



Precious Metals News

A Publication of the International Precious Metals Institute
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First PRC Meeting Held for 2017

The PRC met for the 1st time in 2017, at the Marriott Hotel at Houston/Bush Int'l Airport. 26 individuals attended from the following companies: Gemini Ind/Zodiac Enterprises/Sabin Metals/JM/Valero/Umicore/Phillips 66/Mitsubishi/Inspectorate/Tesoro/Axium Scientific/SepraMet/Shell/Motiva/PDVSA Services.

First, we want to express our thanks to past PRC chairs, Lee Miller/Tesoro(retired) and Ms. Michelle Dangers/Chevron. They contributed greatly to the success of the council. We wish them well and hope to see them at future meetings of the PRC.

Next, we want to thank our new Patron Member company, Axium Scientific, for sponsoring the delegates dinner on Tuesday evening. And we want to thank Patron Member Inspectorate for sponsoring the coffee breaks. IPMI is a 501(c)3 non-profit association and depends on the generosity of its members to insure its ability to fulfill its mission.

First SAC Meeting Held for 2017

The SAC met for the 1st time in 2017, at the Marriott Hotel at Houston/Bush Int'l Airport. 16 individuals attended from the following companies: BASF/JM/Umicore/So Accurate/Inspectorate/Sabin Metal/Gemini Ind/SGS/Sims Recycling/Techemet/Agilent/Sipi Metals.

To start, we want to thank Inspectorate for sponsoring the coffee breaks for the SAC meeting; much appreciated.

This was the 9th meeting of the SAC since the council was rejuvenated in Feb 2013. The SAC continues its path forward, conducting 'round robins' on a wide variety of precious metals materials.

The SAC just completed the 5th & 6th Round Robin analysis of materials on their lengthy list. Round #5 was an Au/Ag concentrate. Round #6 was an Au/Ag on carbon. Both materials came from mining operations in Nevada. The samples were provided through the courtesy of Just Refiners, an IPMI member.



Moving on, this meeting was organized by the new PRC Chairman, Don Swaynos - consultant to Gemini Industries. He assembled a great program, drawing on his multi-decade career at Exxon which included running plants in Italy. He has a wealth of knowledge in virtually all areas of petroleum & petrochemical processing.

The first presentation was given by the chair, Don Swaynos, starting off with "PRC DIRECTION DISCUSSION". This included a review of the PRC, starting with its:

Vision

- Education/knowledge transfer for IPMI members in the petroleum refining and petrochemical industry.
- Start with a straw model review of cradle to grave life cycle of precious metals
- Deep dive into areas of high interest by council

JR took the Au/Ag concentrate material from a single bulk bag from a discrete shipment. The same was done for the Au/Ag on carbon. All material was then ground to 100 mesh, blended, then riffled to produce 24 samples. An item of interest for this particular 'rr' was to see what (if anything) each lab would do to further prepare their samples prior to assaying. Participating labs were therefore asked to include their comments in this area when submitting their assay results.

The first order of business of the meeting was to review the results. NOTE: this was the largest 'round robin' ever conducted by the IPMI with 20 companies participating. It came as no surprise that the 'concentrate' results had noticeably higher consistency. Very few results were outside 1 standard deviation and even fewer 'outliers'. The carbon material had more results near or past 1 standard deviation and a higher number of 'outliers', especially the Ag.

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First PRC Meeting continued from page 1

Next, Randy Weinerman/Mitsubishi NY, gave a great presentation on how 'bridge leases' function and how they are calculated. Randy did a great job taking a complex set of elements and presenting them in a cogent fashion for the group.

Then, Dr. Jonathon Butler/Mitsubishi London, gave a phenomenal presentation the current 'supply/demand' metrics for PGM's and an equally superb presentation on Mitsubishi's forecast for 'supply/

demand' across virtually all market segments. His presentation focused on: Fundamental Factors Influencing Prices and Macroeconomic Factors Influencing Prices. Like Randy, Dr. Butler has a gift for making these very complex & critically important aspects of our industry, very understandable.

