PRESS ARCHIVES: XRF and Jewelry Analysis Don Kloos

National Jeweler Article: NBC Dateline and Underkarating



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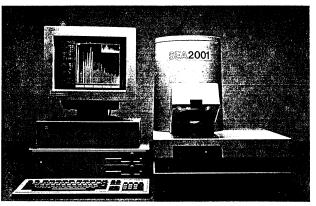
American Jewelry Manufacturer, 1990



GUARANTEED GOLD

SEIKO'S SEA-2001 ELEMENT ANALYZER SAVES MANUFACTURERS TIME, MONEY AND GOLD

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BY LORNA FRANCIS

If you're a jewelry manufacturer looking to protect yourself as a reputable jeweler, look no further--the SEA-2001 element analyzer from Seiko Instruments USA Inc., Torrance, CA, is your dream come true.

The system lets users easily, quickly and accurately assay gold and other precious metals without destroying samples. Previously, jewelers had no way of guaranteeing karat content of gold was greater or less than the tolerance standard required by state and federal law. With the SEA-2001, they are assured that every piece of gold that leaves the factory is authentic.

Introduced last March during the MJSA New York Expo, the SEA-2001 uses x-ray flourescence to analyze the elemental composition of solids, powders or liquids, and automically tests up to 12 samples without operator interference. The unit can also distinguish diamonds from cubic zirconia with absolute accuracy.

The system has a graphic interface that leads specialist and non-specialist alike through the process stepby-step. It then automatically analyzes the sample within five to 20 minutes. It detects more than 80 periodic elements, from sodium through uranium. The element analyzer includes a desktop computer with color monitor and keyboard for controlling the analysis, an x-ray measurement head, a vacuum pump for sensitive analysis of light elements, a power filter and regulator, and a color printSeiko's SEA-2001 element analyzer

er for generating reports. The software that accompanies the system has multiple modes that lead the user through the analysis.

Through the analysis. The SEA-2001 combats fraud, counterfeit, and over or under karating of gold. "What interests jewelry manufacturers is the easy and rapid return on their investment that the SEA-2001 provides by answering karating and process problems," says Don Kloos, manager in charge of the SEA-2001 element analyzer. "Just a savings of five grams of gold a day or the elimination of three fire assays covers its cost. The cost of one ring or other piece lost to a fire assay each day is enough to pay for the SEA-2001 costs a jewelry manufacturer \$70 a day to operate.

The system is priced at \$65,000; Seiko offers a three to five year payment plan of \$1,500 a month for manufacturers interested in installation. The company anticipates shipping two to three systems a month to the jewelry industry.

Seiko Instruments began developing the machine five years ago. It has been on the world market for three years and began selling here a year ago. It is used by 15 jewelers in Japanese department stores, six jewelry manufacturers in the U.S., and a refiner in Canada. Current users include: Michael Anthony Jewelers, Inc., Mt. Vernon, NY; Pace Enterprises, Los Angeles; Stuller Settings, Lafayette, LA; Victor's Three D. Inc., Maywood, NJ; Larter & Sons, Laurence Harbor, NJ; Krohn Industries, Carlstadt, NJ; and Amek Refining Ltd., British Columbia, Canada.

Lawyers are finding the SEA-2001 useful as well. The District Attorney in San Francisco borrowed a system from Seiko Instruments to assist him with pending jewelry cases. Retailers such as Zales, J.C. Penney and Sears Roebuck & Co. are considering using the system. The machine can also be used in the mining, metals, petroleum and chemical industries. Departments such as quality control, receiving inspection, research and development, and process control use sophisciated systems for composition analysis, material sorting and qualitative identification.

Michael Anthony Jewelers began using the SEA-2001 a year ago. The company had been testing gold through the traditional fire assay. "Where gold is such an important factor, you have to make sure that you're giving the right amount," says Anthony Paolercio, executive vice president and chief operating officer of Michael Anthony. Paolercio notes that with the fire assay, manufacturers couldn't rectify problems because the product was already fabricated at that point. But, he admits, "Up to now, you were never able to tell per each individual lot what the karat was at the time you were actually casting the product or pouring it into a bar; it was always after the fact."

