

# CARBONRT GP

## Inert tracer technology for gravel pack applications

### Features

- Inert, permanent tracer that is safe and environmentally friendly—no special equipment, handling, permits or licenses required
- Uniform distribution of tracer within each proppant grain—not a coating— can be manufactured into any CARBO ceramic proppant
- Detected using pulsed neutron logging tools run at standard speeds

### Benefits

- Safe, accurate and cost-effective gravel pack evaluation in cased-hole and open-hole completions in both horizontal or vertical wells
- Detect the top of the gravel pack to evaluate if all productive zones have been covered
- Evaluate proppant pack quality and percent coverage in the near-wellbore region
- Identify presence of voids or channels in the pack that can lead to impaired production through ingress of fines and sand from formation

### Safe, repeatable and cost-effective gravel pack evaluation

CARBONRT® GP inert tracer technology for gravel pack applications has been developed to enable a safe, accurate and cost-effective evaluation of gravel pack completed wells.

The technology is used in cased hole and open hole completions in both vertical and horizontal wells to help you increase production and recovery. The tracer is permanently detectable, so evaluations can be performed and repeated at any time during the life of the well to ensure sufficient pack quality.

### Confirm productive zone coverage

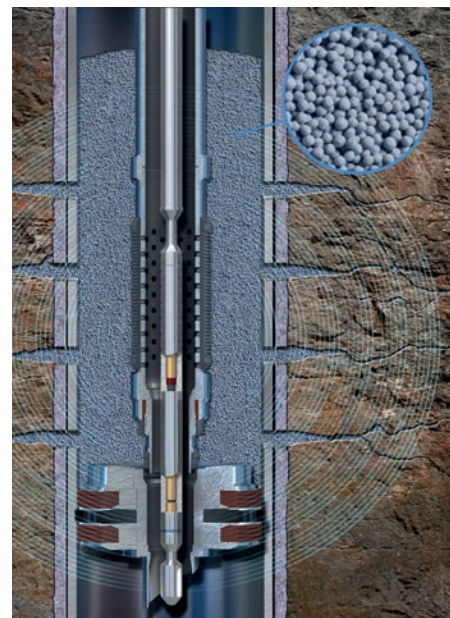
Our tracer technology is used to detect the top of the gravel pack to confirm that the entire productive zone has been covered successfully in the near-wellbore region. Assuring full coverage of the productive zone avoids reduced production rates and enhances recovery.

### Assure gravel pack quality

CARBONRT GP technology allows you to identify the presence of any channels or voids in the pack by directly measuring the location of the proppant in the near-wellbore region during completion operations. This information is used to assess if sand control or other remedial operations are required before a well is brought online.

### Identify fines and sand migration

The technology is used to identify if sand and fines have migrated from the formation into the gravel pack after months or even years of well production. The permanently detectable tracer enables you to perform log evaluations throughout the life of the well to investigate and solve any production issues.



**CARBO**

Production. Enhanced.

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## Uniform tracer distribution for accurate measurements

CARBONRT GP technology is a ceramic proppant that is manufactured with a proprietary tracer uniformly distributed throughout each proppant grain. The consistent distribution of the tracer throughout the gravel pack enables a highly accurate evaluation.

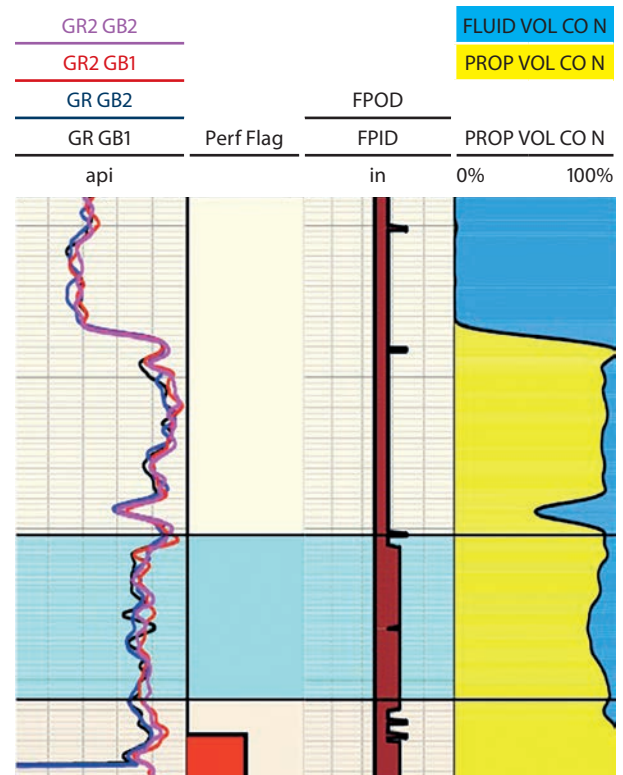
The tracer is integral to the proppant matrix so it cannot be dissolved or washed away, and does not affect the physical properties compared to our standard ceramic proppant.

## High quality evaluation anytime with standard tools

Our unique technology features an inert, permanently traceable material that has a high neutron capture cross-section which is detectable with a standard, pulsed neutron logging tool run. Analysis of the logs result in a direct measurement of where proppant is located, rather than an interpretation.

## Unique evaluation technique and support services

CARBO has developed a proprietary method for evaluating gravel pack completions using our unique, field-proven tracer technology. The technique enables the direct measurement of the top of gravel and pack quality by detecting the precise location of proppant that forms the pack using standard pulsed neutron logging tools. Our team will also provide full support with the integration of CARBONRT GP technology into your gravel pack design including logging recommendations and gravel pack analysis to ensure you achieve your evaluation objectives.



CARBONRT GP enables you to evaluate gravel pack quality and coverage, and identify any voids, channels and fines ingress into the pack.

Talk to CARBO to find out how we can help you enhance your production.

[carboceramics.com](http://carboceramics.com)

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