The next meeting of the PRC will be at the June 2017 Conference in Orlando. See the Preliminary program for date & time.

First SAC Meeting continued from page 1

But this was expected and did not surprise any of the participants.

The group agreed on up to three (3) more materials to be tested for RR #7, RR #8 & RR# 9. These will include: another test of spent auto exhaust catalyst, Cu concentrates & Cu bullion bars. Member companies have volunteered to provide the samples and will send them to IPMI by end of February for distribution to those companies who wish to participate in these next tests.

Next, Mr. Tom Watts of SGS Lakefield gave a great presentation on: "PROFICIENCY OF THE GEOCHEMICAL LABORATORY INDUSTRY WITH THE FIRE ASSAY GRAVIMETRIC METHOD FOR GOLD AND SILVER".

SGS prepared this presentation based on a round robin study in March of 2014 which they organized in order to assess the geochemical testing industry's proficiency with the Fire Assay gold and silver gravimetric finish methodology. Five SGS laboratories and three non-SGS laboratories participated in the study. Eight **AMIS** CRMS in **Explorer Packs™** and one blank material were used in the study. Each laboratory was requested to analyze the disguised CRM's and blank material in triplicate for Fire Assay gravimetric Au and Ag.

Five SGS laboratories and three competitor laboratories participated in round robin study

- SGS disclosed to all of the laboratories that it was a proficiency study
- SGS disclosed the S content of the samples
- SGS asked the laboratories not to substitute methods, but to report only Fire Assay gravimetric data to their normal reporting limits
- SGS paid the list price testing fees from the competitor laboratories
- All laboratories reported Au and Ag data except for one that did not have experience with gravimetric Ag

Data from the round robin study was analyzed using the following methods:

- Plotted on Shewhart Control charts using the **AMIS** certificate limits

- For the SGS laboratories included data in the plots that were below their normal reporting limits in order to test the lower end of the method
- Data was assessed using the Z Score test to determine outliers from the **AMIS** certificate limits
- Data subjected to outlier assessment and removal using the Grubbs Outlier Test
- Done on the live data set prior to calculating the study means and %RSD statistics
- The identify of all laboratories in the study was hidden and the order randomized in order to provide protection to the commercial entities involved and the laboratory staff in each location

Results: The study clearly showed that the industry has difficulty with the Fire Assay gravimetric method, especially at the lower concentration ranges of both Au & Ag.

- The study clearly demonstrated that the analysis of Ag below 10 g/t is not viable due to significant deterioration in quality compared to wet analytical methods
- The round robin study also raised questions about the certified silver values for **AMIS** CRM 360
 - The certified Ag value appears to be 10 to 20% low compared to real
 - SGS advised **AMIS** of this concern
 - **AMIS** has confirmed that the original silver certification data had a bi-modal population and that the mean was based on a smaller than usual number of laboratory results
 - **AMIS** has temporarily withdrawn the silver certification for CRM 360 and are working to re-certify the material for silver
 - **AMIS** has also seen a higher failure rate for gold using the Fire Assay gravimetric method data compared to the Fire Assay ICPOES method

Please contact IPMI if you would like a copy of the SGS presentation.

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Alex Stewart International Corporation



Alex Stewart International provides inspection, weighing, sampling and assay services for the global precious metal industry, including all major and reputable UK, USA, Asian, African and European precious metal refineries.

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Basel 3 and Dodd Frank

by Mike Riess

The Dodd Frank Act's Volcker Rule forced United States banks to shrink their commodity holdings. How will banks' commodity assets—especially precious metals—fare under the Basel 3 Accords? If ratified in final form, Basel 3 could be implemented as soon as January 1, 2018.

