

**Natural  
Resource  
Holdings**

# GLOBAL 2013 GOLD MINE & DEPOSIT RANKINGS



A METICULOUS EXAMINATION OF  
EXISTING AND FUTURE GOLD SUPPLY

## HOW RARE ARE 1 MILLION+ OZ GOLD DEPOSITS?

Design and results discussion by:

**Visual Capitalist**

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**VISUAL CAPITALIST**

## Introduction

It is with great pleasure that I present to you the 2013 Global Gold Mine & Deposit Ranking. This is now our third year of compiling the database which is comprised of 580 Mines and Deposits consisting of over 1 million ounces of in-situ resources in all categories. For more information on our methodology please read our previous reports from 2011 and 2012.

For those only interested in the results of the report please scroll down to page 13.

The last twelve months have been transformational as the resiliency of the gold sector was tested. This environment brings me great pleasure as I look upon a sea of opportunity trading below tangible value and more importantly the inherent option value as the single best protection against an increasingly probable outcome.

Ultimately, my interest in compiling this list stems from a desire to better understand the gold supply and demand disequilibrium. The interest in gold is more important and stems from the experiences I have encountered as an equity investor practicing an aggressive form of deep-value investing in distressed securities.

For the last 12 years I have been an active participant in financial markets as both a professional investor managing a private investment partnership and a private investor deploying permanent capital. My investment style can be best described as contrarian value investing modeled after the principles codified by Benjamin Graham in *The Intelligent Investor* with a slight twist when it comes to positioning.

What has brought me success both in my hedge fund and via my private investments has been identifying asymmetric risk/reward situations where the **potential** long-term fundamental value of a security far exceeds the current value being awarded by market participants. In other words, I look for optionality with extremely long duration providing leveraged upside (but not downside) to a potential event or to my internal assessment of intrinsic value.

For whatever reason, I have always found myself gravitating towards distressed companies that have some kind of an “ick” factor - opportunities that at first glance seem destined for failure. It is in this world where I have made a lot of money constructing a portfolio of long-duration asymmetric bets while being blissfully shielded from the high frequency traders and quants that rebalance portfolios in milliseconds.

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Humans change their minds very quickly once they catch onto a trend or fad and market participants can do little to handicap these inflection points.

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Making money in the manner I have has completely warped my view of so called “tail events” and “black swans”. For one, they aren’t that rare. More importantly, I have learned that humans change their minds very quickly once they catch on to a trend or fad and that market participants can do little to handicap these inflection points. The only way to profit from these opportunities is to position oneself in advance, with unlevered capital that is permanent, and to patiently wait. Eventually if your facts and reasoning are right there will be reconciliation between the market and reality.

Distilling these lessons further I am left with the following bullet points:

- Market participants are terrible at pricing risk and/or optionality.
- Volatility does not equate to risk.
- The market will always find a way to punish the herd while rewarding the contrarians. This is in my view the invisible hand of capitalism at work.
- Academically decorated analysts always miss these events, believe there is a fundamental explanation for everything at the precise moment of their analysis, and spend excessive time on intellectual exercises that ultimately provide no real world utility.

## From Graham & Dodd to Von Mises & Hayek

By the summer of 2007, I was running a successful hedge fund and finding it difficult to find attractively priced “ick”. I felt the markets were frothy and authored an investor letter entitled: “Reality Approaching”. Around that time, I began reading about gold as a potential hedge to what I believed was coming. Initially, it was a challenge to wrap my mind around gold given that I had been brainwashed by all of my favorite value investors to view gold in the investment bucket and assess its intrinsic value by comparing it to other pro-creating investments.

One day while browsing the Mises Institute website, I came across a lecture given by someone named Albert Friedberg in 1999. Here was a man I had never heard of who distilled the essence of gold, fiat money, and central planning into 43 minutes that changed my life. Only later did I find out that Albert Friedberg was a wildly successful yet extremely humble investor who had rarely given lectures, let alone recorded ones. After being inspired by Friedberg, I discovered that he had personally republished a book written in the 1930’s by Freeman Tilden: *A World In Debt* and proceeded to purchase a copy from Amazon (no book store carried one and even today there are very few copies in existence). In *A World in Debt*, Tilden takes the reader through an incredibly logical account of how debt cripples even the strongest of civilizations given society’s inability to deal with debt deflation. For me, the most important lesson from the book was that fiat money, the chief enabler of debt, was not only a flawed monetary system but was illogical and dangerous. For the first time I had a comprehensive understand of precisely how the modern economic machine worked and how the fiat money system had replaced the animal spirits of capitalism.

Between A World In Debt and Friedberg's Lecture my understanding of world economic history was completely transformed. While it took several more months and about a dozen more books, going into 2008 I felt like Neo when he discovers the Matrix is the true reality he inhabits and like Neo I chose the red pill.

“This is your last chance. After this, there is no turning back. You take the blue pill – the story ends, you wake up in your bed and believe whatever you want to believe. You take the red pill – you stay in Wonderland, and I show you how deep the rabbit hole goes. Remember, all I'm offering is the truth – nothing more.”

- Morpheus, The Matrix

From that point on, gold and finite natural resources (what I define as money in our present global economy which relies on 100% fiat based mediums of exchange) have become cornerstones of my investment process. My commitment ultimately led to the closing of my fund in 2010 so that I could spend more time on this industry. I also formed Natural Resource Holdings (NRH), an asset consolidator of historically proven deposits, creating what I hope will become a perpetuity option on rising commodity prices. I also decided to author this report which has been compiled yearly since 2010 utilizing the type of bottom up analysis I am accustomed to when analyzing securities.

## Positioning for the Ultimate Tail Event

I continue to be excited by this industry because it simultaneously provides both protection and optionality on what I believe to be the ultimate tail event: **the inevitable reversion back to a tangible/commodity money standard**. This event is so alien to present avant-garde economics it has been ruled out as a solution to the problems facing the global economy. However, when analyzing the current state and trajectory it is not only more logical by the day, but mathematically inevitable and soon to be competitively sought by the remaining capitalists on the globe.

One of the main reasons I believe this reversion is more likely today is the failure of the productive classes of the citizenry to express themselves and organize through the political system. In my view, the citizenry in the west has already succumbed to fiat money, taxes, wealth redistribution, and perpetual growth in government. A historical style revolution will not materialize. The power of the internet and social media have given equal and often louder voices to the subsidized classes who have more time to organize and enjoy the network effect made available to them by the productive classes. Even worse, self-interested politicians have mastered the art of leveraging that power into votes.

The majority of the electorate has no recollection of economic history and is incapable of comprehending a pre-1971 economy that rewarded meritocracy and savings. Only through a series of events that will once again highlight the structural flaws of central planning, fiat money, and fractional reserve banking will they by necessity come to terms with the policies that I believe to be superior and accommodative of permanent growth.

## Event /Trend A

### Central Banker Hubris Leads Academics to Question Keynes/Friedman and to Revisit the Austrian School

Many wonder how and when Central Bankers became masters of the universe. I believe a video from September 19, 1931 highlights the genesis of this trend. In this rare footage of Dr. John Maynard Keynes himself we see a poignant address by Keynes in celebration of the abolition of the Gold Standard by Great Britain. Note Keynes' confidence in asserting that a removal of tangible money would lead to a new era of prosperity with no real negative repercussions.

What made Dr. Keynes so confident in his assertions that the removal of tangible money standard would result in anything different than past precedents set by failed civilizations?

“In effect, there is nothing inherently wrong with fiat money, provided we have perfect authority and god-like intelligence for kings.”

- Aristotle

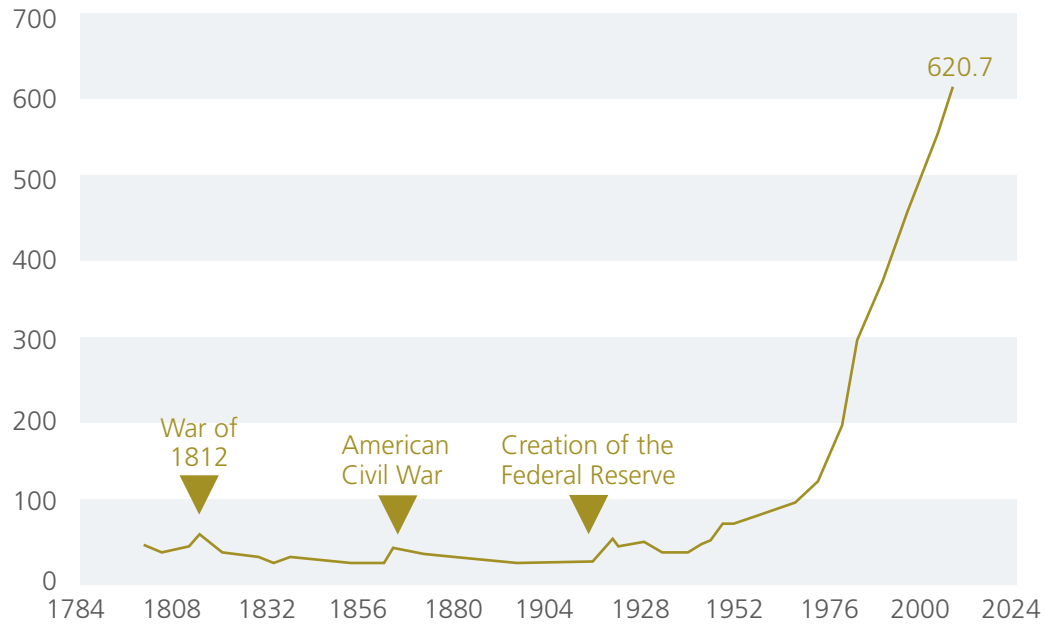


Keynes must have believed his vintage of academic had god-like intelligence or perfect authority.

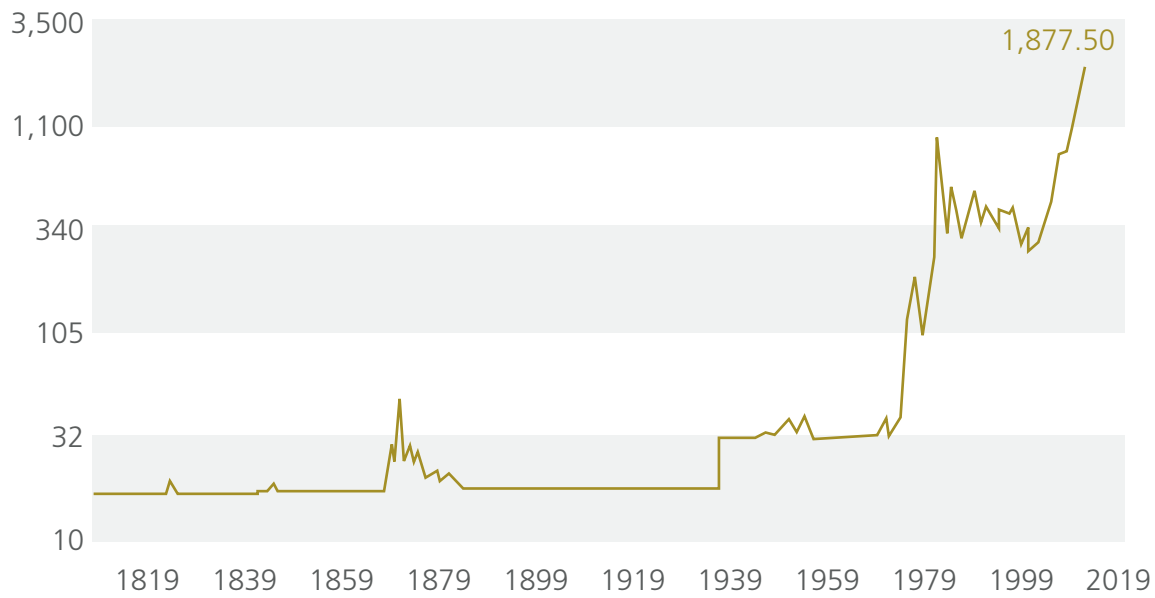
Looking back at two key data points (CPI and Gold over 200 years) we see that this arrogance wasn't fueled by a superior intellectual framework but rather a type of radicalization to manipulate the business cycle that was ultimately short-sighted and reckless.

What you won't see in these charts are generations of prudent households that worked hard over their lifetimes under the belief that when they retired, their hard-earned capital would enable a respectable lifestyle and possibly a bequeathing to their heirs. Parabolic charts like this highlight that the demographic I just described has been replaced by a demographic that is highly levered, addicted to consumption, and lacks the conditioning to defer consumption for savings. A hard working population that produced a well distributed and resilient base of capital which served as the basis for long-term stable growth has been replaced by a population of carrot-chasing mice, running on a pin-wheel that is the global economy, while a segment of the population systematically extracts wealth and capital from them.

