

# Precious Metals Recovery and Refining



60 YEARS OF EXCELLENCE



Platinum ■ Palladium ■ Rhodium ■ Ruthenium ■ Gold ■ Silver ■ Rhenium

## How to evaluate, select, and work with a precious metals refiner



*“The difference between the **right** precious metals refiner and the **almost right** precious metals refiner is like the difference between **lightning** and the **lightning bug.**”*

Precious metals are used in many processes and products for facilitating and/or speeding chemical reactions, pollution abatement, chemical/pharmaceutical production, electroplating, automotive catalytic reactors, jewelry, film, and hundreds more. Es-

calating values of most precious metals have forced users to view their precious metals purchasing and recovery management programs with a keen focus on costs at all levels. Selecting and working with an established, reliable — and reputable — precious metals refiner has become increasingly important for these key reasons:

- You must assure maximum returns of precious metals from your process or product.
- The speed (turnaround time) at which your precious metal-bearing materials are processed will affect your costs.
- Your precious metals refiner must adhere to strict environmental code compliance with regard to atmospheric emissions and effluent discharge/disposal — at all levels, and at all times. Consequently, your relationship with a



*Sabin's automated sampling system captures dust generated during the sampling process for subsequent recovery of precious metals.*



*Precise, accurate laboratory analysis — in addition to other advanced techniques and equipment — helps assure highest possible returns.*

refiner should consider all possible legal implications associated with violations of environmental laws — including those affecting transportation of hazardous materials.

- Most important, you must work with a refiner whom you trust, since you are essentially forming a “partnership” with the refiner when your materials are being processed.

## Value Comparison of Commonly Used Precious Metals

To illustrate the fluctuating values of many commonly used precious metals, consider these typical comparisons over a seven year period:

Precious Metals Price Comparison (U.S. \$/oz.)				
Metal	2000 Low	2000 High	2007 Low	2007 High
Platinum	414	620	1118	1326
Palladium	433	970	329	382
Rhodium	1000	2500	5200	6200
Ruthenium	51	170	610	870
Gold	264	313	608	691
Silver	4.57	5.45	12.21	14.58
Rhenium (U.S.\$/lb)	525	595	2182	2500



Electric arc furnace technology helps to maximize recovery of precious metals in spent catalysts.

### Full service, in-house refining capabilities

The keys to obtaining maximum precious metal recovery values—along with peace of mind and rapid response time—ultimately focus on your refiner's meticulous attention to hundreds of details, all of which combine to influence the final outcome. All else being equal (highest possible returns and fastest possible turnaround time), environmental violations could create serious problems. These steps—and the refiner's pollution compliance policies—should provide you with the knowledge and confidence to select (and work with) the right precious metals refiner for your par-

ticular application. Remember, your relationship with a refiner must be viewed as a "partnership," and must be based upon mutual trust and fair treatment.

### Selecting a precious metals refiner

**In summary, consider these factors when evaluating a precious metals refiner. You should choose a refiner that:**

- Has "full service" and full in-house capabilities—from point-to-point shipping/handling virtually anywhere in the world, through thermal processing, sampling and assaying, to prompt return of refined materials.
- Complies with the anti-money laundering portion of the Patriot Act.
- Handles and disposes of solids, liquids, and gaseous byproducts from its facilities in an environmentally responsible manner, and provides documentation of its environmental compliance.
- Employs state-of-the-art techniques and equipment for sampling and assaying the precious metals content of the materials to be reclaimed, including triplicate assaying, and provides detailed weight and analysis shipment reports.
- Is able to cost-effectively achieve maximum recovery of

the precious metals in the spent catalysts.

- Offers fast recovery/processing turnaround time, and has the financial resources to return materials values in a timely manner, in order to reduce precious metals financing costs.
- Permits you (or your representative) to be present during sam-



Baghouses and other advanced filtration systems prevent discharge of noxious, toxic or annoying fumes or odors.

pling of your materials, and allows you to conduct your own independent analysis if desired.

- Has a long and successful history and good reputation within the industry, which can be measured by discussing the refiner's performance with its customers.



## How to get more information . . .

**Tell us about your precious metals management program and recovery requirements.** Chances are we can offer you practical, common sense, and profitable options for maximizing returns of remaining precious metals from your process or production equipment. **Let us hear from you today.**

**Request free in-house plant survey to determine precious metals sources, and visit us at [sabinmetal.com](http://sabinmetal.com).**

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