Basel 3 is an international convention on banking and finance, initiated in the wake of the 2008 financial collapse to help stabilize the large banks if confronted by another systemic crisis. It requires the banks in signatory countries to meet minimum capital requirements. Whether a bank meets the threshold depends on the quality of its assets. Assets are graded into "Tiers" using the Net Stable Funding Ratio (NSFR). Relative liquidity is the yardstick. The less liquid the asset, the higher the NSFR capital required.

But it is only in the last few months that US banks knew for sure that they could even own proprietary metals positions. The Volcker Rule required banks to divest their commodity holdings, so the question was absolute suitability; not just relative quality.

"Commodities" were thought to be a euphemism for petroleum and energy products, but metals were also in question. Were precious metals included? The answer was important because the ability of banks to hold proprietary positions in precious metals is critical to the whole consignment lending structure.

Anticipating the impact of the Volcker Rule, most of the banks with bullion desks took defensive action by moving their precious metals activity under the protective umbrella of their foreign exchange business. The question then was whether the bank supervisors would support the banks in protecting their precious metals business.

The OCC proposed a ruling on the question and asked for comments. It was an important issue for IPMI and ERAC, but the banks were unlikely to have supported an IPMI initiative. The banks have their own very large and capable networks for voicing concerns. So ERAC approached the American Bankers' Association to help the ABA compose its comments.

As a result, the OCC final rule includes specific language permitting precious metals consignments as banking transactions. Overall, the Rule identifies commodities that banks are permitted to hold. Gold, Silver and the PGMs were permitted, but that would have happened with or without our participation. The consignment language was IPMI's. (Copper, aluminum and nonferrous metals were not permitted.)

Basel 3 gives individual countries latitude to categorize relative liquidity of assets. The OCC rule supports categorizing precious metals as a "Tier I" liquid asset. This indicates that precious metals will not be penalized relative to other assets, so banks will continue to hold them if they yield a satisfactory return—just as they do today.

Basel 3 negotiations have been contentious because of the imbalance between US and European bank capital standards. The Europeans coddle their banks even more than we do, so they continue to push for lower capital requirements. The US has maintained higher capital requirements, very much to the benefit of American banks. And higher capital requirements have not hurt the banks' precious metals business.

First SAC Meeting [continued from page 2](#)

Next, Dr. Tina McSweeney of Agilent Technologies gave a presentation: "Optimize Your Workflow for Precious Metals Analysis with Microwave Plasma Atomic Emission Spectrometry (MP-AES) and Inductively-Coupled Plasma Optical Emission Spectrometry (ICP-OES)". MP-AES and ICP-OES are used in many laboratories for the analysis of trace metals in a variety of sample types. Usage of these innovative spectroscopy tools can improve productivity and reduce

costs of analyses in your precious metals laboratory. This presentation provided an overview of the technologies and gave examples of the accuracy and precision obtained with precious metal samples. Options and accessories for increasing productivity and decreasing down-time were also shown.

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Heraeus Metals Management Hosts Industry Forum in New York City

Heraeus Metal Management hosted its first Precious Metals Forum in the Americas on September 15th at the Harold Pratt House in New York City. Over 70 customers, prospective customers and industry stakeholders participated in the half-day event. The Precious Metals Forum provided knowledge and networking for attendees and featured four information-rich sessions on critical issues within the precious metals industry. The sessions and speakers included:

Global Backdrop, Macroeconomics and Future Outlook

- Precious metals and rising debt levels; Erik Norland, CME
- The Impact of the macroeconomic environment on precious metals; Max Layton, Goldman Sachs

Security of PGM Supply - mine production and secondary supply

- South African Platinum- When in a Hole, Do You Stop Digging?; Stephen Forrest, SFA Oxford Limited
- North American PGM supply – demand balance and Stillwater's role; Mick McMullen, Stillwater Mining Company

Chain of Control - regulations and commitment to legitimate supply (moderated by Ruth Crowell, LBMA)

- Chain of control- what does it mean for Heraeus?; Dr. Juergen Mueller-Schaefer, Heraeus

- Regulatory willful blindness- where is it taking us?; Mike Riess, Materials Management Corp.