## Consumer Price Index (Estimate) 1800-2007



## Gold (London PM Fix, Spot, U.S. \$ per troy ounce)



What starts out as a British maneuver to manipulate the business cycle evolves into an economic plague that seduces politicians around the world. Ultimately, with [this address](#) by Richard Nixon in 1971, the most important host is infected leading the rest of the world to follow shortly and resulting in the first modern era where every nation employs a 100% fiat monetary standard. Note the manipulation which was perpetuated on the American citizenry as Nixon looks straight at the camera and states:

“We will be suspending *temporarily* the convertibility of the US dollar into gold.”

- Richard M. Nixon 1971



Fast forward nearly 50 years, and this plague has mutated into a dogmatic approach to monetary theory that reigns supreme in a manner that is uniquely undemocratic. Central bankers today are the most powerful people in the world and maintain their power by manipulating the public into believing their economic theories are the only game in town. They have no outside oversight and operate in a manner akin to a cartel. A perfect example of this “judge, jury, and executioner” mentality can be found in [this article](#) published a few weeks ago by Bloomberg. Here we see a blatant attempt by Dr. Stanley Fisher, the former Central Banker of Israel and MIT Professor, to scare us mortals into believing we owe a debt of gratitude to the world’s central bankers: “Without Ben, we’d all be in much worst shape”. In my humble opinion Dr. Fischer is in no position to pass judgment on his former student and most definitely not a few hundred days following the implementation of his policies.

The power to create money from nothing is exceptional power. History has proven that power corrupts. So why are we going through one more test to see if it’s true? Retesting the axiom seems like retesting one of the laws of physics. Yet, our central banking system and the fiat money it produces are predicated on human control over an infinitely complex economy. Hayek, the great Austrian economist, called this “Fatal Conceit”. Keynes suggests it could be controlled. However, even Keynes would disagree with some of the policies that are now called “Keynesian” and Keynesianism is certainly under stress. Doubts about its long term efficacy abound. The Keynesian community totally misread the coming of the 2008 disaster. After they did they repeated a very common mantra: “Nobody saw it coming”. The truth is that virtually every Austrian School economist saw it coming. It is just that there weren’t any Austrian School economists within the mainstream power structure. They were outcasts, but it is past time to bring them into the decision making process.

I believe the seeds for this trend have already been planted. Most recently we have seen a surprising amount of Pro-Keynesian economists explore the theory of [stock vs. flow](#). For academics, only a highly academic and trendy theory can combat the current trends in academic theory. In stock vs. flow I believe we have such a theory as it is becoming a larger hole in the central bank argument. It is only a matter of time before academics begin to publish papers exposing these holes leading to a re-examination of these policies. When they finally open their eyes they will discover that a well-articulated, rational, and sophisticated theory exists for tangible commodity money practiced by great economists such as Ludwig Von Mises, and Frederic Hayek of the Austrian School.

## Event /Trend B

### When Capital is Free Hoarding Ensues

At some point there will be a realization by market participants, consumers, and producers of agriculture, forestry, fishing, and mining that an inflection point has occurred with respect to hoarding of these products. It is imperative to note that since 1971 when world economies were largely based on commodity money (gold), human consumption patterns have changed drastically to the point where the average family visits a super-market on a daily/weekly basis. The elasticity of certain commodities is such that a simple increase in the tenor of visits to a supermarket could markedly reduce the supply of certain commodities causing shortages and inflation. As far as market participants are concerned, the artificially suppressed cost of capital and interest rates make it more logical to hoard commodities for future sale than to mine/produce them.

## Event /Trend C

### The Race to Re-embrace Capitalism

Influenced by events A and B, there will be a tipping point when surplus nations realize that being a first mover to commodity backed money will change the paradigm of global leadership, turning their currencies into foreign reserve assets while permanently crystallizing their wealth. I sincerely believe that China would be devaluing their fiat currency (the RMB) had they not been secretly thrilled at the idea of accumulating more finite raw materials at artificially low prices for their 100 year plan. This is an important point that is often overlooked as market participants tend to forget that China is implementing economic policies based on multi-decade goals while global central bankers manage their economies on a daily basis and western politicians write laws to avert hourly crises.

I believe that these three trends will converge resulting in a much more conservative monetary policy that in some nations may mean a reversion to some type of commodity money (gold standard). These series of interrelated trends will together form the biggest tail event as very few are positioned for a reversion to this type of economic activity.

Coincidentally, it is not the poorer classes who will suffer the most but the over-indebted wealth class that has pushed the envelope of the current system by producing something they believe is wealth while pursuing unproductive activities. The biggest disappointment of fiat money is that contrary to Keynes original vision it has only made wealth disparity wider, as the wealthy are the first to benefit from money printing while each round of QE permanently raises the cost of basic goods and services for the poor.

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The power to create money from nothing is exceptional power. History has proven that power corrupts.

”



## Only Tangible Money Can Peacefully Bail Out The Fiat Money System

In 2008 the over-indebted financial segment of the global economy collapsed with Lehman Brothers being the straw and AIG being the nail that would effectively bankrupt the imprudent risk takers within that segment. The biggest lie perpetuated on the citizenry was that the collapse of this segment of the economy would have impacted everyone. It was a lie because the usage of extraordinary measures to stabilize and provide liquidity should have been limited to protect depositors and/or securities with the implicit guarantee of respective nations. Some level of money printing would have been required in order to achieve this objective, however the moral hazard associated with such an event could have been rationalized. Prudent savers that had entrusted their federally insured banks with capital would have been protected entirely; retirees that support their nation by purchasing principal guaranteed debt instruments deservedly would have been protected too.

The morning after such an event, the prudent savers would have woken up with the ability to redeploy that capital how they saw fit, such as in risk assets at depressed levels. Everyone else with any risk that exceeded their equity capital would have been wiped or at the least stuck in a well-deserved deleveraging cycle for several years. A reset of epic proportions would have ensued, bringing opportunity and equality to millions by resetting both opportunity and risk. The result would have been a healthier economy with sound fundamentals. Savings would have fueled an investment boom that ultimately would have led to natural growth and prosperity.

We all know that this was not the route chosen by the powers that be. In September of 2008 the rules were changed. Utilizing the fiat money system, central bankers began to arbitrarily subsidize the indebted segment, bailing out bad business decisions by devaluing (printing money) the capital accumulated by the prudent classes. When I say prudent classes, I am not referring to the billionaires who game the system and for the most part were bankrupt had it not been for the bailing out of AIG CDS contracts. I am referring to the individual who had \$250k in a CD with his regional bank and would have been able to redeploy that in a reset economy that rewarded his prudence and labor.

Instead, we saw the continuance of the Ponzi scheme with a bail-out for the over-indebted segment of the economy (the real estate developers, the leveraged buyout kings, and the big banks) plus a disproportionate reward of nearly \$20 trillion of value increase since 2009 (increase of stock market value and real estate value in the US alone).

Nearly six years later the bailout is still taking place by artificially suppressing the interest rates while simultaneously devaluing the money of the prudent saver to the tune of nearly \$1 trillion a year. The objective is clear: force the saver out of risk-free assets and into high-beta, fundamentally unsound, and leveraged securities. This is the biggest forced redistribution of wealth in history and while it is extremely unfortunate for the savers who see their hard-earned wealth eroding to the tune of nearly 10% a year, there is in my view a positive outcome to all of this insanity.

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This is the biggest forced redistribution of wealth in history.

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The fiat money system is **vulnerable** for the first time since 1971 with global central banks now stuck in a liquidity trap. They have pushed the bubble deeper by assuming the financial risk of the private sector, the government, and quasi-government agencies and in doing so have forsaken their own ability to positively affect the economy. If they stop printing money growth will slow and rates will rise, whereas if they raise rates growth will slow followed by deflation.

The only thing keeping the system going is the temporary willingness of citizens around the world, specifically in surplus nations, to part with their goods and services for indebted western nation fiat money. The end of the fiat money system will materialize once a combination of the three trends I highlighted previously takes form. It is impossible to predict which trend will occur first. They may manifest in different ways or in a different order but I am convinced that some form of these trends will take hold in my lifetime. When they do, the fiat money system will have to be bailed out just as the financial system was bailed out in 2008. It is simply a matter of mathematics.

The only thing capable of bailing out the fiat money system while maintaining some sort of continuance of society and power in its present form is a re-rating of the monetary unit of exchange by implementing a commodity money standard. History shows many examples of this and it is a surprisingly seamless process. When confidence in the medium of exchange (money) erodes, a government has no choice but to introduce a tangible commodity backed unit of exchange for people to regain their confidence. The solution to a currency crisis can only be a new currency that is indexed to something tangible like gold which correlates well with the supply and demand trends of other necessary commodities consumed by our civilization. For those wondering why gold serves as the best medium of exchange I recommend reading [this piece](#) written by Passport Capital in 2008. Unfortunately, the rare attributes of gold are not taught as part of today's K-12 curriculum. Here is my understanding of why the naturally occurring element Gold (Au) serves as the best medium of exchange.

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When confidence in the medium of exchange (money) erodes, a government must introduce a tangible commodity backed unit of exchange.

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## Gold – Naturally Occurring Perfect Money

Our industrialized society is based on a free market economy that leverages a global division of labor to raise living standards and unleash maximum human potential, thereby creating prosperity. There are many qualitative and quantitative factors that must come together for this process to work but there are four foundational industries which we could never do without. They form the genesis from which every transaction in the economy follows. I call them MAFF (Mining, Agriculture, Fishing, and Forestry). These four industries produce the raw commodities we need to consume in order to maintain the status quo from which we build secondary, tertiary, and even more complex industries such as service based, technology based, and asset based industries.

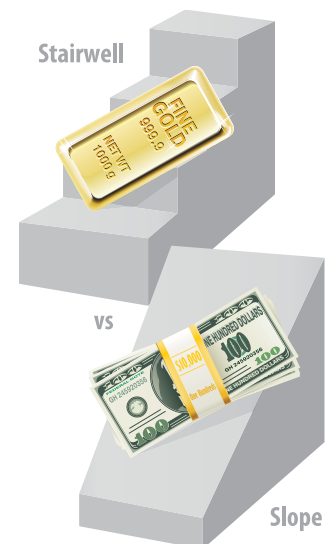
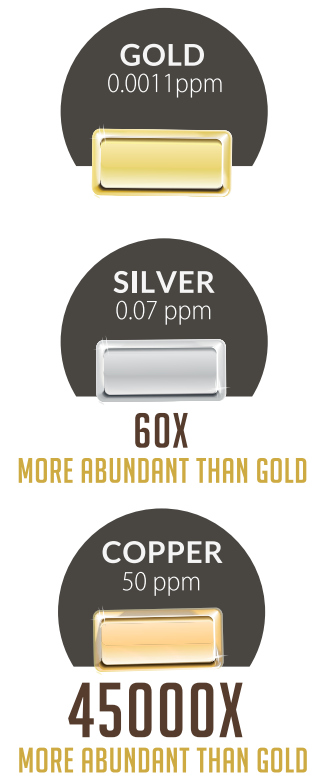
As such it is necessary for a medium of exchange to be inextricably linked to the MAFF industries while not impeding the growth of those industries. Without such a link, the medium of exchange will not successfully retain value between transactions in the different segments of the economy. That is why Bitcoin will never work as a ubiquitous form of money (as Jim Rickards has so eloquently debated here). Gold has incredible attributes that link it to the MAFF industries while not competing with them. At .0011 parts per million, gold is the rarest of all industrial commodities.

This means the production of gold is linked with the growth in supply of other commodities while the proportion will always make it more sought after in a market based exchange system. The other wonderful attribute of gold is that when measured correctly it is equally distributed amongst the continents of earth. As we show in our yearly report, the nations that most promote gold exploration are the ones to discover gold irrespective of their geological endowment.

## Gold or Tangible Commodity Money Promotes Lasting Prosperity (Stairwell vs. Slope)

The most troubling aspect of the last 40 years has been the lack of resiliency inherent in the global financial system. Every few years it seems we are on the brink of erasing several years' worth of growth and prosperity. The notional figures will always mask this as they are quantitatively manipulated by the central banks. For the most part people work harder today than they did before 1971, consume less quality products on a per capita basis, and have more debt and less wealth to bequeath to their heirs. There is also very little predictability in the global economy today. With the artificial suppression of interest rates came the removal of the risk-free rate of return for savers. That means savers cannot live a respectable retirement without digging into the principal they so carefully protected for decades. This type of growth is akin to ascending a slope. One mistake and you will slip several levels below your high water mark with each level representing a year.

