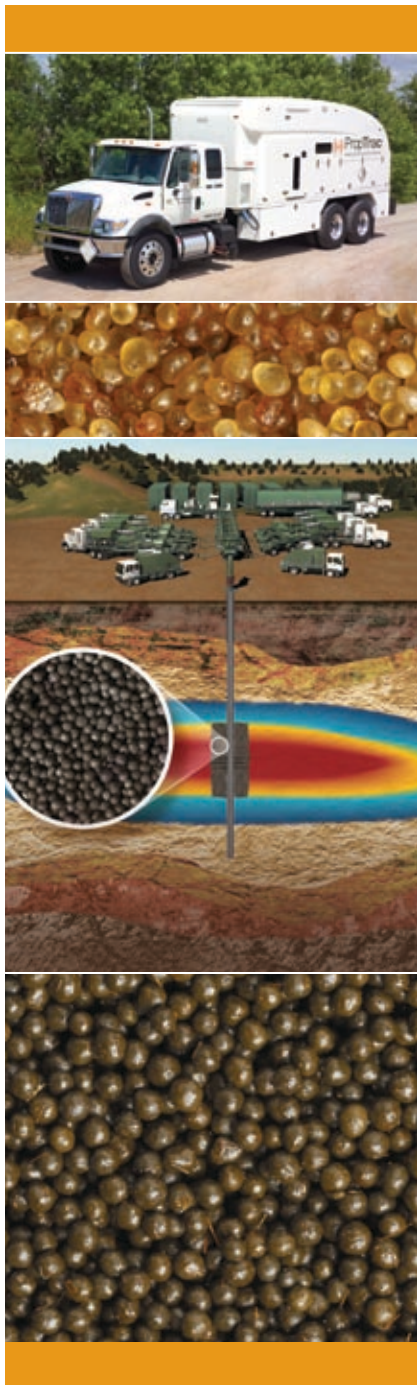




PropTrac Logging System



The Industry's Most Advanced Logging System for Fracture Height Measurements

The PropTracSM Fracture Diagnostics Service provides improved propped fracture height analysis to enhance perforating and fracturing strategy, leading to more efficient completions and increased production.

PropTrac is an alternative to radioactive tracers that offers a variety of additional benefits. It is an easier, safer, and more accurate method to tag and evaluate post frac proppant distribution.

Hexion incorporates a non-radioactive tag into the resin coating of our proppants. Once the well is fractured, the PropTrac logging tool temporarily activates the tag and identifies the precise location of the proppant. Since the tag activation ends quickly, there are no concerns about radioactive materials when continuing well clean-up operations or putting the well on production.

Unlike conventional radioactive tracers, PropTrac can be used repeatedly to log the well; months, even years later to determine which zones were actually propped.

PropTrac Benefits:

- Does not use radioactive materials as in conventional tracer jobs
- No special environmental or safety precautions, permits, or regulatory compliance is necessary
- Logs can be run as often as desired during the lifetime of the well
- Proppants with a built-in, uniformly distributed tagging material in the resin coating provide more accurate results

PropTrac Log and Proppant Evaluation Report

After the well is logged, the Hexion team of scientists and engineers review the data, perform a proprietary analysis, and generate a log plot as well as a comprehensive report for the operator.



PropTrac Logging Tool

Hexion's PropTrac logging tool has been specifically designed to locate the tagged resin coated proppants utilized in the PropTrac Fracture Diagnostics Service. The tool consists of a specialized neutron source with two spectral gamma ray detectors. The tool's detector spacing and electronics are optimized for spectral peak resolution of the proprietary PropTrac tag. The state-of-the-art dual detector system eliminates the extra time and cost associated with extra logging passes and effectively reduces mechanical and lithological interference.

PropTrac Logging Service

Depending on the area, Hexion manages the post-frac logging service utilizing PropTrac certified logging companies or with our own Hexion PropTrac logging equipment and personnel based out of Oklahoma City, OK.

Upper Spectral
Gamma Ray
Detector

Casing
Collar
Locator

Neutron
Source

Lower
Spectral
Gamma Ray
Detector

PropTrac Logging Tool Dimensions and Ratings

Length	37 ft. (11.28 m)
Max. Tool Diameter	2.75 in. (6.98 cm)
Weight	310 lb. (140.61 kg) with Gamma Ray and Telemetry
Max. Pressure	20,000 psi (138 MPa)
Max. Temperature	350°F (177°C)
Min. Csg/Tbg ID	3.5 in. (8.89 cm)
Max. Csg/Tbg ID	9.63 in. (24.45 cm)



PropTrac Logging Truck – Internal View

37' (11.28 m) Length

Note: Tool not drawn to scale. 2.75" (6.98 cm) Diameter

HEXION™

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