Metals Under Crossfire

- Interactive panel discussion with Andy London, consultant and former Heraeus Global Business Unit Manager, Photovoltaics; George Milling Stanley, State Street Global Advisors; Mitchell Krebs, Coeur Mining, Inc.; and moderated by HMM's Miguel Perez Santalla.

The Heraeus Precious Metals Forum has been held annually in Germany for the past decade. Based on the success of the event, the company wanted to bring that same format to New York City to provide attendees with insights and information on the issues that matter most to the precious metals industry. Andre Christl, President of Heraeus Metals Management (HMM) explained: "We deal in markets where uncertainty and risk are challenges our customers face every day. Hence, gaining insights and knowledge from events like our Precious Metals Forum can give them the clarity to make informed decisions about precious metals for their business."

Uve Kupka, the President of HMM Americas, added: "If you talked to any precious metals customer about the things that keep them up at night, chances are economic volatility and market uncertainty would be at the top of their list. The topics we covered at the Precious Metals Forum were specifically selected to address those issues."





Bodo Albrecht Named Director Nitric Acid Division at Sabin Metal

Bodo Albrecht has been named Director of the Nitric Acid Division at the Sabin Metal Group of Companies, the largest independently owned, secondary precious metals refining organization in North America.

Albrecht is an accomplished precious metals and security executive with deep roots in all industries involving in precious metals. He is experienced in a many facets of the industry ranging from sales and marketing, general management and business development to production and recycling technologies, metal tracking and security. His twenty year career with Degussa Corporation was followed by more than a decade of successfully running a consulting firm assisting precious metal companies around the world in growing and improving their business. Albrecht is an active conference speaker and writer (“Tech Metals Insider” on Kitco News; “Metal Megatrends”) on the role of precious metals, rare earth elements and strategic metals in renewable energy and sustainable technologies. He also currently serves as Vice Chairman of the International Precious Metals Institute, the largest organization of its kind in the world.

Sabin Metal recovers and refines precious metals from a variety

of processes and products, from industries including hydrocarbon, chemical, petrochemical, pharmaceutical, fuel cell, mining, electronic materials, and nitric acid processes. The company recovers and refines platinum group metals (PGMs) including platinum, palladium, ruthenium, and rhodium, along with rhenium and other precious metals for organizations of all sizes around the world.

The Sabin Metal Group, headquartered in East Hampton, NY is composed of five independent organizations. The company’s recovery/refining facilities and sales/service offices are located in strategic countries around the world. Sabin’s gold, silver, platinum, and palladium are accepted on the Chicago Mercantile Exchange (NYMEX/COMEX); Sabin’s platinum and palladium are also accepted for delivery on the London/Zurich market by the London Platinum and Palladium Market (LPPM). The organization is now entering its eighth decade serving a worldwide customer base by providing value added services along with the peace of mind that comes from working with an environmentally conscious and compliant precious metals refiner.

A Deep Dive Into Precious Metals Markets

IPMI is pleased to announce that Jeff Christian of CPM Group is going to present a seminar “A Deep Dive Into Precious Metals” at the 41st Conference. The Seminar is slated for Sunday afternoon June 11 at JW Marriott Grande Lakes, Orlando, Florida. The registration and fee for the seminar will be separate from the IPMI registration and fee, but will be available on our website.