Now, the three hour fire assay is a thing of the past for Michael Anthony. Mohamed A. Nazir, the compony's assay technican who oversees the casting room and assay area, remembers, "We did at least 60-75 fire assays a day then. Instead of having three people to do the fire assay, we can have one with this machine." Still, Nazir compares the fire assay with the machine and double checks the gold. He also does a calibration, where he checks the intensity, aperture and energy level of the SEA-2001. "The machine is timesaving, non-destructive and we are cutting expenses – fire assay, chemicals, lead and silver," he says.

Michael Anthony works on \$255,000 worth of gold a day, which translates to 650 ounces of fine gold or approximately 1,100 ounces c 14k gold metal. The SEA-2001 is sav

AMERICAN JEWELRY MANUFACTURER, AUGUST 1990

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ing the company an average of \$1,000-\$1,200 a day. "What we are able to do with the

"What we are able to do is literally melt old scrap, fine gold and the alloy at one time,"

Anthony Paolercio

machine is literally melt old scrap, fine gold and the alloy at one time," says Paolercio. "We wait until the mix is liquid then take tube samples and insert it into the metal and then pull the sample out so the metal is waiting in a liquid state while you're doing the assay."

Paolercio suggests that manufacturers examine what type of volume they're generating before purchasing the SEA-2001. "Anybody that does their own fire assay in house, right now on a daily basis — this machine is definitely for them," he says. "It's cheaper to operate (approximately \$40 per month material cost). You don't use any nitric or any sulfuric acid to dissolve the gold so that there are no fumes or acid to dispose of "

OroAmerica, Inc. Burbank, CA, used the system, but opted to return it. A company spokesperson admits, "the machine was not quite the right thing for us at the time." The spokesperson declined to comment further. For more information on the SEA-2001, contact Don Kloos, 2990 West Lomita Blvd., Torrance, CA 90505; or call (213) 517-7308.

AMERICAN JEWELRY MANUFACTURER, AUGUST 1990

1989 U.S. COLORED STONE IMPORTS UP 17 PERCENT

U.S. imports of polished gemstones increased 17 percent to \$476 million in 1989, according to trade statistics compiled by the U.S. Department of Commerce, making it the second largest polished stone market after Japan. U.S. imports of gemstone rough increased 21 percent to \$59 million.

The largest import category by value was emeralds, with 3.4 million carats, or \$208 million, worth imported last year. These represent respective jumps of 55 percent and 19 percent. Colombia was the most importont supplier of emeralds to the U.S., followed by Switzerland and India.

U.S. imports of sapphire increased 24 percent to \$100 million, a 17 percent increase by weight to 4.1 million carats. Thailand remained the most important sapphire supplier, followed by Switzerland and Hong Kong. Thailand was the biggest source

Thailand was the biggest source of rubies as well, importing 1.7 million carats. A total of 2.5 million carats of rubies were imported in 1989, up 16 percent in value to \$83 million.

U.S. imports of both sapphires and rubies from Israel more than doubled, indicating the growing diversification of the cutting industry there. Sapphire imports from Israel jumped 325 percent to \$4.7 million; rubies rose 142 percent to \$3.8 million.

325 percent to \$4.7 million; rubies rose 142 percent to \$3.8 million. Imports of other gemstones rose six percent to \$85 million. West Germany, providing \$18 million worth of stones, overtook Hong Kong as the most important supplier. Imports from Hong Kong increased five percent to \$17 million.

FULL SLATE OF TOPICS SET FOR SANTA FE SYMPOSIUM

The Fourth Annual Santa Fe Symposium, Sept. 11-14 in Vail, CO, will, offer open dialogue on various research, technology and health issues currently affecting the jewelry manufacturing industry. A partial list of topics includes Manufacturing and Legal Aspects of Gold and Silver Filled Products, Sterling Silver Casting Problems, Surface Finish Effects on Color Measurements, Investment Influence on the Quality of Castings and Metal-Mold Reactions, Treatment of Metal Wastes Using Ozone, and Effects of Metal and Flask Temperatures on Casting Quality.

Registration fees are \$495 before

Aug. 20 and \$550 after Aug. 20; a \$100 deposit will ensure your involvement in the Symposium. The registation fee includes all presentations, lunches and evening receptions over the three days, and a hardbound book of the Symposium papers. For additional information or registration materials, contact the Santa Fe Symposium, 3820 Acade my Parkway North, N.E., Albuquerque, NM 87109; (505) 344-3357.

