

# PRECIOUS APPRAISAL

**No. 29**

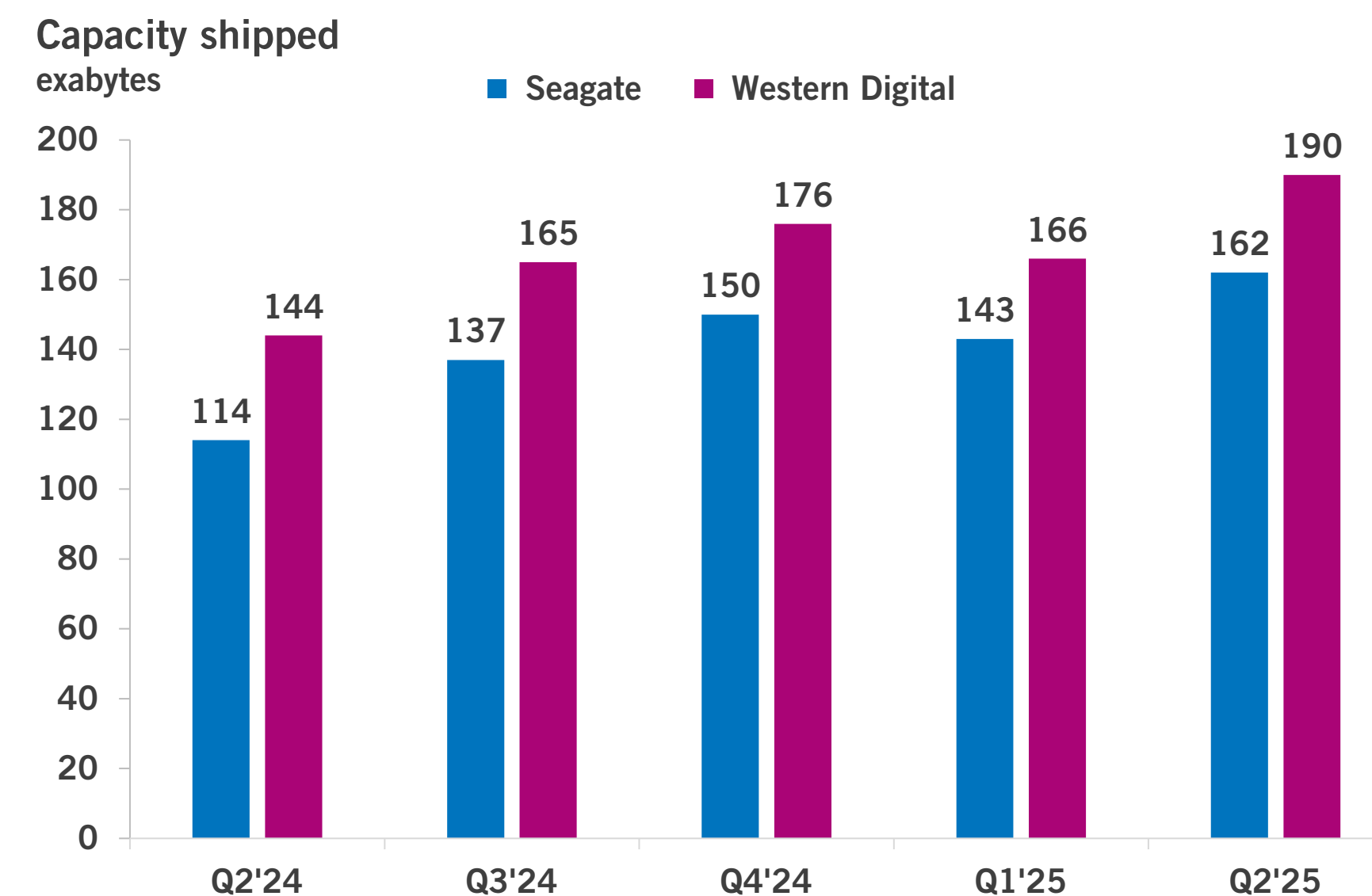
11th August 2025

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## MARKET SPOTLIGHT

### Conventional HDDs fuel a ruthenium revival

**The humble hard disk drive (HDD) remains the workhorse of global data storage.** The explosion of data storage demand for AI applications and large language model training is fuelling a resurgence in HDD demand. Ruthenium demand is rebounding sharply as a result, following several quarters of contraction post-Covid. While solid-state drives (SSDs) and emerging technologies such as heat-assisted magnetic recording (HAMR) are gaining traction, they are currently unable to meet the cost-per-terabyte efficiency of conventional HDDs, particularly for cold and nearline storage requirements. HDDs remain particularly well-suited for applications that require continuous access to large datasets, such as training large AI models.