If you take the time as I have and read the history books you will note that prosperity achieved on a gold or other tangible money standard is akin to ascending a stairwell: Growth may have been notionally harder to achieve but the reward is a permanent ascension in prosperity. When you struggle you can pause, rebalance, and reposition your economy for growth and when that growth comes it will be from near the highest water mark.



## Conclusion

I hope this letter helps you better understand the importance of gold and why I continue to be excited by the gold mining industry. I am of the belief that every diversified portfolio should have some permanent exposure to gold. The gold price does not need to rise much notionally for the industry to be wildly profitable. A reacceptance of gold in the financial system would place a “put” under every gold deposit in the world turning mine finance into a highly liquid asset class resembling the mortgage finance market today. This would result in gold deposits with proven economics being worth their NPV overnight and a rush to discover and re-explore brownfields and anomalies.

This process will most certainly require patience as the state of the industry today is not good. Luckily, an investor today is rewarded with valuations that offer significant downside protection and substantial upside. As you will see throughout the rest of this report, there are only 580 mines and deposits on earth with over 1 million troy ounces of in-situ gold with less than 200 in North America. Compare that to 2,000 billionaires, 50,000 Picassos, and \$230 trillion in global financial assets. I cannot think of a better asset class I would rather be invested in over the coming decades. As for physical gold, our research this year shows that we are nearing peak gold production as the total in-situ ounces when adjusted for metallurgical recoveries and average mine life are about 50% less than what is required to maintain the current production trends.

I would like to thank Josh Crumb and Bill Kuta for assisting with the list this year. I would also like to thank Jeff Desjardins and his team at Visual Capitalist for once again collaborating with us on the production of this report.

Sincerely,

Roy Sebag

November 17, 2013

▼ And now for the main takeaways from the  
▼ 2013 World Ranking of Gold Deposits

# 2013 Results Discussion

Written by:  VISUAL CAPITALIST




We were able to identify a total of 580 deposits that have over 1,000,000 ounces of gold for a total of 3.72 billion in-situ ounces.

The average grade of all deposits is **1.01 g/t Au**.

These deposits are owned by 312 entities including public, private, and government-sponsored corporations. 261 of the deposits are owned (or partially owned) by independent junior miners. [\[Skip to full list\]](#)

## 2013 vs. Previous Years

It is our belief that this is by far the most comprehensive report yet. That said, those that compare this report to 2012 will notice significant differences in the final metrics. Most notably:

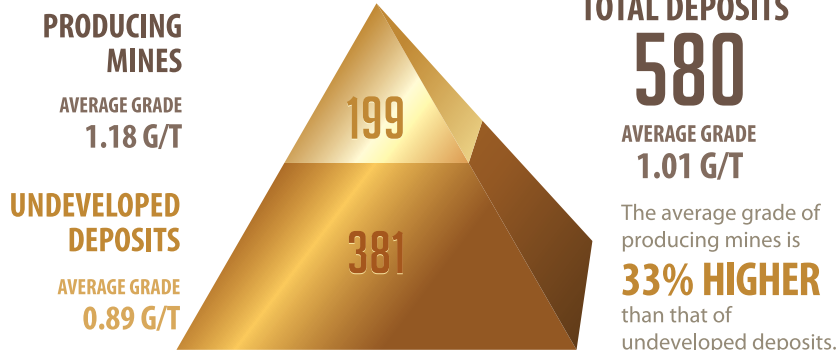
-  Total deposits over 1 million oz increased from 439 to 580 worldwide.
-  Total ounces have increased from 3.02 billion oz to 3.72 billion oz of Au.
-  Average grade has increased from 0.82 g/t to 1.01 g/t Au.

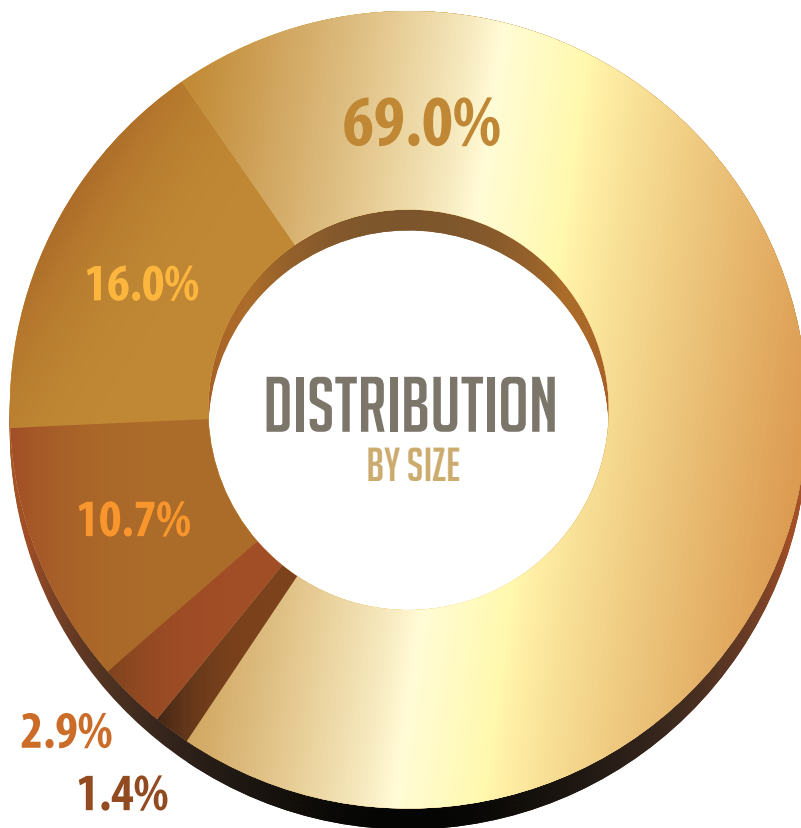
The chief difference is that this year we decided to include all African deposits and mines, including projects that we believe will never be mined because they did not meet our thresholds of grade or depth; however, by including these projects, which add up to about 350 million oz alone, we believe the report is much more encompassing.

## Trends in Size and Grade

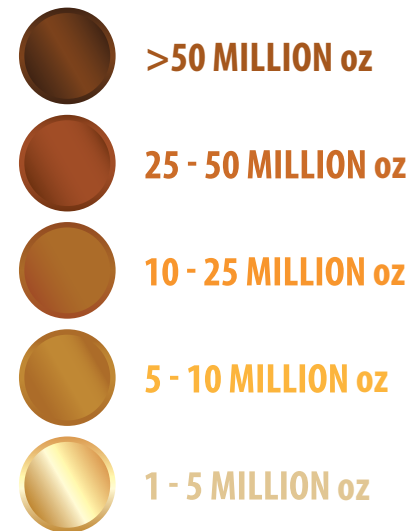
The project economics of gold deposits are mostly dependent on two major factors: size and grade. Without a sizeable ore body, a mining operation cannot acquire the economies of scale to bring down the cost of production. Likewise, a project without grade may not have the margins for each ton of ore processed to justify production.

## MINES: PRODUCING VS UNDEVELOPED





Very large gold discoveries (>10 million oz) are **VERY RARE** and make up only 15% of all deposits. The bulk (69%) are less than 5 million oz.



The average grade differed significantly between producing and undeveloped deposits. The average grade of all producing mines is 1.18 g/t Au, which is 32.6% higher than the average of all projects still in the development phase (0.89 g/t Au). This has significant implications on future gold production. In the near term, with significant volatility and the gold price at a three-year low, many of these projects are simply not economically feasible.

In the medium to long term, unless major discoveries are made, either gold production must decrease (with a focus on only higher grade deposits) or the price of gold must rise to make these projects economical.

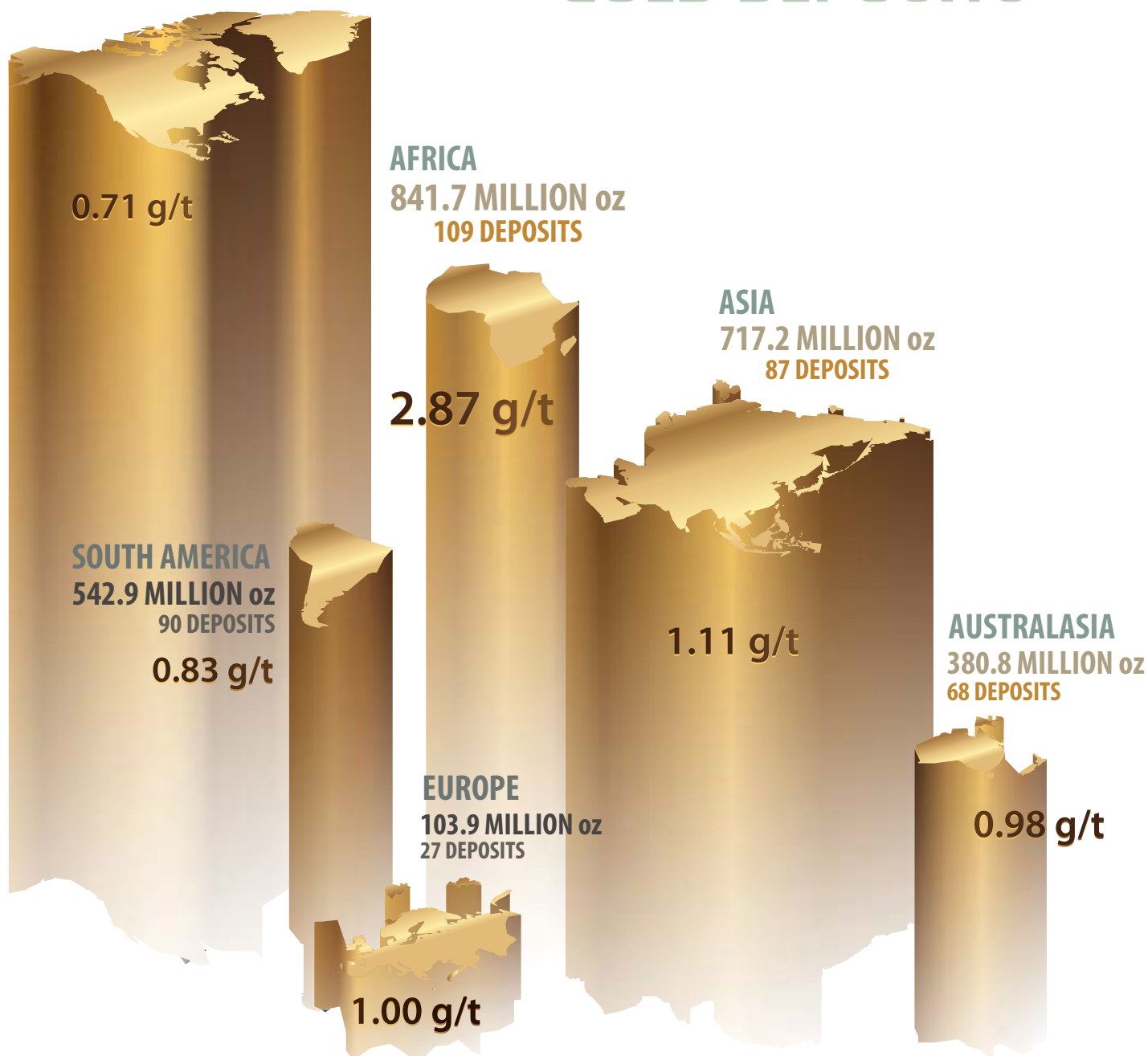
A key take home point of this report each year is the rarity of large, high-grade projects. There are only 51 (8.8%) projects in the world that are more than 5 million oz and have an average grade of higher than 3 g/t Au. Of these, there are only 21 that are not yet in production.