BEVACQUA HAS DESIGNS FOR HIS OWN JEWELRY FIRM

Joseph Bevacqua always had a strong desire to put his own flavor into the making of a piece of jewelry. After designing a line of jewelry for 20 years with someone else's recipe, he cooked up his own creations under J.A. Bevacqua Designs Inc. Bevacqua is influenced by Man-

Bevacqua is influenced by Manhattan's skyscrapers and his passion for the wind and waves of sailing are evident in his line. But whether he's cruising down the Long Island sound or watching the tide, designing rings is a favorite pastime. "I can use my creativity. I love the design aspect of the industry and the interplay of diamonds and gold," he says. His four ring series, "Skyscrapers," "Worldwind," "Heights" and "Ca-

His four ring series, "Skyscrapers," "Worldwind," "Heights" and "Canal" represent 75 percent of his business; earrings and pendants constitute the remainder. The line is finished in 18k gold with diamonds and gemstones, wholesaling from \$400-\$4.000.

Bevacqua, 45, founded the West



New York, NJ firm with his wife Evelyne seven months ago. He's president and designer; she's vice president in charge of sales, marketing and public relations. Bevacqua's experience in the jewelry industry spans 20 years. He started with Jobel Inc. as artist and manager of product development for three diverse lines. Evelyne has 25 years ex-

More articles continued below,



News

9801) in the form of color

graphs. The graphs resemble mountain peaks, with each al-loy represented by different

colors. The results can also be

The equipment, which was officially introduced to the Unit-

\$74,000, said Kloos. For more

information, contact Kloos at

Seiko Instruments at 213-517-

Retail Forecast

tomer's demands

Continued from page 1

"Who are you going to trust

when it comes to buying a dia-

mond, something most people can't evaluate themselves?" Sweeney asked. "You will

trust the person your parents bought their diamonds from, or

your brother or your friend."

The Playing Field Gets Smaller

· Fewer players. Not all re-

There is too much retai

tailers will make it to the finish

space for the market, too much

copycat sameness among re-tailers and far too much lever-

age on the books," Sweeney cautioned. In the '90s, the retail playing field will be lit-

tered with the wreckage of the

failed business strategies of the '80s. "These conditions

leave no room for marginal performers. By the end of this

decade, more than half of

today's retailers will be out of

business." The next chapter in retailing is likely to be Chapter

going out of business, we will see not only a slowdown in new

retail construction but an actual contraction of total retail

square footage, as unproduc-tive stores are closed and

uses.

is recycled to other

tes six months ago, costs

-Felice I. Mikelberg

printed out, he said.

7808.

line. '

High-Tech Solution To Underkarating

Continued from page 2B

amount of time saved using the Seiko equipment. "Instead of waiting up to six hours for content results from the fire assay method, the new process evaluates the sample in 10 min-utes," said Steven MacDiarmid, advertising/marketing director.

Stuller plans to use the mamine at different stages of proauction, from testing pur-chased gold and alloys for impurities to checking its own gold and alloy combinations to make sure the karatage is correct, said MacDiarmid. Stuller will also be testing its vendors products for karat accuracy, he said. MacDiarmid said that Stuller will probably be doubling its sample tests to 80 a day with the new equipment. Another firm, Krohn Indus-tries, Carlstadt, N.J., purchased the equipment to in-crease its level of production, according to Nick Krohn, vice president. "Previously, we sent our samples out to be fire assaved. Now, we can test the gold content in-house, increas ng the production level,"

Krohn said Having had the tester for almost a year, Michael Antho-ny Jewelers, Mt. Vernon, has eliminated the cost of purchas-ing lead and nitric acid used in fire assays as well as the cost of disposing of the toxic wastes from the lab assay, said Joseph Kastalek, production manager. The only chemical the new machine needs is liquid nitro gen to keep the measuring chamber cool, he said. Michael Anthony has also re-

duced its labor costs because its gold compositions can be adjusted in their molten state, preventing the firm from overor underkarating its product and eliminating the time previously spent adjusting the ka-ratage, said Kastalek. Michael Anthony tests 30 to 40 samples a day, he said. The firm uses the fire assay method only occasionally for double checking the samples, he said. Although the machine is as

accurate as the fire assay method, there are some limitations, Kloos said. "Probably the chief limitation is that a firm needs a uniform standard or sample from which to base its tests, he said. Seiko provides up to nine standards with the equipment, he said. Jim Shigley, director of re-

