



## SITUATION

**The operation was halted because of the existence of communities**

► During the rehabilitation and widening of roads between Bogotá and Girardot, the Ruta 40 Consortium encountered a deposit of approximately 60,000 cubic meters of rocky material scattered across various project areas. To continue with the project, the deposit needed to be excavated. However, one site had communities just 30 meters away from a potential fracture zone, obstructing construction. The client had to remove 20,000m³ from this area within 45 days, while the estimated time with mechanized excavation and a hammer was eight months.

## CHALLENGE

► To propose a non-explosive solution for fragmenting materials and protecting nearby communities.

## SOLUTION

**Fragmentation without the use of explosives**

► Our team has successfully implemented Plasma 4TH® technology, enabling fragmentation without the need for explosives.

**Its benefits are:**

- You do not need any paperwork or licensing to use it.
- Minimal evacuation radius and operational continuity in projects.
- Ensuring safety during the product's manufacturing, storage, transportation, and usage.

**Client:** Route 40 Consortium

**Product:** Plasma 4TH®

**Location:** UF6-7, Bogotá-Girardot Road, Colombia

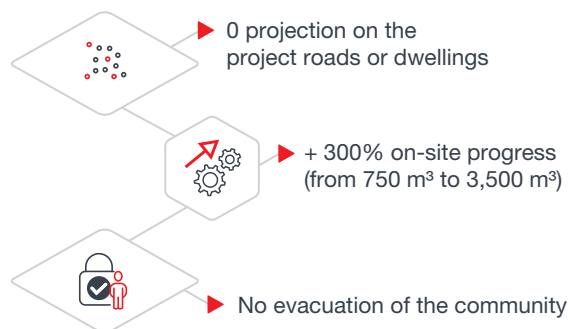
**Application:** Construction

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## KEY FEATURES



## SAFELY FRAGMENTING NEAR COMMUNITIES With Plasma 4TH®



### RESULTS

#### Assisting with a project that has a nationwide impact

► We performed fracking with a 30-meter evacuation radius and weekly removal of 3,500 cubic meters without displacement of residents.

To prevent accidents, a rubber tarpaulin was placed over 300 square meters, including the free face, with a weight of 4 tonnes. It was anchored to the slope using bolts, and 40 sandbags weighing around 25 kg each were placed on the rubber sheeting.

#### The results obtained after fracturing were successful:

- No projections of fragmented material affected the project roads or houses.
- Greater fragmentation and granulometry required by the client.
- Thanks to Plasma 4TH®, the client was able to reactivate the project on all the fronts paused due to the evacuation problems of the community.

### STRONGER BONDS

► We strengthened our relationship with the client by introducing our innovative product, Plasma 4TH®, which delivered exceptional results by fulfilling their needs.

We strengthened ties with the client's communities, building trust and enabling us to continue a nationally impactful project in Colombia.

### CUSTOMER TESTIMONIAL

“ The fracturing procedures yielded satisfactory results, meeting the site and community's needs and greatly improving project progress and performance. ”

José Yecith Carrascal,  
Project Functional Unit Resident Blasting Engineer

### ABOUT US

At Enaex, our purpose is to humanise mining by having a positive impact on all aspects of the blasting process.

We know that life is the most precious thing on the planet. That's why we put people first to ensure the well-being of our teams, our broader communities, and the environment.

With a proven track record of providing the global mining industry with flexible, tailor-made blasting solutions, Enaex is the preferred blasting solutions partner.

- Over 100 years of experience.
- Blasting services across six continents.
- More than 400 MPUs.
- Pioneering the first 100% remote-controlled open pit blast.
- 880,000 tonnes of ammonium nitrate produced annually.
- First underground fully remote-controlled blast.
- Over 7,000 employees.



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