kind of work.

We are backed up by more than 25 years experience in Spain and internationally, and this has placed us as a leading company in our sector. In the past few years we have done drilling and blasting works at sites as famous as the Panama Canal and Puerto de Granadillas, Tenerife, working with companies like FFC, OHL, Pavasal and Ferrovial, amongst others. We specialise in precision multi-row blasting and bore cutting in marble and aggregates quarries for companies like Levantina de Recursos Mineros, S.A., Mármoles Coto, S.A., Florencio Picó, S.L., Canteras Alpi, S.L., Bolmax, Holcim España S.A, and Áridos Cabezo Gordo S.L, etc..

We work in Spain and Chile drilling piles for solar farms with high daily production rates because of the power and precision of our drill rigs, working with companies such as Soltec, Eiffage Energies, Prodiel, Enerladn Group, Fajardo Energies, Mofer Solar, STI Norland, Axial, Metka, etc.

Our infrastructure enables us to take on works of any volume or complexity with the guarantee of carrying them out successfully and ensuring **QUALITY, PRODUCTION and SAFETY** at all times.

We attach our information pack which gives you further information about our company.

Thank you for your time and we look forward to doing business with you.

Yours faithfully

Signed: Salvador Villada Conesa



SERVICES

We have qualified personnel and machinery that is capable of large output covering a wide range of drilling diameters. All of our equipment has dust collectors and is properly soundproofed, as demanded by current legislation. We also have a technical office that analyses and ensures the quality of the work carried out.

- **SPECIFIC DRILLING FOR SOLAR FARMS (PRE DRILLING)**
- **DRILLING AND BLASTING**
- **MARBLE: BORE CUTTING AND BLASTING**
- **PRE-DRILLING**
- **MICROPILE AND ANCHOR BOLTS**
- **WATER DIVINING AND COLLECTION SURVEYS**
- **BLASTING PROJECTS AND WORK PLANS**
- **PROJECT MANAGEMENT**
- **TOPOGRAPHY OFFICE**

SPECIFIC SOLAR FARM DRILLING (PRE- DRILLING)

Our company owns specialist drill rigs for drilling in various diameters. We use DTH hammer drills and top hammer drills, depending on the drilling diameter.

All of our machines have 3D inclinometers which ensure the proper angle, depth and direction of the drill hole.

We are currently working with our teams on photovoltaic projects in Spain and internationally



WORKS CARRIED OUT OVER THE LAST YEAR IN SPAIN:

- “Los Limonetes” (Badajoz) 50 MW Photovoltaic plant
- San Jorge (Zafra) 24 MW Photovoltaic plant
- “Picon I, II, and III” (Ciudad Real) 140 MW Photovoltaic plant
- Bonete (Albacete) 146.4 MW Photovoltaic plant
- Núñez de Balboa (Zafra) 200 MW Photovoltaic plant
- La Fernandina (Mérida) 50 MW Photovoltaic plant
- Barqueros (Murcia) 50 MW Photovoltaic plant
- La Aljorra (Murcia) 30 MW Photovoltaic plant
- Alarcos (Ciudad Real) 50 MW Photovoltaic plant



- Poblete (Ciudad Real) 50 MW Photovoltaic plant
- Talasol (Cáceres) 250 MW Photovoltaic plant
- Galisteo (Plasencia) 50 MW Photovoltaic plant
- Campanario (Albacete) 50 MW Photovoltaic plant
- Calzadilla B (Bienvenida) 180 MW Photovoltaic plant
- La Vega I y II (Málaga) 86 MW Photovoltaic plant
- Casas de Don Pedro I y II (Manzanares) 80 MW Photovoltaic plant
- Perseo Foton (Manzanares) 50 MW Photovoltaic plant
- Cepheus (Alcañiz) 30 MW Photovoltaic plant
- Vendimia (Almochuel) 50 MW Photovoltaic plant
- Valdesolar (Valdecaballeros) 50 MW Photovoltaic plant
- Oriol (Ceclavín) 80 MW Photovoltaic plant
- Cedillo (Cáceres) 30 MW Photovoltaic plant
- Capricornio (Palencia) 25 MW Photovoltaic plant
- Sigma (Palencia) 30 MW Photovoltaic plant
- El Romeral (Cuenca) 50 MW Photovoltaic plant
- Las Torres de Cotillas 3 (Murcia) 4 MW Photovoltaic plant
- Campanario II, III y V (Bonete) 150 MW Photovoltaic plant

WORKS CARRIED OUT OVER THE PAST YEAR IN FRANCE AND CHILE:

- Finisterrae (Atacama) 150 MW Photovoltaic plant
- Conejo Solar (Tal Tal) 80 MW Photovoltaic plant
- Pratt (Villa Pratt) 17 MW Photovoltaic plant
- Ovalle (Ovalle) 7 MW Photovoltaic plant
- San Isidro (Rancagua) 12 MW Photovoltaic plant
- Quilapilun (Polpaico) 17 MW Photovoltaic plant
- Tecton (San Felipe) 5 MW Photovoltaic plant
- Citrino (Santiago de Chile) 5 MW Photovoltaic plant
- San Isidro (Rancagua) 12 MW Photovoltaic plant
- Chemin de la Massonne, (France) 20 MW Photovoltaic plant
- Orange (Francia) 20 MW Photovoltaic plant
- Linares (Chile) 23 MW Photovoltaic plant
- Capricornio (Chile) 100 MW Photovoltaic plant
- La Huella (Chile) 90 MW Photovoltaic plant
- Catemu (Chile) 12 MW Photovoltaic plant
- Quinantu (Chile) 45 MW Photovoltaic plant
- Panimavida (Chile) 24 MW Photovoltaic plant
- Sol del Desierto (Chile) 230 MW Photovoltaic plant
- Tamaya (Chile) 120 MW Photovoltaic plant
- Tigre (Chile) 150 MW Photovoltaic plant



DRILLING AND BLASTING

Our company has a wealth of experience in the drilling and blasting world, with highly qualified personnel both in handling explosives and in drilling works.

Having complied with the requirements specified in point 6 of ITC 10.3.01 on “Explosives. Special Blasting” in Chapter X of the General Regulations on Basic Standards for Mining Safety, amended by an order from the Ministry for Industry and Energy on 29 July 1994, we are authorised to carry out the following types of open cast special blasting:

- **LARGE-SCALE BLASTING**
- **BLASTING WITH SPECIFIC RISKS**, which may affect inhabited areas or industrial facilities, communication routes, transport systems, water reservoirs and deposits, and hazardous materials warehousing.
- **BLASTING NEAR TO ELECTRICAL INSTALLATIONS**, such as production and transformer centres and electrical energy transport and distribution systems, at any voltage.
- **BLASTING NEAR TO WAVE TRANSMISSIONS**, radio, television, radar or high frequency repeaters.

To achieve this level of expertise, the following, amongst others, had to be complied with:

- **INTERNAL SAFETY RULES** on using explosives.
- **CIVIL LIABILITY INSURANCE** up to an insured amount of **€601,012.01** per incident for any works in the whole of **SPAIN and INTERNATIONALLY**. This covers any kind of risks inherent to our work from ground level onwards.
- **REGULAR USERS OF EXPLOSIVES** in **SPAIN**.



MARBLE: BORE CUTTERS AND BLASTING

Our machines have precision guide drills and 3D inclinometers which ensure the desired boring angles, depth and direction. Using them, we can make precision bores for thread trimming (cutting) ornamental stone (marble).

We also do **multi-row blasting on ornamental stone (marble)** to ensure our works end well.



Crawler drills



Multi-row blasting

PRE-DRILLING

We carry out all kinds of pre-drilling and cutting on different grounds to obtain the quality required.



280,000 linear metres of pre-drilling in the Panama Canal

PROJECT MANAGEMENT OFFICE

This office is in charge of preparing **blasting projects, work plans for quarries, works and quarries project management and explosives traceability**, obtaining the relevant permissions for execution of works, etc.

Due to the diversity of the works and jobs to be done by this office, we have expert drilling and blasting engineers and assistants for the best performance of its duties and higher works efficiency.

Our team of experts gives us great security when coming up against works which are highly specialised and require particular attention to the proximity of buildings, electricity lines, gas pipelines and nuclear power stations, etc.

Vibration studies and studies and checks on static currents, air waves and forward planning are carried out, complying with the requirements imposed by official bodies and we carry out effective monitoring during the execution of works.



TOPOGRAPHY OFFICE

We have a topography office for layouts, interpretation of plans and autosketches, surface measurements, typical sections and volumes, etc.



MACHINERY POOL

FOR DRILLING

- 1 Hydraulic drill Ingersoll Rand ECM-660
- 8 Hydraulic drills Ingersoll Rand ECM-660 III
- 2 Hydraulic drills Ingersoll Rand ECM-660 IV
- 2 Hydraulic drills Ingersoll Rand CM760D
- 1 Hydraulic drill Ingersoll Rand CM780D
- 1 Pneumatic drill Ingersoll Rand ECM-350
- 1 Compressor Ingersoll Rand XP- 900

EQUIPMENT FOR WORKING ON SLOPES AND QUARRIES WITH POOR ACCESSIBILITY

- 2 Pneumatic drills Stecnuick BB-3M
- 1 Compressor (17m³ to 12 kg/cm²) Ingersoll Rand
- 1 Compressor (12m³ to 12 kg/cm²) Atlas Copco XAH-175

SLOPE TREATMENT EQUIPMENT

- 1 Concrete pump Schwing P-305
- 2 Concrete pumps Putzmeister P-715TD
- 1 Compressor C. Holmann C160TS
- 2 Compressors I.Rand VHP-400