Source: SFA (Oxford), Seagate, Western Digital

**HDD sales boosted revenues at the top disk manufacturers in Q2'25.** Seagate and Western Digital delivered strong financial results, largely driven by demand for conventional ruthenium-based disk drives. Both companies reported a 14% quarter-on-quarter increase in product revenue, along with similar increases in exabyte shipments in Q2'25. In a major boost for ruthenium-based disk drives, Seagate achieved record quarterly sales and shipment volumes of 24 TB CMR/28 TB SMR drives for any nearline product. Manufacturers have also benefited from a disciplined production strategy and a build-to-order approach, helping to avoid overcapacity and maintaining pricing stability. Disk manufacturers will likely remain prudent in the short-to-medium term to avert risk. Overinvestment into production capacity risks stranding assets, while underinvestment may see them fall behind and other technologies winning the race.

**HAMR continues to advance, but rollout lags at some disk manufacturers.** Although in development for nearly a quarter of a century, commercialisation of HAMR has faced repeated delays owing to technical challenges, including the production of specialised high-capacity media and the miniaturisation of the laser used to heat the disk. Seagate began shipping its HAMR-based Exos M drives in 2025, following an extended qualification period. However, Western Digital and Toshiba remain several quarters behind, with both companies also experiencing delays. Widespread adoption may be further constrained by limited production capacity, significant capital investment needs, and customer hesitancy to transition.

**SSDs remain cost-prohibitive for large-scale storage needs.** Although SSDs pose a potential threat to ruthenium-based HDDs, their broader adoption is being held back by upward pressure on prices and production cutbacks at key manufacturers. In addition, capital investment in new fabrication facilities is unlikely to keep pace with the scale required for SSDs to meaningfully displace HDD technology.



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PRECIOUS METALS REVIEW

Gold



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	3,395	1.39%	3,409	07/08/2025	3,350	05/08/2025
€/oz	2,912	0.47%	2,931	05/08/2025	2,887	07/08/2025

**Tariff uncertainty hits gold.** It was reported at the end of last week that according to the U.S. Customs and Border Protection service some gold bars (1 kg and 100 oz) imported into the US would fall under a customs code that would be subject to tariffs. The reciprocal tariffs came into effect from one minute past midnight on 8 August. The gold futures price in the US spiked to a new high on Friday and the nearest futures contract jumped to a ~\$30/oz premium to the spot price. However, the White House has said it will clarify the import tariffs on gold bars, the implication being that they won’t be subject to a tariff, and the futures prices eased back. The threat of tariffs led to a dramatic increase in bullion flows into the US starting in December and continuing through the first quarter of this year as COMEX vault stocks more than doubled to 45 moz in early April before stalling once the list of exemptions was made public. They slid to under 37 moz in July but then started to rebuild reaching 38.7 moz.

**Global gold demand was 1,079 t in Q2’25.** This was 10% higher year-on-year but continued the trend of the last few years of demand during the second quarter being weaker than in the first quarter (source: World Gold Council). Jewellery demand fell by 14% year-on-year in the first quarter to 357 t, contracting in all major regions. As previously noted, the high price has hit consumer demand. Investment demand was 477 t, supported by solid bar and coin demand and a fourth consecutive quarter of inflows into ETFs. Bar and coin demand was stronger in most regions except North America. However, ETF holdings in North America rose the most of any region, 73 t out of a total gain of 171 t, no doubt aided by the many tariff announcements and

the economic uncertainty associated with them. Asian funds saw almost as large inflows (70 t), showing concern on the receiving end of the tariffs too. Meanwhile, primary supply continued to edge higher to 1,249 t in Q2’25, up 3% year-on-year, and H1’25 was 1% higher year-on-year.

**Trump’s interference in US institutions continues.** The Federal Reserve left interest rates unchanged at its meeting at the end of July. This was the fifth consecutive meeting with no change, but unusually this time two governors dissented. President Trump was unimpressed and made it clear that he wanted lower rates. This is not the first time that a US president has put pressure on the Fed chairman, as Trump vs. Powell has echoes of Nixon vs. Burns. Burns ultimately relented and lowered rates and inflation got further out of control. Meanwhile, Nixon also broke the dollar link to gold in 1971.