## By Geography

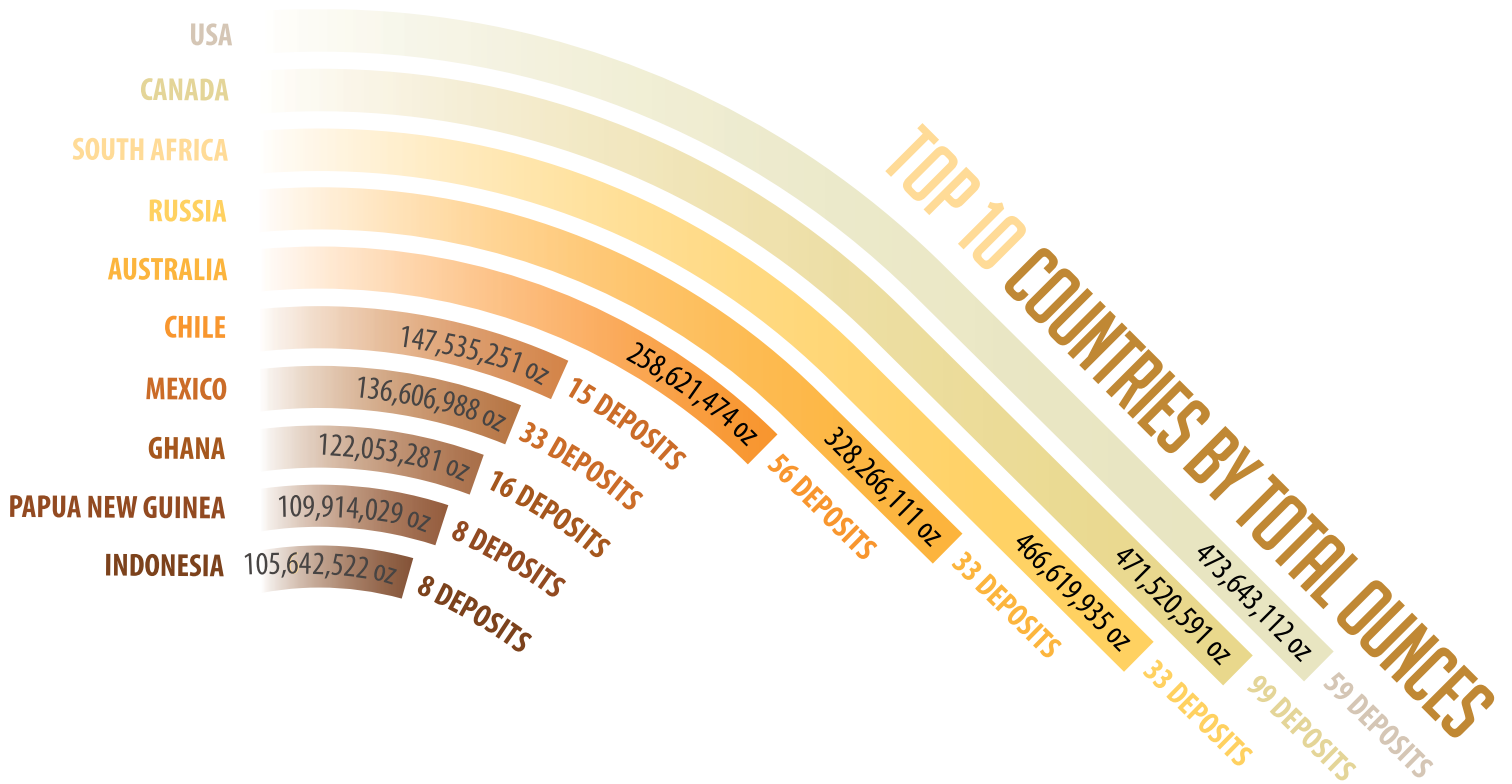
While North America shows the largest amount of contained gold, Africa continues to be home to some of the highest grade (and highest risk) projects on the planet.

**NORTH AMERICA**  
**1,130.9 MILLION oz**  
**199 DEPOSITS**

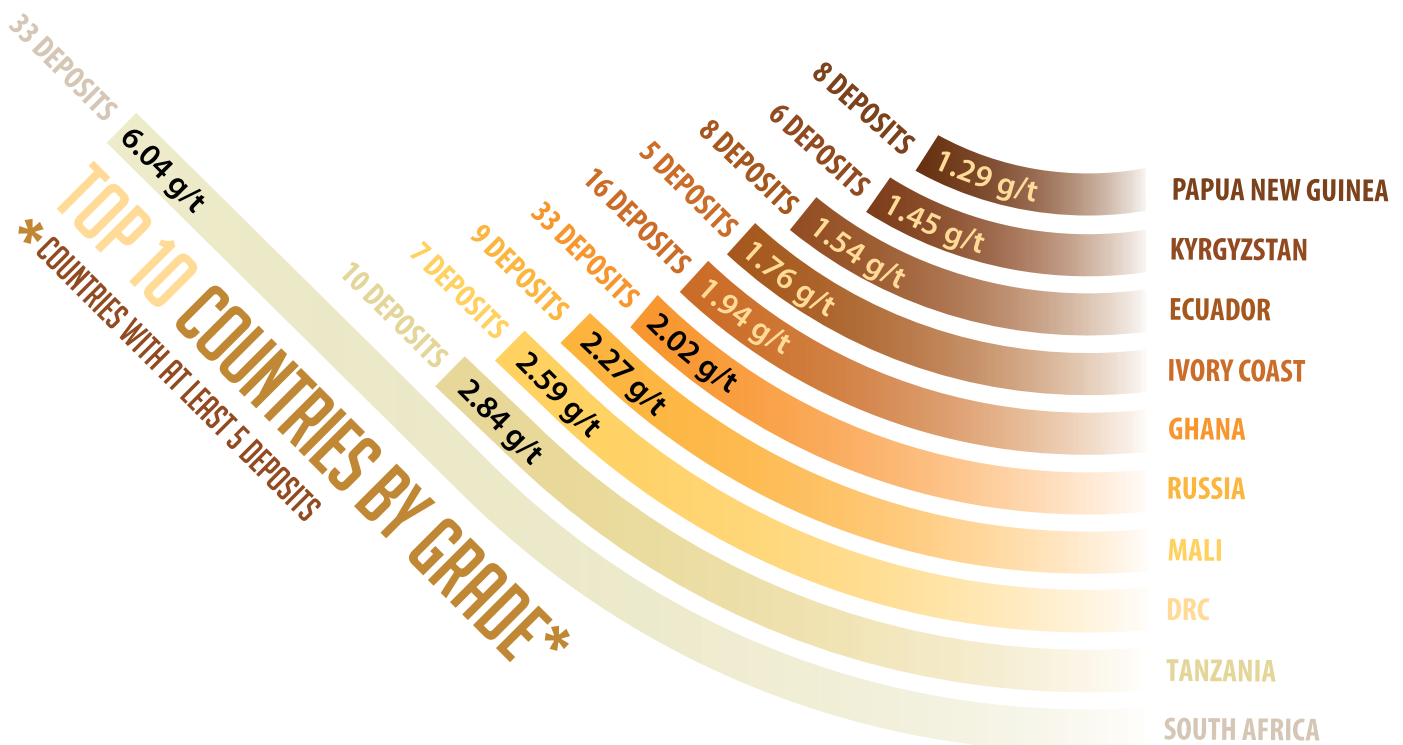
# GEOGRAPHICAL GOLD DEPOSITS



## Top 10 Countries by Total Ounces and Grade



The highest grade deposits in the world are in countries such as South Africa, Tanzania, DRC, Mali, Russia, Ghana, Ivory Coast, Ecuador, Kyrgyzstan, and Papua New Guinea.





## The Future of Gold Supply

Our figure for in-situ ounces that we have provided (3.72 billion oz Au) is a comprehensive view of what is below ground in terms of reserves and resources.

However, to come up with a clear picture of what is actually recoverable, the reality is that there are several limitations to the amount of gold that will actually become part of the future supply chain:

- Economic pit outlines have not yet been applied.
- Metallurgical recovery rates have not yet been applied.
- Inferred resources have been included in global contained ounces.
- Undeveloped deposits with no clear path towards permitting remain included.

To project an accurate figure, we need to take our 3.72 billion oz number and apply some math:

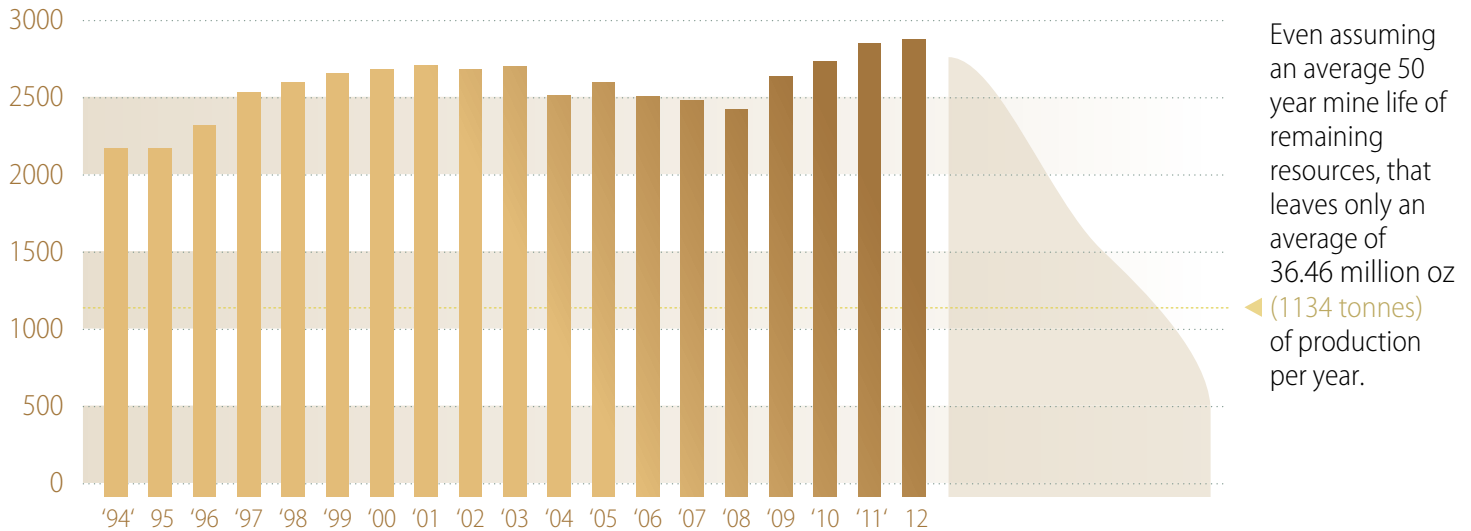


This number, 1.82 billion oz, becomes really interesting when we look at annual extractable supply. Averaged over 50 years, the supply is equal to 1,134 tonnes (36,464,480 oz) of gold per year.

This figure is equal to only 42% of the 2,700 tonnes (86,807,016 oz) of worldwide gold production in 2012.

# HAVE WE REACHED PEAK GOLD?

With only about **1.82 billion oz (56,674 tonnes)** of gold left using our conservative estimates, this means we may have already reached peak gold in 2012.



## Conclusion

Led by countries such as Russia and China, central banks have recently become net buyers of gold. Meanwhile, ETF gold outflows have been a temporary source of supply this year, but obviously this cannot persist. It's also unreasonable to assume that recycling will make up a significantly greater piece of supply without the price of gold increasing substantially.

With the grade of current producing gold mines being 32.6% higher than undeveloped deposits, it makes the supply scenario even clearer. Not only is the current yearly mine supply difficult to sustain, but future mines coming online will be challenged by grade and margins to be economical at today's prices.

Mathematically, unless we have high-grade, high ounce deposits that are being fast tracked online, it will be very difficult to find a way to get supply to match demand.

