SUMMER 2005

Your News Source For Semiconductor, Environmental, Chemical and Lubricants

PerkinElmer News

PerkinElmer®
precisely.

Semiconductor

DRC Technology Crucial for Performing VPD Analysis at Balazs™ Analytical Services 2

ELAN DRC Installations in Semiconductor Laboratories 3

Handing Off of the Baton 4

Environmental

ELAN DRC Taking Applied Speciation and Consulting, LLC into the Next Generation. 5

Chromera Sets the Standard in Speciation Software 6

WEEE/RoHS 7

PerkinElmer GC Systems Used to Monitor Air Quality 8

TurboMatrix Headspace Trap Analysis of Volatile Organic Compounds 9

Chemical

Sulfur 10

PerkinElmer and Arnel, Inc.- The Perfect Combination for the Best GC Separation. 11

Lubricants

A Better Way to Analyze Fuel Diluents in Lubricating Oils 12

Indy Racing League Update. 13

Special Interest

Das Schlosz der Hohenzollern (Sigmaringen Castle) 14

DRC Technology Crucial for Performing VPD Analysis at Balazs™ Analytical Services

The removal and control of metallic contaminants on the surface of silicon wafers, is an extremely important aspect of the semiconductor manufacturing process. During this high-temperature process, metals can diffuse rapidly into the silicon substrate and cause undesirable changes in the wafer's electrical characteristics, affecting both the performance and yield of the manufactured devices. In fact, as little as 108 atoms/cm2 of metallic contaminants on the surface of a silicon wafer can adversely affect manufacturing yields and increase device failure rates.

The most common approach used to measure these contamination levels is called Vapor Phase Decomposition, better known as the VPD technique.

> *Continued on page 2*

ELAN DRC Taking Applied Speciation and Consulting, LLC into the Next Generation

ICP-MS has gained popularity over the past twenty years, based mainly on its ability to rapidly quantitate at the ultratrace metal contamination level. However, in its basic design, ICP-MS cannot reveal anything about the metal's oxidation state, alkylated form or how it is bound to a bio-molecule. The desire to understand in what form or species an element exists, has led researchers to investigate the combination of chromatographic separation devices with ICP-MS.

> *Continued on page 3*

PerkinElmer and Arnel, Inc.-The Perfect Combination for the Best GC Separation

About the time that Microsoft® released MS DOS 5.0™ (1991), PerkinElmer and Arnel signed a cooperative engineering/marketing agreement to provide high-quality, reliable, turnkey solutions to the analytical community. This agreement brought together the company with the greatest experience in providing commercial GC systems – PerkinElmer – with the company that is globally recognized as the application-specific valved-GC company – Arnel. This agreement encompassed a plan to jointly engineer and market complete systems and guaranteed solutions that met industry standards and requirements.

> *Continued on page 11*

A Better Way to Analyze Fuel Diluents in Lubricating Oils

From a fairly early age, most of us learn that there are certain things that are best not done. As a kid, I soon caught on that trying to retrieve my dropped candy from the neighbor's boxer dog nearly resulted in my nick name being changed to Lefty. As I got older, I also was fairly quick to learn that asking my wife if she got a sizeable discount on her new hair style could cause me more pain than could my neighbor's boxer. It could be said that analyzing fuel diluents in lubricating oils by flash-point analysis could fit into the same category as the items listed above. In the hope that time teaches how to do things better, we would like to discuss a new method for analyzing fuel diluents in lubricating oils using gas chromatography (GC).

> *Continued on page 12*