The weak payrolls figure and significant downward revisions to the prior months’ data on 1 August indicate a weaker jobs environment than the initial data suggested. Trump fired the head of the Bureau of Labor Statistics which compiles the jobs data, stating the figures were manipulated to make him “look bad”. The market also shifted its view of the number of interest rate cuts by the end of the year from one or two to two or three and raised the odds of a 25 bp cut at the next meeting to 95%. Mostly, the Fed has cut rates to try to support employment irrespective of where the inflation level is, making that look like a fair assessment. If gold is insurance against government or central bank policy mistakes, then there may well be potential for more upside. However, for the time being, the gold price is continuing in its holding pattern.

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PRECIOUS METALS REVIEW  
Silver



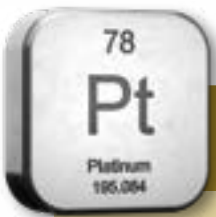
	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	38.33	3.77%	38.51	07/08/2025	37.14	04/08/2025
€/oz	32.87	2.81%	33.06	07/08/2025	32.07	04/08/2025

**Primary silver miners report improvements in production in Q2’25**, after weak first quarters. Pan American silver produced 5.1 moz of silver in the second quarter on higher grades and throughput at La Colorada, a modest improvement on 5.0 moz in the first quarter. At 10.1 moz, the first half output is in line with the lower end of guidance for the year which has been set at 20-21 moz. Hecla lifted second-quarter output to 4.5 moz from 4.1 moz in the first quarter, putting the company on track to reach the upper end of guidance (15.5-17.0 moz) this year. Coeur’s silver output of 4.7 moz in Q2’25 was boosted by the Rochester mine operating at capacity, after starting commercial production at the end of Q1’24 and ramping up during Q2’24, and the acquisition of the Las Chispas mine which produced 1.5 moz during the quarter. Having produced just under 8.5 moz in the first half of the year, the company should be able to hit its 16.7-20.25 moz guidance.

The silver price rallied last week, climbing back above \$38/oz.

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Platinum



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,330	1.38%	1,357	04/08/2025	1,304	05/08/2025
€/oz	1,141	0.46%	1,171	04/08/2025	1,126	07/08/2025

**Despite rising PGM prices South African PGM output struggled in Q2’25.** Implats has released its production update for the financial year ending in June 2025. On a quarterly basis, refined output in Q2’25 was up 22% relative to Q1’25 (870.5 koz 6E, ~453 koz Pt) but remained 4% lower compared to the same period in 2024. Total 6E in concentrate production from mines has also recovered in Q2’25, with output rising 20% on Q1’25 and up 1% relative to Q2’24, as Implats’ mines recover after disruptions in the first half of this year. However, for the first half of 2025 refined output was 2.5% lower than in the same period in 2024.

Production disruptions in the first quarter of 2025 hampered refined output, as did the rebuild to #3 furnace (commenced in December 2024, finished in May 2025) along with repairs to #5 furnace in February. Consequently, Implats has been unable to bring down its levels of excess WIP stocks, meaning that at the end of June 2025 approximately 420 koz 6E was locked up in-process (375 koz 6E at the end of December 2024). Successive rounds of smelter maintenance over the last few years, beginning with the rebuild of #4 furnace in the period September-December 2022 as well as load curtailment issues up to around the middle of 2024, have led to this lock-up of unrefined metal.

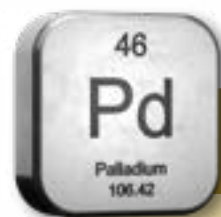
Platinum has continued to flow into NYMEX vaults, with stocks reaching 566 koz after more than doubling in the last three weeks. The platinum price recovered some of the ground it lost in the previous week, rising by 1.4% to \$1,330oz, as it continues to correct from its recent high.



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# PRECIOUS METALS REVIEW

## Palladium



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,137	-6.05%	1,222	05/08/2025	1,128	08/08/2025
€/oz	975	-6.90%	1,054	05/08/2025	968	08/08/2025

**PGM upside from changes to US emissions rules could be some way off.** The US Environmental Protection Agency (EPA) proposes to repeal the greenhouse gas emissions regulations applied to vehicles. Should that occur, it is likely to sustain a higher for longer share of combustion engine powertrains and hence higher demand for PGMs in autocatalysts. As US light vehicles are predominantly gasoline-fuelled, the upside potential is for palladium and rhodium demand. The US currently accounts for about 20% each of global palladium and rhodium autocatalyst demand.