Market Mechanics

- Physical, OTC, Forwards, Futures, Options, Exchange Traded Products, Derivatives
- Leasing: How metals are leased, who leases metal in and why, who leases metal out and why
- Who trades 12 billion ounces of gold per year and why
- The myth of quoted forward prices: Inaccurate public quotes in the past and nonexistent quotes today

Registered and Eligible precious metals stocks

The Changes to Come

Economic Environment

- Why no hyperinflations, why no collapse of the dollar
- The next recession
- Brexit and other events’ gold, economic, and political implications

Gold

Gold Price Outlook

- Price determinants, price relationships with macro-economic trends, variables, conditions
- Currencies, interest rates, money supply, financial markets, inflation, other factors

Investment Demand

- China, India, Islamic Gold, North America, Europe

Derivatives

Official Transactions

- Central banks: Sales, purchases, leasing, options, swaps, storage: Then and now
- Gold Standards: Central Bank Attitudes Toward Gold
- The four factors that have squeezed central banks leasing
- The new Lessors
- Who is buying, post 2009

Fabrication Demand

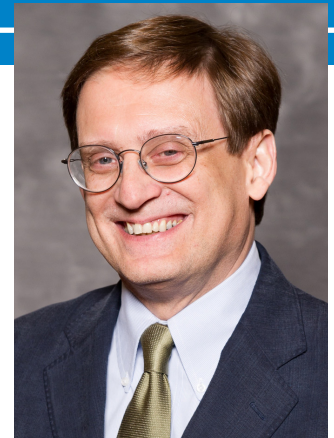
Supply

- The human reasons for fewer new gold discoveries, Outlook for future supply trends, Exploration Expenditures

Facts and Misperceptions About Gold

- Gold holdings: Global, India, China, Switzerland, U.S., U.K., Malaysia

- Comex is not running out of gold; Comex gold stocks
- Lease rates: Never have been negative, the potential GOFO scandal
- Conspiracy theories



Silver

Silver Price Outlook

- Differences and similarities in gold and silver’s investment demand trends
- Fundamental trends

Investment Demand

Supply

- Silver mine supply and scrap recovery trends

Fabrication Demand

- Fabrication Demand by Major Use
- Fabrication Demand by Country

Silver Inventories

- Reported and estimated bullion inventories

Facts and Misperceptions about Silver

- Why Central Banks do not hold silver—silver’s former monetary roles
- Conspiracy Theories

Platinum Group Metals

Platinum Group Metals Overview and Price Outlook

- Market Structure

Investment Demand

- Can investment demand continue to drive platinum prices
- Platinum, Palladium, and Rhodium Exchange Traded Products
- Platinum Record Long and Short Non-Commercial Positions
- Industry promotion to spur investment demand for platinum and palladium

Fabrication Demand

- Auto fabrication demand: Current and future trends, the death of diesel
- The prospects for branded palladium jewelry

Supply

- Global platinum mine supply trends
- Recycling: PGM auto catalyst scrap trends

Platinum, Palladium, and Rhodium Above Ground Stocks

- Who owns how much in above ground stocks

Facts and Misperceptions about PGMs

- Fuel cells: Facts and Fiction
- Russian Palladium and other PGM Stocks



The President's Corner

Happy February to all. This month's 'corner' is just a quick reminder; watch your email for occasional surveys from us. IPMI has begun using Survey Monkey to conduct surveys. It's quick & easy for us to set up and even easier for you to use. Please respond when you get a survey. We really need your input as we continue to strive

to improve our service and value to you, the members. I promise the surveys will not be very frequent (although you may get a follow-up one occasionally). And since I'm not a big fan of surveys myself, I also promise that they will be brief (not more than 15 questions) and they will primarily give you 'radio buttons' to click for your answers. So you won't have to spend a lot of time trying to type out responses in every box. For those of you who may have "opted out" of our surveys, I would ask you to reconsider, especially if you are a board member or committee chair. All you have to do is to contact Sandra and she can provide you with a weblink which will let you "opt back in" for future surveys. Thanks!

Where are They Now: IPMI catches up with 2016 Student Award Winners



Update on 2016 IPMI Sabin Metal Student Award Winner **David Primer**: David was honored with a PhD completion fellowship honoring his academic success - providing funding his remaining graduate career. He has completed three additional projects and published 2 papers and 1 review on his work. He plans to graduate from the Molander group in the spring year and hopes to continue on into the chemical or pharmaceutical industry.



