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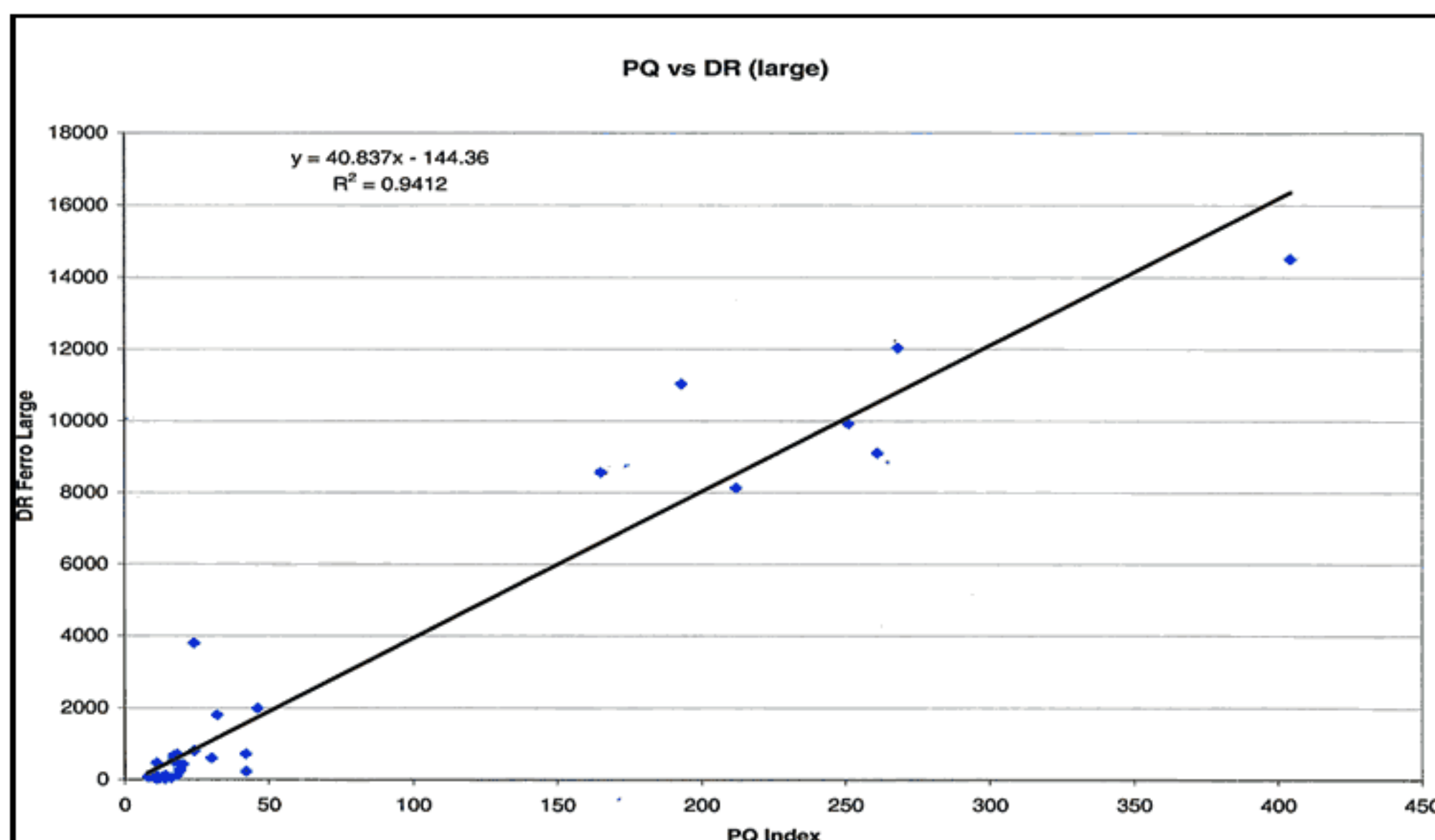
PQ Provides Low-Cost Alternative to Direct Read Ferrography

PQ, or particle quantifying, is becoming an increasingly popular method for measuring concentrations of large ferrous wear particles in used oil samples and, when supplemented by spectrographic oil analysis, such as ICP, PQ provides a low-cost alternative to direct read ferrography for many reasons.

Unlike DR, PQ does not require multi-phase dilution for accurate results. The expense of using chemicals and the hazards of handling them are eliminated. Less material interference reduces both sample preparation time and the probability of human error. Therefore, PQ not only has better repeatability - it makes trend analysis more reliable and costs less.

HOW PQ WORKS

PQ exposes samples to a magnetic field. Those containing ferrous metals cause a distortion in the field, which is represented as the PQ Index, an arbitrary unit of measurement that correlates well with DR ferro large. The PQ90 is designed to monitor trends. It does not provide a ratio of small to large particles as does DR. However, if the PQ Index is smaller than



an FE ppm by ICP, it's unlikely that particles larger than 5 microns are present. If the PQ Index increases dramatically while the ICP's Fe ppm remains consistent or goes down, larger ferrous particles are being generated and further testing or diagnostics would likely be recommended.

WHAT PQ CAN DO FOR YOU

PQ is a very inexpensive way to regularly screen samples for ferrous metals and provides adequate information for recommending further testing on those

determined to be problems. By far, it is considerably more thorough and cost effective to do PQ on a regular basis and run analytical ferrographs on samples with potential problems than it is to run a DR on EVERY sample.

In our continuing efforts to provide our customers with reliable, cost-effective oil analysis, POLARIS Laboratories will replace DR with PQ January 1, 2004, unless DR is specifically requested. These requests and any questions may be directed to POLARIS Customer Service at (317) 808-3750.