rs are using the SEA-2001 Element Monitor fro iry supplier their gold. al je a th

sources at the Gemological Institute of America, Santa Monica, Calif., who tested the instrument, said that the equipment does require a skilled technician to operate it. "The skill of the technician can affect the reading," he said, "because a person needs to preprogram the machine with the appropriate karatage. If the techni-cian isn't careful when proramming the machine, the re sults can be interpreted differ For accurate results, most of sample's contents need to be known, said Kastalek of Michael Anthony. 'If someone were to walk in off the street

with a sample and we didn't know what kind of alloys were used, we couldn't program the machine properly, and there-fore the results would not be as accurate," he said. Shipley added that, "because

a nondestructive technique is used, if the sample is gold plated, you are primarily ana-lyzing the surface, which would be read as gold. A skilled technician needs to be aware of the other alloys in the sample for accurate results.

Another limitation is that the quality of the analysis depends on the shape of the object being tested. "The machine works best on a piece of gold alloy with

a flat surface," said Shigley. With the Seiko Element Monitor, the gold testing process takes only a few steps to complete, Kloos said. A sam-ple, in any form, is placed into the measuring chamber, he said. The machine is then pro-grammed with what the alloy percentage should be. The Xanalyzer tests the sampl with a mild level of radiation (less than the amount of radia

tion given off by a color televi sion set), said Kloos. The instrument screens the naterial's composition, identifies the elements in the sample, and within minutes the results are visible on the attached per-sonal computer screen (NEC ca. "The great age of the retail-dominated mall in America faces a fitful demise by the end of the decade," according to Sweeney. New centers will living/working/entertain ment/shopping centers; poorly performing retail malls will be closed and either razed or adapted to different purposes. This will happen through attri-tion, not an immediate wrecking ball, he added. a The death of the m

market. The consumer base is fragmented into thousands of different geographic, ethnic and age segments-and into thousands of specialized niches that exist across different seg-ments. "This splintering of the customer base along with continuing advances in information technology, will write the epi-taph for the mass market," according to Management Horizons. • The return of cu

oyalty. Even though shopping frequency will decline among a large segment of the popula-tion, -customer - loyalty - will grow_among the 35-plus_age These _ mature, _ time poor consumers will become "exclusively destination-store-oriented in their shopping behav ior. That is, people will know exactly what store they want to patronize; it will be their only destination, instead of a browse through the mall, for example. Store preference will replace brand preference

Specialty stores will be "reinvented" to encompass an expanded mix of merchandise. Rather than aiming at a larger customer base, these stores will seek to gain a larger chunk of the shopping budget of a smaller but more loval custom-

• Demise of the discount department store. "The disdepartment store. "The dis-count store as we know it today will peak in the mid-1990s," Sweeney said. Margi-nal players will be the first to go. "Upper-tier discounters" will evolve once more into two or three national or multiregional discounters who will become strictly commodity distributors. They will no longer represent off-price but the price. Some will be trans-formed into specialized mass Less space. With more than half of today's retailers merchandisers or "categor killers

• De se of middle man agement. "Tomorrow's retail organization will be flat, lean

and very decentralized. ac cording to Retail 2000. Some of the factors driving this trend are the shortage of young

entry-level workers and the diversity of consumers, prod-ucts and competition. Each store will need to manage its relationship merchandising relationship programs to suit its unique market requirements. Ad-vanced information technolo---individualized merchandising data bases at store lev-el---will make this possible.

High-Tech, Storeless Shooping

Technology will be the way to gain a competitive edge. High-tech applications will increasingly drive strategy as we approach the year 2000. This will substantially change the way retail business is operated. According to Manage-ment Horizons, with more and more automated functions executives will have better and more timely information avail-able. Artificial intelligence will find applications in inventory management, mark-downs merchandising and time sched-

uling.∵ Storeless - shopping - (nonstore shopping) will command larger shares of almost all consumer markets by the end of the '90s because it offers more convenience, and, in many cases, it will offer greater selection, the experts predict.³ Interactive shopping technol ogies with broadcast-quality audio-video _ capabilitie give consumers more contro over the buying process right in their own homes.