And now for all 580 deposits over 1 million ounces

## All 580 Mines & Deposits (Descending Order by Global In Situ Resource)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
1	Pebble Deposit	10,776	0.31	107,269,278	USA, Alaska	Northern Dynasty	
2	Natalka	1,693	1.68	91,179,118	Russia	Polyus Gold	
3	Grasberg	4,765	0.56	85,800,000	Indonesia	Freeport Mcmoran	•
4	South Deep	415	6.10	81,330,718	Africa, South Africa	Goldfields	•
5	Olimpiada	748	3.22	77,435,009	Russia	Polyus Gold	•
6	Lihir	1,020	1.69	55,347,469	Papua New Guinea	Newcrest	•
7	Mponeng	111	14.24	50,832,453	Africa, South Africa	Anglogold Ashanti	•
8	Muruntau	625	2.49	50,000,000	Uzbekistan	Government of Uzbekistan	•
9	KSM Deposit	2,895	0.52	48,592,023	Canada, BC	Seabridge Gold	
10	Cadia Valley	3,630	0.41	48,116,771	Australia	Newcrest	•
11	Oyu Tolgoi	3,755	0.38	46,070,529	Mongolia	Ivanhoe	•
12	Donlin Creek	634	2.20	44,854,369	USA, Alaska	Barrick / NovaGold	
13	Blyvoor	548	2.43	42,912,145	Africa, South Africa	Village Main Reef	
14	Pueblo Viejo	493	2.53	40,113,819	Dominican Republic	Barrick / Goldcorp	•
15	Snowfield	2,203	0.49	34,982,848	Canada, BC	Pretium Resources	
16	Sukhoi Log	384	2.67	33,000,000	Russia	Government of Russia	
17	Cerro Casale	1,995	0.50	32,235,824	Chile	Barrick / Kinross	
18	Hycroft	3,024	0.32	31,245,354	USA, Nevada	Allied Nevada Gold	•
19	Las Cristinas	1,116	0.86	30,804,000	Venezuela	Government of Venezuela	
20	Obuasi	173	5.35	29,839,664	Africa, Ghana	Anglogold Ashanti	•
21	Detour Lake Mine	887	1.02	29,029,852	Canada, Ontario	Detour Gold	
22	Evander	109	8.16	28,653,856	Africa, South Africa	Pan African Resources	•
23	Turquoise Ridge	161	5.18	26,794,589	USA, Nevada	Barrick / Newmont	•
24	La Colosa	905	0.92	26,764,551	Colombia	Anglogold Ashanti	
25	Pascua-Lama	662	1.20	25,634,059	Chile	Barrick	
26	Caspiche	1,646	0.47	24,866,976	Chile	Exeter Gold	
27	Paracatu	2,000	0.38	24,579,390	Brazil	Kinross	•
28	Livengood	1,511	0.49	23,783,819	USA, Alaska	Int'l Tower Hill Mines	
29	Burnstone	140	5.05	22,679,473	Africa, South Africa	Great Basin Gold	•
30	Boddington	1,153	0.61	22,494,382	Australia	Newmont	•
31	Buffels	55	12.56	22,183,073	Africa, South Africa	Village Main Reef	
32	Masimong	113	6.01	21,883,936	Africa, South Africa	Harmony Gold	•
33	Carlin	408	1.66	21,809,732	USA, Nevada	Newmont	•
34	Moab Khotsong	35	18.51	20,912,161	Africa, South Africa	Anglogold Ashanti	•
35	Blagodatnoye	283	2.26	20,559,841	Russia	Polyus Gold	•
36	Telfer Complex	991	0.64	20,353,144	Australia	Newcrest	•
37	Metates	1,247	0.50	20,184,542	Mexico	Chesapeake	
38	Penasquito	1,962	0.32	20,162,335	Mexico	Goldcorp	•
39	Cortez Operation	242	2.46	19,149,846	USA, Nevada	Barrick	•
40	Kibali	190	3.11	19,003,488	Africa, DRC	Randgold	
41	Rosia Montana	558	1.04	18,562,670	Romania	Gabriel Resources	
42	Ahafo	318	1.73	17,711,897	Africa, Ghana	Newmont	•
43	Conga	924	0.59	17,498,007	Peru	Newmont/ Buenaventura	
44	Bulyanhulu	56	9.68	17,451,827	Africa, Tanzania	Barrick	•
45	Verninskoye	240	2.24	17,273,915	Russia	Polyus Gold	•
46	Kisladag	943	0.54	16,527,230	Turkey	El Dorado	•
47	Los Filos	607	0.83	16,232,344	Mexico	Goldcorp	•
48	Galore Creek	1,629	0.31	16,151,012	Canada, BC	Novagold / Teck	
49	Tasiast	407	1.19	15,525,962	Africa, Mauritania	Kinross	•
50	Sukari Mine	455	1.06	15,453,309	Egypt	Centamin Egypt	•

## All 580 Mines & Deposits (51-100)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
51	El Morro	1,350	0.36	15,435,066	Chile	Goldcorp / NewGold	
52	Tarkwa	317	1.50	15,263,556	Africa, Ghana	Goldfields	•
53	Goldstrike	113	4.18	15,146,492	USA, Nevada	Barrick	•
54	Phakisa	47	10.00	15,011,076	Africa, South Africa	Harmony Gold	•
55	Kumtor	141	3.29	14,867,353	Kyrgyzstan	Centerra	•
56	Marmato	489	0.91	14,346,681	Colombia	Gran Colombia	
57	Wafi / Golpu / Nambonga	590	0.75	14,313,502	Papua New Guinea	Newcrest	
58	King King	917	0.48	14,203,336	Philippines	St. Augustine Gold	
59	Red Hill - Gold Rush	99	4.43	14,096,222	USA, Nevada	Barrick	
60	Bloemhoek	63	6.90	13,998,103	Africa, South Africa	Wits Gold	
61	Tshepong	42	10.03	13,474,721	Africa, South Africa	Harmony Gold	•
62	Mt. Todd	508	0.82	13,390,766	Australia	Vista Gold	
63	BruceJack	30	13.50	13,191,120	Canada, BC	Pretium Resources	
64	New Prosperity	1,011	0.40	13,156,783	Canada, BC	Taseko Mines	
65	Porgera	120	3.37	13,057,405	Papua New Guinea	Barrick	•
66	Cripple Creek	561	0.72	12,986,783	USA, Colorado	Anglogold Ashanti	•
67	Canadian Malartic	397	1.01	12,914,109	Canada, Quebec	Osisko	•
68	Goliath Gold	82	4.67	12,315,879	Africa, South Africa	Gold One International	
69	Yanacocha	432	0.88	12,283,642	Peru	Newmont / Buenaventura	•
70	Geita	143	2.67	12,278,043	Africa, Tanzania	Anglogold Ashanti	•
71	Megamine	82	4.63	12,207,128	Africa, South Africa	Goliath Gold	
72	Porcupine	294	1.25	11,793,798	Canada, Ontario	Goldcorp	•
73	AGA Mineração	63	5.81	11,792,412	Brazil	Anglogold Ashanti	
74	Charters Towers	28	12.83	11,496,121	Australia	Citigold	
75	Courageous Lake	153	2.30	11,322,353	Canada, BC	Seabridge Gold	
76	Phoenix	685	0.51	11,270,018	USA, Nevada	Newmont	•
77	Target	46	7.59	11,247,384	Africa, South Africa	Harmony Gold	•
78	Cooke	75	4.63	11,140,438	Africa, South Africa	Gold One International	•
79	Choco 10	199	1.73	11,059,206	Venezuela	Rusoro	•
80	Titiribi	635	0.54	11,041,150	Colombia	Sunward	
81	Fruta del Norte	52	6.62	11,029,634	Ecuador	Kinross	
82	Veladero	515	0.65	10,832,010	Argentina	Barrick	•
83	DBM Project	61	5.47	10,776,922	Africa, South Africa	Wits Gold	
84	Kyzyl	40	8.05	10,353,047	Kazakhstan	Ivanhoe	
85	Loulo	73	4.37	10,252,078	Africa, Mali	Randgold	•
86	Golpu	500	0.63	10,196,602	Papua New Guinea	Harmony Gold	
87	Damang	165	1.90	10,103,686	Africa, Ghana	Goldfields	•
88	Toroparu	370	0.84	9,958,573	Guyana	Sandspring Resources	
89	Gaby	499	0.62	9,946,791	Ecuador	International Minerals/Chinese Firm	
90	Orisyvo	335	0.92	9,945,022	Mexico	Fresnillo	
91	Super Pit / Kalgoorlie	236	1.31	9,911,783	Australia	Barrick / Newmont	•
92	Malomir	371	0.82	9,778,079	Russia	Petropavlovsk	•
93	Lobo Marte	311	0.98	9,755,932	Chile	Kinross	
94	Freddies 9	36	8.51	9,745,656	Africa, South Africa	Harmony Gold	
95	Volcan	431	0.69	9,551,776	Chile	Hochschild Mining	
96	Copler	234	1.26	9,486,874	Turkey	Alacer Gold	•
97	Maoling	319	0.91	9,333,998	China	Mundoro Capital	
98	Kopanang	23	12.25	9,247,512	Africa, South Africa	Anglogold Ashanti	•
99	Sadiola	170	1.69	9,223,650	Africa, Mali	Anglogold Ashanti/IAMGold	•
100	Blackwater	391	0.73	9,196,062	Canada, BC	NewGold	

## All 580 Mines & Deposits (101-150)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
101	Kusasaletu (Elandsrand)	29	9.69	9,035,318	Africa, South Africa	Harmony Gold	•
102	Cote Lake	312	0.87	8,751,738	Canada, Ontario	IAMGold	
103	OK Tedi	250	1.06	8,519,941	Papua New Guinea	PNG Sustainable Dev't Program	•
104	Rainy River	252	1.04	8,439,368	Canada, Ontario	NewGold	
105	Rosebel	265	0.99	8,403,664	Suriname	IAMGold	•
106	Aurora	80	3.26	8,362,898	Guyana	Guyana Goldfields	
107	Meliadine	45	5.55	8,097,660	Canada, Nunavut	Agnico Eagle	
108	Maricunga	382	0.66	8,091,542	Chile	Kinross	•
109	Martabe	191	1.31	8,032,639	Indonesia	G-Resources	
110	Amantaytau	93	2.66	7,971,611	Uzbekistan	Oxus Gold	
111	Doornkop	41	5.98	7,898,082	Africa, South Africa	Harmony Gold	•
112	Tropicana	118	2.08	7,892,984	Australia	Anglogold Ashanti	
113	Masbate	307	0.79	7,833,974	Philippines	B2 Gold (via CGA Mining)	•
114	Kittilia	60	4.06	7,821,292	Finland	Agnico Eagle	•
115	Kuranakh	154	1.57	7,728,314	Russia	Polyus Gold	•
116	Akyem	146	1.64	7,699,198	Africa, Ghana	Newmont	
117	Eleonore	26	9.16	7,690,186	Canada, Quebec	GoldCorp	
118	Mount Milligan	727	0.33	7,616,191	Canada, BC	Thompson Creek Metals	
119	Bald Mountain	462	0.51	7,574,688	USA, Nevada	Barrick	•
120	Rovina Valley	433	0.54	7,506,937	Romania	Carpathian Gold	
121	Volta Grande	128	1.76	7,209,169	Brazil	Belo Sun	
122	Hammond Reef	272	0.82	7,154,050	Canada, Ontario	Osisko	
123	Chang Shan Hao	395	0.56	7,134,245	China	China Gold Int'l	•
124	Skouries	452	0.49	7,131,323	Greece	El Dorado	•
125	EGM	207	1.07	7,118,170	Africa, Ghana	Perseus Mining	
126	Golden Meadows	134	1.65	7,111,961	USA, Idaho	Midas Gold	
127	Cerro Negro	29	7.50	7,076,519	Argentina	Goldcorp	
128	Mayskoye	25	8.66	6,961,982	Russia	Polymetal	•
129	Spanish Mountain	533	0.40	6,875,921	Canada, BC	Spanish Mountain Gold	
130	Goldex	128	1.67	6,873,806	Canada, Quebec	Agnico Eagle	•
131	Marigold Mine	426	0.50	6,814,465	USA, Nevada	GoldCorp/Barrick	•
132	Mana	92	2.28	6,738,555	Africa, Burkina Faso	Semafo	•
133	Bissa	170	1.23	6,734,270	Africa, Burkina Faso	High River Gold	
134	La Bodega	139	1.50	6,700,000	Colombia	AUX	
135	Lagunas Norte	230	0.90	6,664,769	Peru	Barrick	•
136	Iduapriem	146	1.41	6,599,961	Africa, Ghana	Anglogold Ashanti	•
137	Hardrock	74	2.75	6,563,077	Canada, Ontario	Premier Gold Mines	
138	Back River	32	6.39	6,549,006	Canada, Nunavut	Sabina Gold & Silver	
139	La Herradura	273	0.74	6,466,486	Mexico	Newmont/Fresnillo	•
140	Mesquite	445	0.44	6,356,359	USA ,California	NewGold	•
141	Talas	423	0.46	6,256,531	Kyrgyzstan	Goldfields	
142	Magino Gold	223	0.87	6,250,982	Canada, Ontario	Argonaut Gold	
143	Twin Creeks	95	2.01	6,112,785	USA, Nevada	Newmont	•
144	Siguiri	260	0.73	6,101,103	Africa, Guinea	Anglogold Ashanti/Guinea Gov.	
145	Batero Quinchia	491	0.39	6,087,161	Colombia	Batero	
146	Chucapaca	133	1.42	6,074,622	Peru	Goldfields	
147	Paddington	116	1.61	6,016,275	Australia	Norton Gold Fields	•
148	Laronde	46	4.02	5,959,205	Canada, Quebec	Agnico Eagle	•
149	Twangiza	116	1.60	5,938,592	Africa, DRC	Banro	•
150	Cerro Maricunga	474	0.39	5,936,149	Chile	Atacama Pacific Gold	