2016 IPMI Metro NY Chapter Award winner **Brian Conn** writes:

"Since receiving the 2016 IPMI Metro New York Chapter Student Award, I have remained dedicated to advancing the scientific understanding of precious metal nanoparticles. I recently coauthored two peer-reviewed manuscripts titled, "Confirmation of a de novo structure prediction for an atomically precise monolayer-coated silver nanoparticle" and "High-yield paste-based synthesis of thiolate-protected silver nanoparticles", which were featured articles in *Science Advances* and *Journal of Physical Chemistry C*, respectfully. Currently, I am finishing writing my PhD dissertation titled, "Revealing the magic in silver magic number clusters: The development of size-evolutionary patterns for monolayer coated silver-thiolate nanoclusters", as well as, searching for post-graduate employment opportunities for spring 2017."



Over the past year **Sarah Nathan** has continued to do research on her dissertation project at Cornell University. She has been exploring ruthenium-based chemicals as potential therapeutics for heart attack therapy; both the synthesis and the biological activity is being investigated. With her advisor, Prof. Justin Wilson, as well as collaborators, the first paper on this work has been submitted to the

American Chemical Society journal *Inorganic Chemistry*. Over the last two years Sarah also has mentored two undergraduate researchers in chemistry on this project, which became the senior theses for both students. Sarah will be defending her dissertation in the next year and so has been primarily focused on her research recently, however still finds time to enjoy hiking and running outdoors.



And 2016 IPMI Gemini Industries Student Award Winner **Peng-Cheng Chen** Reports:

"After the 40th IPMI Conference, I got another two awards (IIN Outstanding Researcher Award and Park AFM Scholarship). Also, I am planning to graduate in the Spring of next year."

PATRON PROFILE

Universal Precious Metals



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PRECIOUS METALS

Universal Precious Metals is an up and coming precious metals refinery currently focused on jewelry scrap, artisanal, small and medium size mining from Latin America. The company was created on 2010 and was acquired in 2016 by new management. The new Universal Precious Metals managements have extensive experience in the precious metals market and we pride ourselves for our excellent compliance program and customer service.

Refinery:

At Universal Precious Metals we can refine high and low grade materials. We specialize in jewelry scrap and mining dore with gold, silver and all PGMS. We offer:

- Accurate assaying services.
- Fast turnaround.
- Total transparency of the whole process.

Customer Service:

Our team provides excellent customer service which has quickly gained notoriety in the market place. We develop our own proprietary systems that less us have full traceability of the chain of custody of all of our materials. The biggest strength of our company is the deep multicultural knowledge in the international scene which helps us create a very tight bond with our customers.

Trading:

Trading with Universal Precious Metals is very efficient and a twenty four seven service offered by our trading experts.

Products:

We currently have to main products grain and chains. The silver and gold grain has an excellent quality and is getting a great reputation for it. We also just started producing chains for jewelry with a different array of alloys. In the near future we expect to produce a wider array of products, not only focused on jewelry, but on investment and electronics.

Compliance:

This is our main strength. We are experts in the market and have strong ties with the regions where we source our metal. Our compliance team is composed by experts in various fields and we a broad experience in AML programs, customs, and in-country knowledge.

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IPMI® Calendar

2017	Feb 27 - March 1	Security Council Meeting, Fort Lauderdale, FL
	June 10-13	41 st Annual Conference • JW Marriott Grande Lakes, Orlando FL
	Sept 14	5 th Annual IPMI Platinum Dinner • New York Palace Hotel, New York NY
2018	June 9-12	42 nd Annual Conference • JW Marriott San Antonio Hill Country, San Antonio TX
	Sept 13	6 th Annual IPMI Platinum Dinner • New York Palace Hotel, New York NY