Other innovative merchan dising techniques will create even more diverse shopping opportunities outside the home and outside conventional retail stores---for example, in the workplace and at airports and

Retailers and suppliers will forge stronger marketing al-liances, accelerated by rapid advances in information systems and communication technology. Retailers will hook up with suppliers with whom they can share sales information while streamlining the channel of distribution. This will reduce operating and inventory level costs for both.

Management Horizons



July 1, 1990 National Jeweler 97

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Goldsmith Magazine, March 1990



NEWSWATCH

office this January, noted that Andin International was the city's largest jewelry manufacturer. "I am gratified to share in the celebration," he said. Andin's owners Ofer Az-

Andin's owners Ofer Azrielant and his wife, Aya, plan to fill the nine-story, 133,000-square-foot building with their growing company one day. Located at 609 Greenwich Street, in Manhattan's West Village, the company has grown from three employees to 550 in nine years. —E.U.

Karten's Jewelers' Joel Karten Dies At Age 52

NEW BEDFORD, MASS.— Joel Karten died of a heart attack on January 16, while on a buying trip in Bangkok. The retailer, president of 18-store Karten's Jewelers, was 52 years old.

Karten was well known in the industry, and his roots in jewelry go way back. He came into his family's jewelry store in 1958, leaving his studies at Boston University when his father died.

In 1971, he opened a second store in a suburban mall, beginning the expansion program which has made Karten's Jewelers the largest independent jewelry chain in New England.

In 1984, the third generation of the Karten family joined the business when his daughter, Susan Karten, started as assistant jewelry buyer. Soon after, she was promoted to director of marketing.

Karten's elder son, Louis, will join Karten's Jewelers when he completes his MBA at George Washington University. Karten is also survived

Karten is also survived by a younger son, Bruce, now a sophomore at Boston University, and his wife, Carol.

Karten was involved with many of this industry's most important organizations. He was on the board of directors of the Jewelry Industry Council, involved with the Gemological Institute of America and a member of the Diamond Council of America.

He was also committed to his community, serving as a past president of the Jewish Federation of New Bedford and past vice president of Synagogue Tifereth Israel. He was a member of the Great New Bedford Chamber of Commerce and the Downtown Business Association.

Larry Pollock has been appointed president of the firm. Pollock has been a consultant to the firm for the past three years, and was formerly president of J.B. Robinson Jewelers.

Critchell Named President, CEO At Cartier Inc.

NEW YORK—Simon Critchell has been named president and CEO of Cartier Inc., announced Ralph Destino, chairman of the luxury goods firm. He replaces Ken Watson,

He replaces Ken Watson, who left the post at the end of July '89.

of July '89. Critchell, 43, is responsible for Cartier's full range of corporate activities in the U.S., including the company's chain of retail stores and the wholesale divisions, Les Must de Cartier and Parfums Cartier.

He comes from the cosmetics firm Lancome, a division of Cosmair Inc., where he served as senior vp and general manager. "While I loved my years

""While I loved my years in the cosmetics business,"" Critchell said, "I look forward to the honor and the challenge of directing the continuing growth of the great House of Cartier."

Trademark Info. From OroAmerica In New Brochure

BURBANK, CALIF.—Guy Benhamou wants his customers to know that the fine karat gold jewelry they buy from his company contains the amount of gold they are expecting.

they are expecting. So the president of OroAmerica is providing them with OroAmerica: The Official Trademark Guide.

The brochure explains the trademarking and karat stamping laws, the vocabulary involved and where the marks can be found on pieces of the company's jewelry, including chain, charms, bracelets, earrings and rings.

It was designed to be a reference guide for retailers, but the piece is so attractive, according to Michelle Silbar, OroAmerica's public relations coordinator, that "many retailers are using it on-counter and in displays."

"We feel we've anticipated our customers' need for information on the underkarating issue," Benhamou told *The Goldsmith.* "We want it to be known throughout the industry that OroAmerica is a trusted supplier of karat gold jewelry." OroAmerica trademarks

OroAmerica trademarks all of its merchandise, and the company randomly conducts extensive fire assaying on all gold items, including gold bars and wire, on-site at its headquarters here.

The company doublechecks its assays with a state-of-the-art Seiko Instruments SEA-2001 X ray on the \$190 million of jewelry it sells every year as well.

For more information, contact OroAmerica at 443 North Varney Street, Burbank, Calif. 91502; (818) 848-5555.

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