## All 580 Mines & Deposits (151-200)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
151	Esaase	128	1.44	5,930,593	Africa, Ghana	Asanko Resources	
152	Young-Davidson	69	2.66	5,925,257	Canada, Ontario	Aurico	•
153	Panimba	68	2.67	5,815,963	Russia	Polyus Gold	
154	Macraes	153	1.18	5,798,640	New Zealand	OceanaGold	•
155	South Kalgoorlie	88	2.05	5,793,560	Australia	Alacer Gold	•
156	Converse Deposit	351	0.51	5,721,115	USA, Nevada	International Minerals	
157	Jacobina	62	2.85	5,715,884	Brazil	Yamana	•
158	Golden Summit	255	0.68	5,603,839	USA, Alaska	Freegold Ventures	
159	Red Lake	17	9.93	5,572,910	Canada, Ontario	Goldcorp	•
160	Albazino	39	4.48	5,558,860	Russia	Polymetal	•
161	North Mara	54	3.17	5,549,079	Africa, Tanzania	Barrick	•
162	Chertovo Koryto	87	1.95	5,451,284	Russia	Polyus Gold	
163	Sleeper	551	0.31	5,443,978	USA, Nevada	Paramount Gold	
164	Buritica	17	9.86	5,409,873	Colombia	Continental Gold	
165	Paul Isnard	117	1.43	5,371,779	French Guiana	Columbus Gold	
166	St. Ives	63	2.60	5,266,288	Australia	Goldfields	•
167	Bombore	158	1.03	5,261,337	Africa, Burkina Faso	Orezone	
168	Leonora Complex	27	6.08	5,223,534	Australia	St. Barbara	•
169	Fort Knox	353	0.46	5,207,253	USA, Alaska	Kinross	•
170	Angostura	53	3.06	5,201,363	Colombia	Eco Oro	
171	Kapan	336	0.48	5,182,182	Armenia	Dundee Precious Metals	•
172	Certej	131	1.23	5,177,617	Romania	El Dorado	
173	Essakane	181	0.89	5,152,996	Africa, Burkina Faso	IAMGold	•
174	Corrego do Sitio	31	5.18	5,119,462	Brazil	Anglogold Ashanti	•
175	Cerro Vanguardia	61	2.62	5,098,715	Argentina	Anglogold Ashanti	•
176	Taseevskoye	31	5.10	5,097,250	Russia	Highland Gold	
177	Springpole	154	1.03	5,096,050	Canada, Ontario	Gold Canyon Resources	
178	Unisel	28	5.67	5,027,344	Africa, South Africa	Harmony Gold	
179	Kiaka	147	1.06	5,009,102	Africa, Burkina Faso	Volta Resources	
180	Banfora	112	1.40	5,004,228	Africa, Burkina Faso	Gryphon Minerals	
181	Central Murchison	62	2.52	4,990,821	Australia	Metals X	
182	Merian	129	1.20	4,969,135	Suriname	Newmont	
183	Round Mountain	247	0.62	4,962,569	USA, Nevada	Barrick / Kinross	•
184	Haile Deposit	91	1.65	4,843,096	USA, North Carolina	Romarco Minerals	
185	Olympias	17	8.92	4,736,909	Greece	El Dorado	•
186	Pakrut	70	2.10	4,718,884	Tajikistan	Kryso Resources	
187	Mulatos	154	0.94	4,675,746	Mexico	Alamos Gold	•
188	Aurizona	101	1.44	4,662,356	Brazil	Luna Gold	•
189	Yubilenoye	83	1.75	4,648,994	Kazakhstan	SUN Gold	
190	Goukoto	31	4.66	4,614,686	Africa, Mali	Randgold	•
191	Chelopech	38	3.73	4,609,449	Bulgaria	Dundee Precious Metals	•
192	Chatree	120	1.20	4,609,160	Thailand	Kingsgate Consolidated	•
193	OJVG Golouma	90	1.59	4,585,341	Africa, Senegal	Oromin Explorations	
194	Cuiaba	20	7.21	4,543,412	Brazil	Anglogold Ashanti	
195	Bogoso Prestea	58	2.43	4,533,702	Africa, Ghana	Golden Star Resources	•
196	Pinos Altos	81	1.75	4,526,674	Mexico	Agnico Eagle	•
197	Obotan	67	2.11	4,516,495	Africa, Ghana	PMI Gold	
198	Carrapateena	292	0.48	4,504,959	Australia	Oz Minerals	
199	Pioneer	168	0.83	4,489,106	Russia	Petropavlovsk	•
200	Kirkland Lake	8	16.55	4,480,782	Canada, Ontario	Kirkland Lake Gold	•

## All 580 Mines & Deposits (201-250)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
201	Ilovitza	432	0.32	4,444,208	Macedonia	Euromax Resources	
202	Nyanzaga	91	1.51	4,425,577	Africa, Tanzania	Barrick	
203	Navachab	122	1.13	4,415,950	Africa, Namibia	Anglogold Ashanti	•
204	Sepon	89	1.52	4,338,740	Laos	MMG	
205	Borden Lake	131	1.03	4,336,212	Canada, Ontario	Probe Mines	
206	Amulsar	151	0.89	4,316,652	Armenia	Lydian International	
207	Golden Highway	114	1.17	4,303,387	Canada, Ontario	Moneta Porcupine	
208	South Arturo (Dee)	118	1.13	4,295,471	USA, Nevada	Barrick / Goldcorp	
209	Xietongmen	220	0.60	4,237,980	Tibet	Continental Minerals	
210	Nevada Stock Piles	73	1.80	4,214,574	USA, Nevada	Newmont	
211	Inata	95	1.38	4,206,440	Africa, Burkina Faso	Avocet Mining	
212	Vatukoula	21	6.16	4,198,241	Fiji	Vatukoula Gold Mines	•
213	Passendro	116	1.12	4,169,370	Africa, CAR	AXMIN	
214	Ruby Hill	167	0.78	4,165,399	USA, Nevada	Barrick	•
215	Joel	20	6.40	4,158,310	Africa, South Africa	Harmony Gold	•
216	Corosue Dam Complex	89	1.45	4,156,137	Australia	Saracen Mineral Holdings	
217	Ventersburg	34	3.77	4,149,919	Africa, South Africa	Gold One International	
218	Spring Valley	249	0.52	4,142,755	USA, Nevada	Midway Gold	
219	Modder East	63	2.03	4,133,583	Africa, South Africa	Gold One International	
220	Cowal	113	1.14	4,127,864	Australia	Barrick	•
221	Tanami	23	5.61	4,057,582	Australia	Newmont	•
222	Shahuindo	218	0.58	4,055,155	Peru	Sulliden	
223	Dachang	44	2.82	4,034,215	China	Inter-Citic	
224	Copper Canyon	400	0.31	3,989,680	Canada, BC	Novagold / Teck	
225	Syama	43	2.86	3,985,863	Africa, Mali	Resolute Mining	•
226	Jinfeng	35	3.48	3,964,826	China	El Dorado	•
227	Jerritt Canyon	20	6.04	3,923,401	USA, Nevada	Veris Gold	•
228	Upper Beaver / Kirkland Lake	26	4.70	3,890,315	Canada, Ontario	Osisko	
229	Borborema	109	1.11	3,869,018	Brazil	Crusader Resources	
230	Tongon	45	2.64	3,856,820	Africa, Ivory Coast	Randgold	•
231	Agnew	24	4.90	3,812,433	Australia	Goldfields	•
232	Westwood	11	10.77	3,801,563	Canada, Quebec	IAMGold	
233	Gualcamayo	93	1.26	3,784,732	Argentina	Yamana	•
234	Tau Lekoa	22	5.35	3,757,643	Africa, South Africa	Village Main Reef	
235	Gurupi Project	150	0.76	3,684,105	Brazil	Jaguar Mining	
236	El Penon	20	5.70	3,682,923	Chile	Yamana	•
237	Massawa	41	2.75	3,603,958	Singapore	Randgold	•
238	Meekatharra	64	1.75	3,593,217	Australia	Reed Resources	
239	Pinson	30	3.70	3,582,227	USA, Nevada	Atna / Barrick	
240	MeadowBank	39	2.82	3,560,995	Canada, Nunavut	Agnico Eagle	•
241	Bullabulling	108	1.02	3,554,841	Australia	Bullabulling Gold	
242	Loma Larga	35	3.13	3,516,646	Equador	INV Metals	
243	Casa Berardi Mine	24	4.52	3,494,854	Canada, Quebec	Hecla Mining	•
244	Titimukhta	34	3.14	3,480,795	Russia	Polyus Gold	•
245	Wafi	66	1.63	3,465,848	Papua New Guinea	Harmony Gold	
246	Albyn	82	1.31	3,464,276	Russia	Petropavlovsk	•
247	Rice Lake Complex	18	5.95	3,459,766	Canada, Manitoba	San Gold	
248	Varvara	124	0.87	3,454,627	Russia	Polymetal	•
249	Buzwagi	85	1.25	3,440,550	Africa, Tanzania	Barrick	•
250	AntaKori (Sinchao)	295	0.36	3,411,675	Peru	Southern Legacy Minerals	

## All 580 Mines & Deposits (251-300)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
251	Monument Bay	93	1.13	3,383,086	Canada, Manitoba	Mega Precious Metals	
252	Duparquet	59	1.79	3,381,585	Canada, Quebec	Clifton Star Resources	
253	Bronson Slope	317	0.33	3,375,344	Canada, BC	SnipGold	
254	La Pepa	187	0.56	3,367,989	Chile	Yamana	
255	Hemlo	68	1.53	3,365,469	Canada, Ontario	Barrick	•
256	Batie West/Konkera	59	1.76	3,344,204	Africa, Burkina Faso	Ampella Gold	
257	F2 / Phoenix	12	9.00	3,348,000	Canada, Ontario	Rubicon Minerals	
258	Morelos	22	4.60	3,315,186	Mexico	Torex Gold	
259	Joanna Gold	78	1.32	3,308,920	Canada, Quebec	Hecla Mining	
260	Bau	71	1.44	3,305,552	Malaysia	Besra Gold	
261	Musselwhite	17	6.13	3,289,353	Canada, Ontario	Goldcorp	•
262	Dublin - Eagle Gold	151	0.67	3,280,407	Canada, Yukon	Victoria Gold	
263	Cochenour	9	11.18	3,252,978	Canada, Ontario	Goldcorp	
264	CMD Gold Mine	253	0.40	3,249,795	Chile	Lachlan Star	•
265	Zeravshan	30	3.41	3,247,000	Uzbekistan	Zijin Mining	•
266	El Castillo	328	0.31	3,244,548	Mexico	Argonaut Gold	•
267	Hidden Valley Kaveroi	78	1.29	3,231,148	Papua New Guinea	Newcrest	
268	Coffee	64	1.56	3,231,043	Canada, Yukon	Kaminak Gold	
269	Central Tanami	30	3.31	3,216,429	Australia	Tanami Gold	
270	Tri-K	72	1.38	3,214,108	Africa, Guinea	Avocet Mining	
271	Juby	100	1.00	3,212,050	Canada, Ontario	Temex	
272	Moss Lake	90	1.10	3,188,545	Canada, Ontario	Moss Lake Gold	
273	Whistler Deposit	225	0.44	3,173,662	USA, Alaska	Kiska Metals	
274	Mokrsko	52	1.90	3,150,000	Czech Republic		
275	Fäboliden	93	1.05	3,145,433	Sweden	Lappland Goldminers	
276	Miwah	104	0.94	3,142,347	Indonesia	East Asia Minerals	
277	Burnside Project	40	2.41	3,093,824	Australia	Crocodile Gold	
278	Pilar (Jordino)	24	3.99	3,085,594	Brazil	Yamana	
279	Song Jiaguo	73	1.32	3,074,785	China	Majestic Gold	•
280	Visokoe and Olenka	79	1.18	3,026,885	Russia	Petropavlovsk	
281	Wasamac	34	2.75	3,007,310	Canada, Quebec	Richmont Mines	
282	Douay	117	0.80	3,003,220	Canada, Quebec	Aurvista	
283	Lefa	66	1.41	2,991,946	Africa, Guinea	Severstal	•
284	Savuka	5	17.45	2,979,070	Africa, South Africa	Anglogold Ashanti	•
285	Manica	51	1.82	2,961,278	Africa, Mozambique	Auroch Minerals	
286	Baberton	17	5.35	2,947,736	Africa, South Africa	Pan African Resources	
287	Lindero	188	0.48	2,893,179	Mexico	Goldrock Mines	
288	Alluvial Operations	127	0.71	2,886,132	Russia	Polyus Gold	•
289	Kobada	98	0.89	2,848,000	Africa, Mali	African Gold Group	
290	Wiluna	17	5.29	2,843,346	Australia	Apex Gold	
291	Quartz Mountain	110	0.80	2,840,786	USA, Oregon	Alamos Gold	
292	Timmins West Mine	15	5.67	2,824,952	Canada, Ontario	Lake Shore Gold	•
293	Sunrise Dam	41	2.16	2,823,657	Australia	Anglogold Ashanti	•
294	Sawayaerdun	54	1.63	2,816,191	China	GobiMin	
295	Bibiani	51	1.70	2,809,330	Africa, Ghana	Noble Mineral Resources	
296	TauTona	3	27.99	2,807,684	Africa, South Africa	Anglogold Ashanti	•
297	Quinchia	134	0.65	2,805,906	Colombia	Seafield Resources	
298	Condor	79	1.11	2,803,760	Ecuador	Ecuador Gold and Copper	
299	Kemess	176	0.49	2,794,667	Canada, BC	Aurico	•
300	Contact Project	20	4.32	2,786,726	Kyrgyzstan	Chaarat Gold Holdings	