The so-called endangerment finding in the US is a legal opinion that greenhouse gas emissions (from burning fossil fuels such as gasoline and diesel) are harmful to human health. If the regulations are scrapped, it would remove much of the mandate for battery electric vehicle adoption in the US. However, any change would be likely to face lengthy legal challenges, so the outcome is far from guaranteed.

The palladium price fell sharply again last week, down for a fourth consecutive week, and closed at \$1,137/oz.

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## Rhodium, Ruthenium, Iridium



	RHODIUM	RUTHENIUM	IRIDIUM
Reporting Week	\$7,550/oz	\$895/oz	\$5,150/oz
Previous Edition	\$7,325/oz	\$885/oz	\$5,150/oz

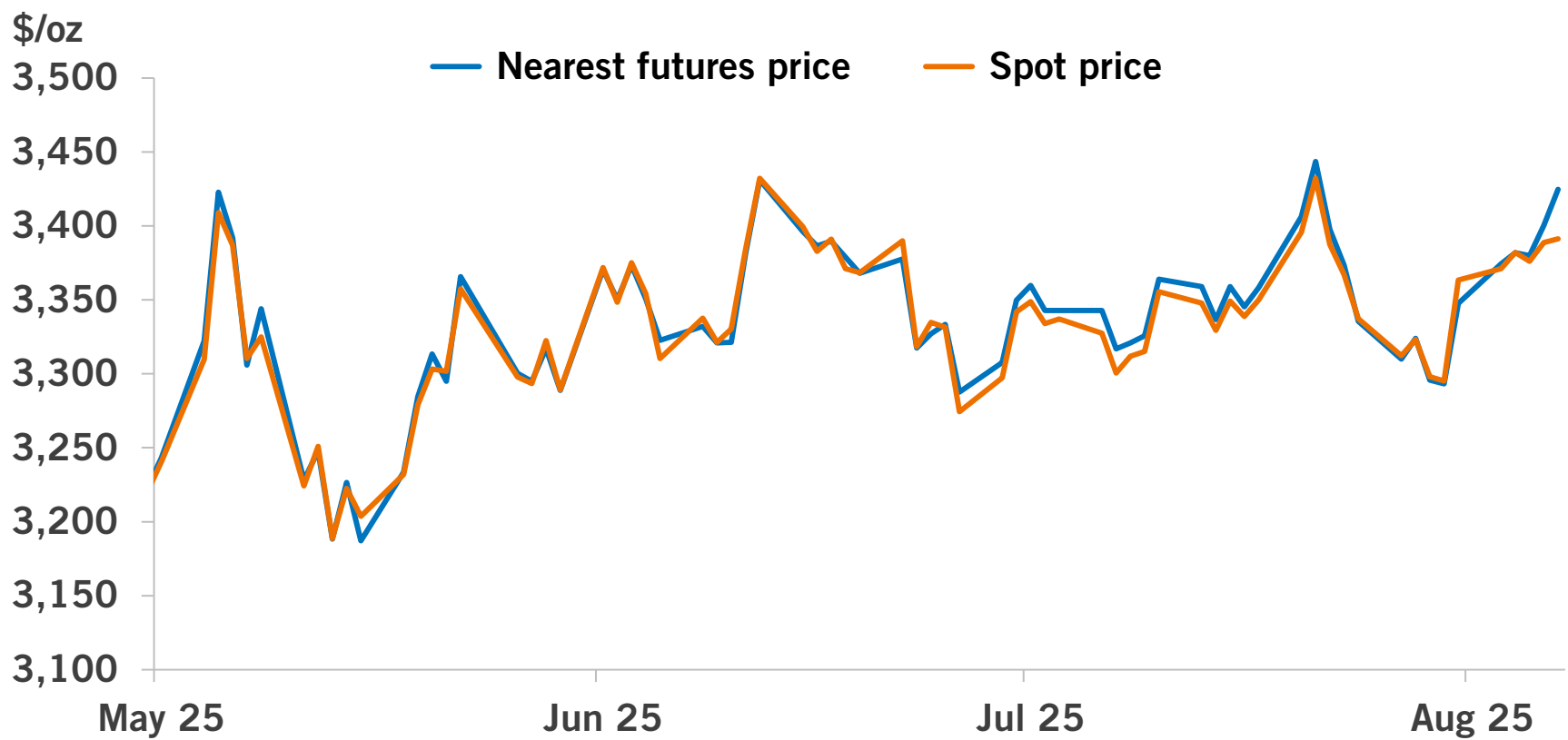
**Smartphone shipments show signs of stalling.** Global smartphone shipments have shown signs of fatigue since Q4’24, declining by 3% in Q1’25 and remaining flat in the second quarter (source: Canalys). A lacklustre smartphone market is expected to weigh on demand for iridium crucibles to produce high-purity single crystals such as those found in surface acoustic wave (SAW) filters. Persisting macroeconomic uncertainty and trade tensions have made consumers cautious, while elevated interest rates across key markets, including the US and EU, continue to erode discretionary spending power. With consumers increasingly focusing on essentials, global smartphone shipments are projected to remain flat year-on-year in 2025. Downside risks persist, particularly if macroeconomic or policy headwinds intensify in H2’25.

The rhodium and ruthenium prices both rose last week, whereas the iridium price was unchanged.

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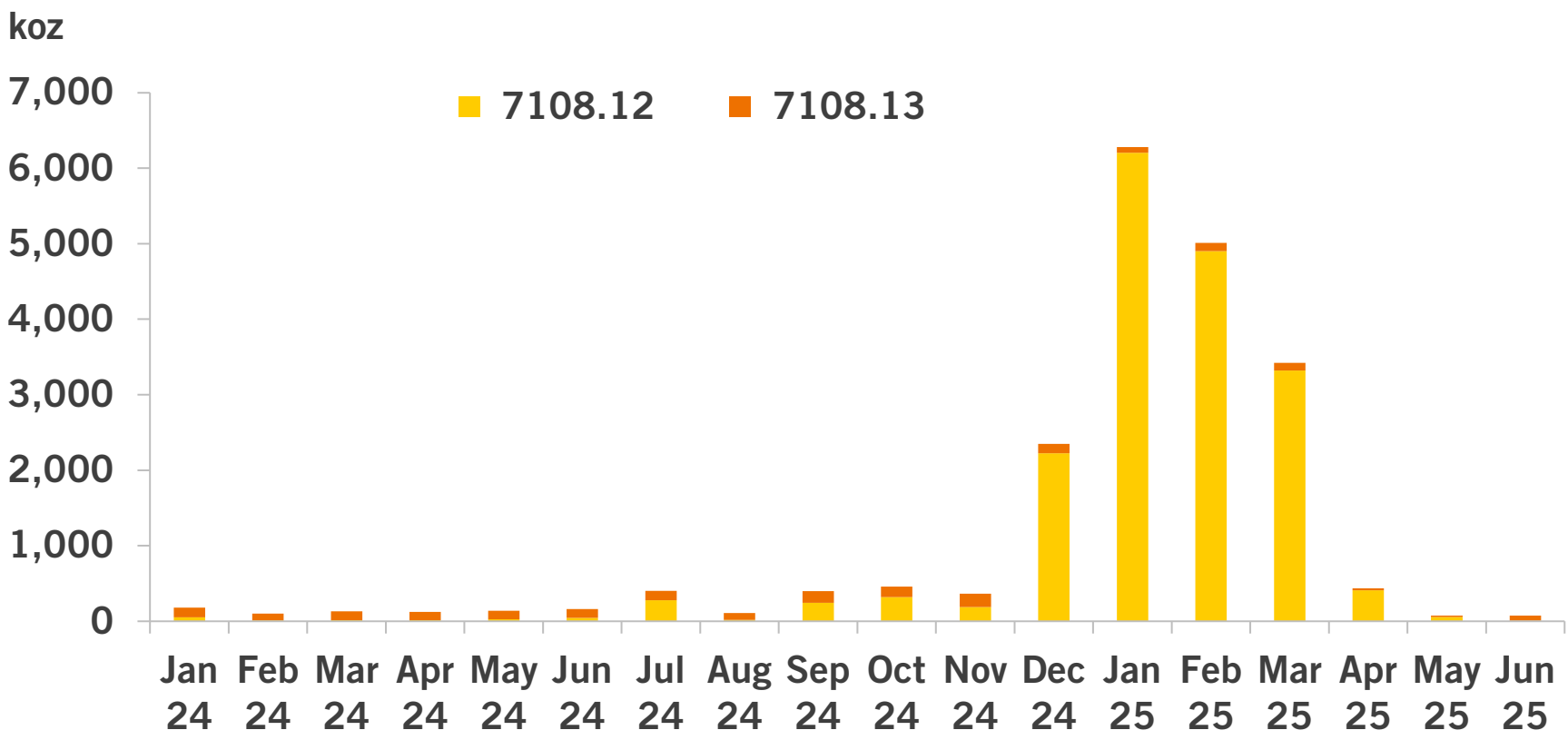
TRENDS AND INVESTMENTS