## All 580 Mines & Deposits (301-350)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
301	Serra Grande	21	4.10	2,786,632	Brazil	Anglogold Ashanti	•
302	Harmony Gold	64	1.35	2,777,822	Canada, BC	Taseko Mines	
303	Robertson	174	0.49	2,741,670	USA, Nevada	Coral Gold	
304	Lugushwa	37	2.30	2,736,026	Africa, DRC	Banro	
305	Moolart Well	121	0.70	2,721,012	Australia	Regis Resources	•
306	Red Dome/Mungana	131	0.65	2,719,630	Australia	Mungana Goldmines	
307	Bonikro	65	1.30	2,717,379	Africa, Ivory Coast	Newcrest	
308	Increible	41	2.06	2,710,467	Venezuela	Rusoro	
309	Curraghinalt	7	12.78	2,704,377	Ireland	Dalradian Resources	
310	Buccaneer	128	0.65	2,672,000	Australia	ABM Resources	
311	C1- Santa Luz	51	1.64	2,662,352	Brazil	Yamana	
312	Kupol	9	9.60	2,647,391	Russia	Kinross	•
313	Murchison	59	1.38	2,632,861	Australia	Silver Lake Resources	
314	Granada Gold Deposit	77	1.06	2,630,236	Canada, Quebec	Gold Bullion Development	
315	Long Canyon	25	3.22	2,629,543	USA, Nevada	Newmont	
316	El Valle-Boina	17	4.86	2,613,964	Spain	Orvana	
317	Timok	55	1.48	2,612,761	Serbia	Avala Resources	
318	Prominent Hill	55	1.49	2,608,710	Australia	Oz Minerals	•
319	Comstock Project	88	0.92	2,597,463	USA, Nevada	Comstock Mining	
320	Soledad Mountain	159	0.50	2,579,216	USA, California	Golden Queen	
321	Gramalote	170	0.47	2,575,038	Colombia	B2Gold / Anglogold Ashanti	
322	Garden Well	62	1.29	2,574,984	Australia	Regis Resources	•
323	Suyai	6	14.18	2,553,089	Argentina	Yamana	
324	Cerro San Pedro	256	0.31	2,542,158	Mexico	NewGold	•
325	Tocantinzinho	77	1.02	2,541,277	Brazil	El Dorado	
326	Didipio	94	0.83	2,500,973	Philippines	OceanaGold	
327	McPhillamy's	57	1.35	2,499,011	Australia	Regis Resources	
328	Zaruma	6	13.22	2,493,363	Ecuador	Dynasty Mining	•
329	New Afton	111	0.70	2,488,016	Canada, BC	NewGold	
330	Efemcukuru	11	6.95	2,484,658	Turkey	El Dorado	•
331	Caete Deposit	24	3.28	2,482,629	Brazil	Jaguar Mining	•
332	Lamaque	13	5.93	2,478,499	Canada, Quebec	White Tiger Gold	•
333	Ocampo	137	0.56	2,452,000	Mexico	Minera Frisco	•
334	San Francisco	147	0.52	2,446,304	Mexico	Timmins Gold	
335	Karma	72	1.06	2,437,260	Africa, Burkina Faso	True Gold Mining	
336	Sabodala	72	1.05	2,435,700	Africa, Senegal	Teranga Gold	•
337	Chirano	32	2.36	2,418,081	Africa, Ghana	Kinross	•
338	Southern Cross	21	3.63	2,404,810	Australia	China Hanking Holdings	•
339	La India	16	4.60	2,395,872	Nicaragua	Condor Gold	
340	Gatsuurt	28	2.68	2,394,071	Mongolia	Centerra	
341	Mongbwalu	10	7.44	2,385,047	Africa, DRC	Anglogold Ashanti	
342	Nzema	55	1.34	2,374,848	Africa, Ghana	Endeavour Mining	
343	TGME	17	4.23	2,373,193	Africa, South Africa	Stonewall Resources	
344	La India Deposit	158	0.47	2,366,435	Mexico	Agnico Eagle	
345	Dolores Mine	131	0.56	2,355,426	Mexico	Pan American Silver	•
346	Black Fox/Grey Fox	20	3.64	2,336,663	Canada, Ontario	Brigus Gold	•
347	Borealis	92	0.79	2,333,241	USA, Nevada	Gryphon Gold	
348	Berezitovy	46	1.55	2,283,446	Russia	High River Gold	•
349	Premier Project	117	0.61	2,282,433	Canada, BC	Ascot Resources	
350	Los Cardones	78	0.91	2,281,406	Mexico	Vista Gold	

## All 580 Mines & Deposits (351-400)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
351	Goldfields 2	48	1.47	2,252,837	Canada, Saskatchewan	Brigus Gold	
352	Granny Smith	37	1.91	2,248,167	Australia	Barrick	•
353	Ana Paula	45	1.56	2,246,242	Mexico	Newstrike Capital	
354	Crucero	69	1.00	2,214,814	Peru	Lupaka Gold	
355	Tabakoto	14	5.03	2,204,701	Africa, Mali	Endeavour Mining	
356	Ormsby	33	2.08	2,203,753	Canada, NWT	Tyhee	
357	Camino Rojo	91	0.76	2,202,222	Mexico	Goldcorp	
358	Awak Mas	62	1.10	2,192,058	Indonesia	Vista Gold	
359	Imperial	122	0.55	2,173,846	USA, California	Delta Gold	
360	Coolgardie	30	2.26	2,168,958	Australia	Focus Minerals	
361	Dynasty	14	4.70	2,165,332	Equador	Dynasty Mining	
362	Ravenswood	72	0.93	2,159,532	Australia	Resolute Mining	•
363	Houndé	33	2.00	2,144,067	Africa, Burkina Faso	Endeavour Mining	
364	Maclellan Deposit	34	1.94	2,143,053	Canada, Manitoba	Carlisle Goldfields	
365	Sekisovskoye	21	3.06	2,112,206	Kazakhstan	Hambledon Mining	•
366	Golden Eagle	37	1.80	2,111,081	USA, Washington	Midway Gold	
367	Nucleus	132	0.50	2,106,942	Canada, Yukon	Northern Freegold	
368	Fire Creek	7	9.48	2,106,396	USA, Nevada	Klondex Mines	
369	Colomac	40	1.67	2,101,000	Canada, NWT	Nighthawk Gold	
370	Palmarejo	44	1.48	2,094,960	Mexico	Coeur D'Alene	
371	Taldybulak	9	7.23	2,077,750	Kyrgyzstan	Zijin Mining / Kyrgyz Government	
372	Gosowong	5	13.71	2,076,165	Indonesia	Newcrest	•
373	Laverton	29	2.21	2,071,818	Australia	Focus Minerals	
374	GJ	176	0.36	2,049,679	Canada, BC	NGeX	
375	Fenn Gibb	65	0.97	2,046,940	Canada, Ontario	Lake Shore Gold	
376	Bobrikovo	37	1.71	2,040,849	Ukraine	Korab Resources	
377	Yaoure	43	1.48	2,040,000	Africa, Ivory Coast	Amara Mining	
378	Minera Saucito	45	1.40	2,037,970	Mexico	Fresnillo	•
379	Salave	22	2.90	2,024,161	Spain	Astur Gold	
380	Minera Florida	17	3.66	2,019,578	Chile	Yamana	•
381	Lily	22	2.82	2,016,972	Africa, South Africa	Vantage Goldfields	
382	Barbrook	11	5.56	2,002,987	Africa, South Africa	Vantage Goldfields	
383	Wassa	36	1.72	1,982,508	Africa, Ghana	Golden Star Resources	•
384	Main Project	15	4.22	1,976,666	Kyrgyzstan	Chaarat Gold Holdings	
385	Red Mountain	127	0.48	1,959,908	Canada, Yukon	AM Gold	
386	Vinasale Project	57	1.08	1,959,886	USA, Alaska	Freegold Ventures	
387	San Augutin	152	0.40	1,957,336	Mexico	Silver Standard	
388	Plutonic	6	10.08	1,953,124	Australia	Barrick	•
389	Agi Dagi	113	0.53	1,941,122	Turkey	Alamos Gold	
390	Perama Hill	21	2.84	1,934,479	Greece	El Dorado	
391	Cerro Blanco	4	15.52	1,931,657	Guatemala	Goldcorp	
392	Eau Claire	11	5.24	1,927,329	Canada, Quebec	Eastmain Resources	
393	Novoshirokinksoye	8	7.60	1,915,906	Russia	Highland Gold	•
394	Atlanta	41	1.47	1,913,328	USA, Idaho	Atlanta Gold Ince	
395	Bell Creek Complex	15	4.10	1,909,193	Canada, Ontario	Lake Shore Gold	•
396	Taparko-Bouroum	25	2.34	1,903,979	Africa, Burkina Faso	High River Gold	
397	Kena	115	0.51	1,889,000	Canada, BC	Altair Gold	
398	Bjorkdal	33	1.75	1,875,762	Sweden	Elgin Mining	•
399	Somituri	36	1.63	1,870,000	Africa, DRC	Kilo Gold Mines	
400	Tulu Kapi	25	2.34	1,869,644	Ethiopia	Nyota Minerals	

## All 580 Mines & Deposits (401-450)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
401	Red Mountain (Kizildag)	61	0.96	1,869,082	Turkey	Mediterranean resources	
402	Cerro Corona	144	0.40	1,853,168	Peru	Goldfields	
403	Fraser Gold	107	0.52	1,806,942	Canada, BC	Teslin River Resources	
404	Lucerito	140	0.40	1,800,666	Mexico	Fresnillo	
405	Osbell	17	3.37	1,796,693	Canada, Quebec	Maudore Resources	
406	Mt Kare	28	1.96	1,782,115	Papua New Guinea	Indochine Mining	
407	Fosterville	19	2.89	1,764,813	Australia	Crocodile Gold	●
408	Long Valley	92	0.60	1,760,383	USA, California	Vista Gold	
409	Tonkin	41	1.34	1,748,678	USA, Nevada	McEwen Mining	
410	Goldfield Deposit	48	1.13	1,746,427	USA, Nevada	International Minerals	
411	Ixhuatan	39	1.38	1,745,121	Mexico	Brigus Gold	
412	Wilco	128	0.42	1,739,735	USA, Nevada	Rye Patch Gold	
413	San Antonio	65	0.83	1,736,906	Mexico	Argonaut Gold	
414	Troilus	37	1.46	1,736,782	Canada, Quebec	Inmet	
415	Bhukia Prospect	39	1.40	1,732,924	India	Indo Gold	
416	Rosemont	33	1.62	1,732,152	Australia	Regis Resources	
417	Piavitsa	11	4.95	1,727,372	Greece	El Dorado	
418	Kensington	7	7.37	1,714,445	USA, Alaska	Coeur D'Alene	●
419	Mount Monger	7	7.45	1,711,590	Australia	Silver Lake Resources	
420	Fresnillo	70	0.75	1,686,048	Mexico	Fresnillo	●
421	Namoya	24	2.22	1,681,824	Africa, DRC	Banro	
422	Wa Gold Project	34	1.51	1,676,194	Africa, Ghana	Azumah Resources	
423	San Andres	101	0.52	1,671,863	Brazil	Aura Minerals	●
424	West Omai	17	3.10	1,668,031	Guyana	Azimuth Resources	
425	Grassy Mountain	48	1.07	1,668,030	USA, Oregon	Calico Resources	
426	Minera Cienega	38	1.38	1,665,022	Mexico	Fresnillo	●
427	Ollachea	14	3.69	1,662,835	Peru	Minera IRL	
428	Buffalo Ankerite	13	4.06	1,656,334	Canada, Ontario	Lexam VG Resources	
429	Silver Coin	57	0.91	1,654,058	Canada, BC	Jayden Resources	
430	Edna May	47	1.09	1,652,226	Australia	Evolution Mining	
431	Esperanza	58	0.88	1,642,677	Mexico	Alamos Gold	
432	Rio Grande	156	0.33	1,638,811	Argentina	Regulus Resources	
433	Cerro Del Gallo	80	0.64	1,637,147	Mexico	Primero Mining	
434	Garrcon	54	0.94	1,636,150	Canada, Ontario	Northern Gold	
435	Goliath Gold	25	2.03	1,633,064	Canada, Ontario	Treasury Metals	
436	Toka Tindung	56	0.91	1,626,376	Indonesia	Archipelago Resources	
437	La Mina	80	0.62	1,592,084	Colombia	Bellhaven Copper & Gold	
438	Noche Buena	91	0.54	1,585,174	Mexico	Fresnillo/Newmont	
439	White Gold	19	2.56	1,581,470	Canada, Yukon	Kinross	
440	Newton	112	0.44	1,577,314	Canada, BC	Amarc Gold	
441	Kiniero	20	2.40	1,555,685	Africa, Guinea	Semafo	
442	Higginsville	16	3.04	1,554,166	Australia	Alacer Gold	●
443	El Dorado	5	9.43	1,550,456	El Salvador	Pacific Rim Mining	
444	San Dimas Mine	10	4.89	1,549,877	Mexico	Primero Mining	●
445	Inmaculda	12	4.00	1,546,138	Peru	International Minerals	
446	Kalkaroo	125	0.39	1,541,852	Australia	Havilah Resources	
447	Bousquet	17	2.77	1,540,268	Canada, Quebec	Agnico Eagle	
448	Lalor	12	3.99	1,539,415	Canada, Manitoba	Hudbay Minerals	
449	Idaho-Maryland Deposit	4	11.88	1,527,802	USA, California	Emgold Mining Corporation	
450	RDM Mine	29	1.64	1,525,548	Brazil	Carpathian Gold	