Gold price



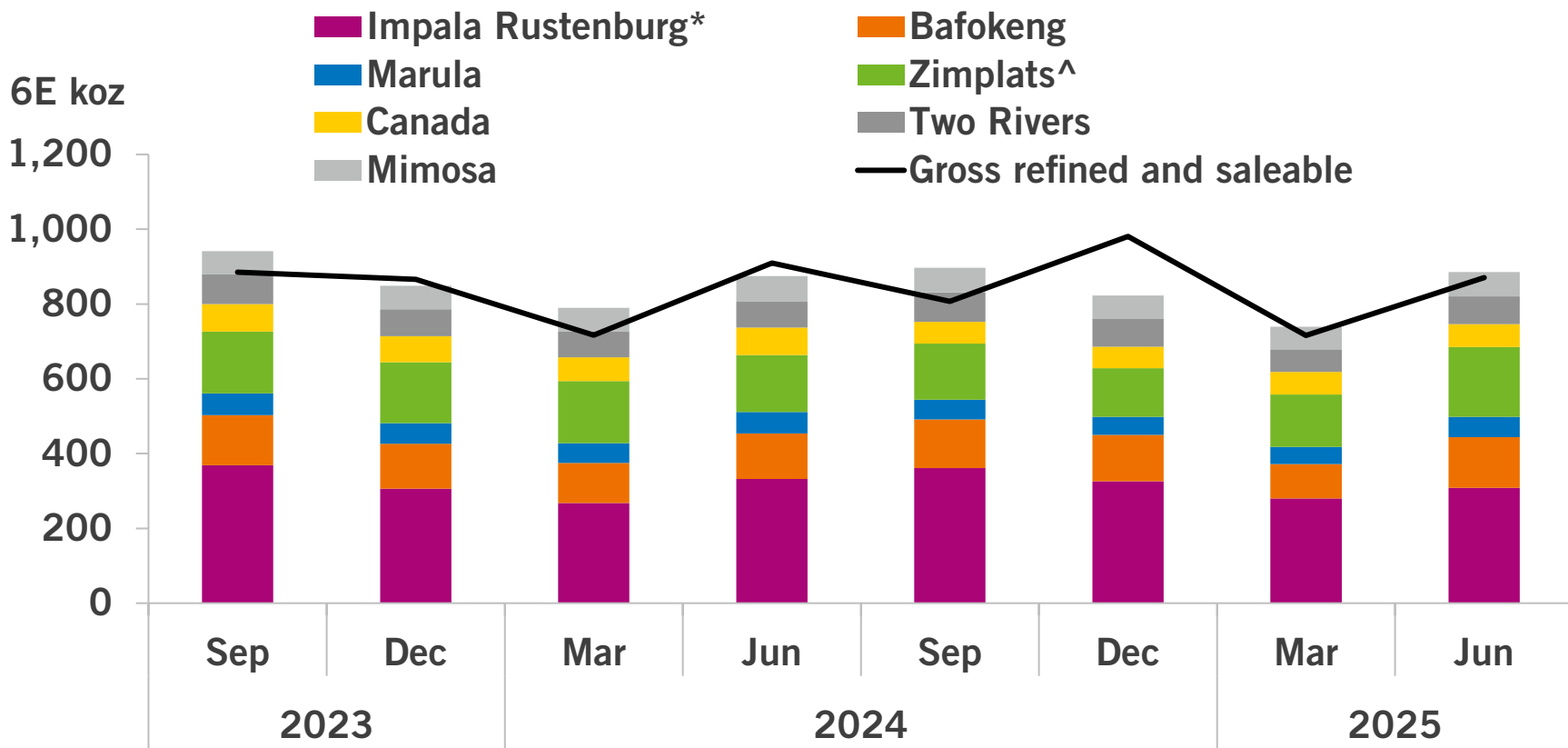
Source: SFA (Oxford), Bloomberg Finance LP

Swiss gold exports to US



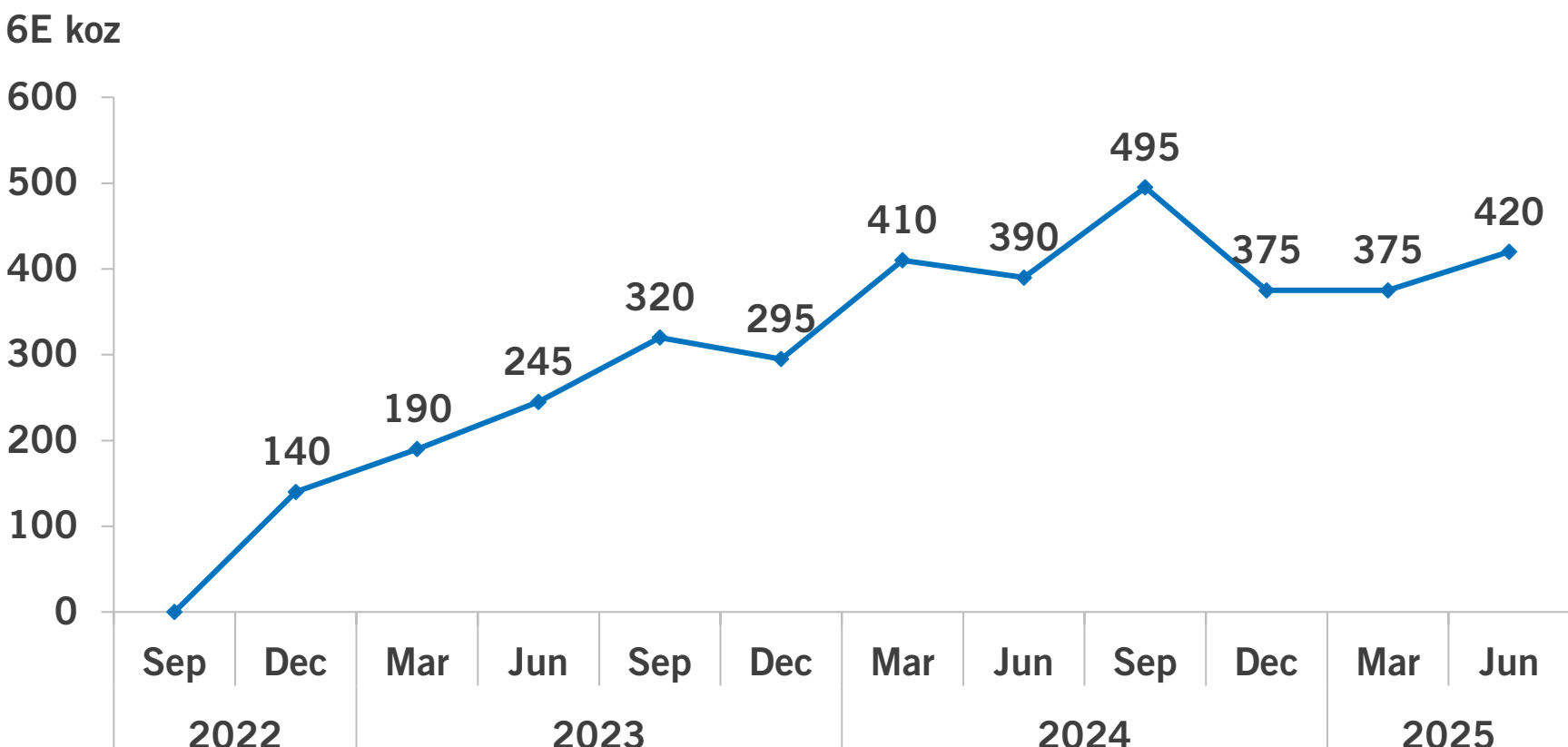
Source: SFA (Oxford), Federal Office for Customs and Border Security

Implats production in concentrate



Source: SFA (Oxford), Implats. Note: \* Impala Rustenburg's 6E production is a stock adjusted figure. ^Zimplats' 6E production is production ahead of the base metal refinery, unadjusted for further processing recoveries.

Implats excess WIP stocks at period end



Source: SFA (Oxford), Implats



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