## All 580 Mines & Deposits (451–500)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
451	Mininko	54	0.87	1,525,489	Africa, Mali	Robex Gold	
452	Pokrovskiy	68	0.69	1,507,025	Russia	Petropavlovsk	•
453	Three Bluffs	9	5.31	1,506,123	Canada, Nunavut	North Country Gold	
454	Crucitas	38	1.23	1,502,725	Costa Rica	Infinito Gold	
455	White Mountain	12	4.04	1,499,722	China	El Dorado	•
456	Turmalina	11	4.16	1,489,479	Brazil	Jaguar Mining	•
457	Pungkut	17	2.70	1,475,718	Indonesia	Sihayo Gold	
458	Bambanani	3	16.39	1,475,461	Africa, South Africa	Harmony Gold	•
459	Konongo	24	1.94	1,475,397	Ghana	Signature Metals	
460	New Luika	14	3.21	1,474,159	Africa, Tanzania	Shanta Gold	•
461	San Miguel	61	0.75	1,473,656	Mexico	Paramount Gold	
462	Corcoesto	26	1.76	1,467,632	Spain	Edgewater Exploration	
463	Valle Hondo	50	0.90	1,460,093	Venezuela	Rusoro	
464	La Libertad	24	1.87	1,457,194	Nicaragua	B2Gold	•
465	Laiva	22	2.04	1,454,688	Finland	Nordic Mines	
466	San Jose Mine	6	7.13	1,450,063	Argentina	McEwen Mining/ Hochschild	
467	Bucium	37	1.20	1,437,523	Romania	Gabriel Resources	
468	Tokur	39	1.14	1,423,277	Russia	Petropavlovsk	
469	Copper King	88	0.50	1,419,043	USA, Wyoming	Strathmore	
470	Voro	16	2.78	1,418,972	Russia	Polymetal	•
471	Golden Pride	25	1.80	1,416,214	Africa, Tanzania	Resolute Mining	•
472	Amisk	59	0.75	1,413,520	Canada, Saskatchewan	Claude Resources	
473	Segovia	3	13.22	1,409,514	Colombia	Gran Colombia	
474	Marban Block	26	1.67	1,406,176	Canada, Quebec	NioGold Mining	
475	Uzboy Project	33	1.33	1,398,101	Kazakhstan	Alhambra Resources	
476	Cameron Lake	19	2.24	1,396,265	Canada, Ontario	Coventry Resources	
477	Otjikoto	25	1.74	1,394,856	Africa, Namibia	B2gold	
478	Runruno	26	1.69	1,393,284	Philippines	Metals Exploration	
479	Jeronimo	11	3.93	1,382,928	Chile	Yamana	
480	Medvezhy Zapadny	23	1.83	1,379,700	Russia	Polyus Gold	
481	Mt Carlton	25	1.68	1,373,640	Australia	Evolution Mining	
482	Krasnyy	27	1.59	1,368,946	Russia	Kopy Goldfields	
483	Windfall	5	9.23	1,356,433	Canada, Quebec	Eagle Hill Exploration	
484	Gidgee	12	3.39	1,353,036	Australia	Panoramic Resources	
485	J & L	10	4.35	1,351,581	Canada, BC	Huakan Mining	
486	Siana	13	3.18	1,349,044	Philippines	Red 5	
487	Samira Hill	30	1.40	1,344,133	Africa, Niger	Semafo	•
488	Almas	49	0.85	1,338,240	Brazil	Rio Novo	
489	Mara Rosa	24	1.69	1,329,825	Brazil	Amarillo Gold	
490	Holt	9	4.48	1,321,261	Canada, Ontario	St. Andrew Goldfields	•
491	Dvoynoye	2	17.47	1,318,825	Russia	Kinross	
492	Amayapampa	35	1.17	1,318,726	Bolivia	LionGold Corp	
493	Masounia	52	0.79	1,317,858	Africa, Guinea	Burey Gold	
494	North Madsen	35	1.17	1,315,481	Canada, Ontario	Mega Precious Metals	
495	Gedabek	49	0.83	1,309,282	Uzbekistan	Anglo Asian Mining	
496	Turk Mine	11	3.73	1,307,801	Africa, Zimbabwe	New Dawn Mining	•
497	Cuiú Cuiú	34	1.18	1,305,319	Brazil	Magellan Minerals	
498	Great Nologwa	2	19.20	1,304,000	Africa, South Africa	Anglogold Ashanti	•
499	Jerusalem	3	11.92	1,300,364	Equador	Dynasty Mining	
500	El Chanate	62	0.65	1,300,080	Mexico	Aurico	•

## All 580 Mines & Deposits (501–550)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
501	Mt Muro	28	1.46	1,297,217	Indonesia	Straits Resources	
502	Pajingo	7	5.78	1,294,497	Australia	Evolution Mining	
503	Hasbrouck	122	0.33	1,289,407	USA, Nevada	Allied Nevada Gold	
504	Guanaco	28	1.43	1,274,552	Chile	Austral Gold	•
505	Rosebery	24	1.63	1,273,169	Australia	MMG	
506	Pickle Crow	10	3.90	1,272,686	Canada, Ontario	PC Gold	
507	SMP	31	1.26	1,260,566	Africa, Tanzania	Helio Resource	
508	Seabee	6	6.64	1,259,111	Canada, Quebec	Claude Resources	•
509	Mount Rawdon	57	0.68	1,249,956	Australia	Evolution Mining	
510	Grosvenor	19	2.05	1,247,130	Australia	Resource and Investment	
511	Kanowna Belle	8	4.79	1,244,000	Australia	Barrick	•
512	Agbaou	16	2.35	1,241,876	Africa, Ivory Coast	Endeavour Mining	
513	Idaho Gold	41	0.94	1,237,546	USA, Idaho	Logan Resources	
514	Madsen	4	9.48	1,226,505	Canada, Ontario	Claude Resources	
515	Kofi	19	1.98	1,225,306	Africa, Mali	Endeavour Mining	
516	Shambesai and Obdilla	17	2.19	1,218,834	Kyrgyzstan	Manas Resources	
517	Okvau	16	2.41	1,218,834	Cambodia	Renaissance Minerals	
518	Minto	88	0.43	1,217,257	Canada, Yukon	Capstone Mining	
519	Birkachan	15	2.57	1,215,362	Russia	Polymetal	
520	Reefton	19	1.99	1,208,931	New Zealand	OceanaGold	•
521	Sissingue	26	1.45	1,208,256	Africa, Ivory Coast	Perseus Mining	
522	Columbia	25	1.50	1,198,065	USA, Montana	Atna	
523	Mikei	29	1.26	1,192,097	Africa, Kenya	Red Rock Resources	
524	Oksut	29	1.26	1,188,789	Turkey	Centerra	
525	Ernesto/ Pau a Pique	15	2.41	1,188,190	Brazil	Yamana	
526	Frankfield East	6	6.19	1,187,124	Canada, Ontario	Gowest Gold	
527	Pan Project	84	0.44	1,181,448	USA, Nevada	Midway Gold	
528	Jubilee-Surluga	32	1.14	1,179,053	Canada, Ontario	Augustine Ventures	
529	Barsele	34	1.07	1,178,485	Sweden	Orex Minerals	
530	Sturec	25	1.44	1,177,871	Slovakia	Ortac Resources	
531	Independence	23	1.62	1,176,400	USA, Nevada	Genesis Metals	
532	Revenue	102	0.36	1,173,566	Canada, Yukon	Northern Freegold	
533	Mt Holland	20	1.85	1,167,793	Australia	Convergent Minerals	
534	Cahuilla	72	0.50	1,159,343	USA, California	Teras Resources	
535	Tanlouka	43	0.83	1,154,178	Africa, Burkina Faso	Channel Resources	
536	Kalgoorlie North	21	1.74	1,152,411	Australia	Excelsior Gold	
537	Back Forty	17	2.03	1,141,450	USA, Michigan	Aquila Resources/Hudbay Minerals	
538	Kalana Gold Mine	6	6.33	1,140,328	Africa, Mali	Avnel Gold Mining	•
539	Greens Creek	11	3.23	1,139,645	USA, Alaska	Hecla Mining	•
540	Hope Brook	21	1.72	1,137,580	Canada, Newfoundland	Castillian Resources	
541	Lamego	7	4.92	1,130,998	Brazil	Anglogold Ashanti	•
542	Tanjianshan	12	3.01	1,124,369	China	El Dorado	•
543	Coringa	9	3.94	1,121,417	Brazil	Magellan Minerals	
544	Paciencia	9	3.86	1,121,254	Brazil	Jaguar Mining	•
545	Aquarius	24	1.48	1,121,212	Canada, Ontario	St. Andrew Goldfields	
546	Atlanta	31	1.12	1,107,899	USA, Nevada	Meadow Bay Gold	
547	Marlin	8	4.12	1,102,464	Guatemala	Goldcorp	•
548	Cerro Moro	8	4.42	1,101,882	Argentina	Yamana	
549	California	6	5.44	1,090,331	Colombia	AUX (via Galway Gold)	
550	Green Bay	5	6.95	1,090,255	Canada, Newfoundland	Maritime Resources	

## All 580 Mines & Deposits (551–580)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership	Producing
551	Monterde	16	2.10	1,088,688	Mexico	Kimber Resources	
552	Fazenda Brasileiro	13	2.62	1,082,804	Brazil	Yamana	•
553	T'Boli	4	8.70	1,071,462	Philippines	Cadan Resources	
554	Nyakufuru	19	1.72	1,071,262	Africa, Tanzania	Resolute Mining	
555	NICO	33	1.01	1,070,330	Australia	Fortune Minerals	
556	La Colorada	50	0.66	1,067,404	Mexico	Argonaut Gold	
557	Petropavlovskoye	33	0.99	1,061,812	Russia	Petropavlovsk	
558	Maminskoye	17	1.91	1,059,987	Russia	Polymetal	
559	Borosi	11	3.06	1,057,724	Nicaragua	Calibre Mining	
560	Biely Vrch	42	0.79	1,055,090	Slovakia	EMED Mining	
561	Taurus	33	0.99	1,052,115	Canada, BC	China Minerals	
562	La Coipa	20	1.60	1,050,161	Chile	Kinross	•
563	Rio Blanco	6	5.44	1,049,400	Equador	International Minerals	
564	Briggs	48	0.67	1,037,814	USA, California	Atna	•
565	Eastern Dragon	6	5.64	1,034,160	China	El Dorado	
566	Upper Hallnor	16	2.02	1,029,422	Canada, Ontario	Temex	
567	Peak Mines	8	4.21	1,028,244	Australia	NewGold	a
568	Sams Creek	19	1.71	1,025,335	New Zealand	MOD Resources / OceanaGold	
569	Mt Henry	18	1.72	1,021,443	Australia	Panoramic Resources	
570	Kedrovka	4	8.70	1,019,400	Russia	Zapadnaya Gold Mining	•
571	Mt Bundy	31	1.03	1,015,265	Australia	Crocodile Gold	
572	Handeni / Magambazi	22	1.44	1,014,811	Africa, Tanzania	East Africa Minerals	
573	Farley Lake	10	3.07	1,013,025	Canada, Manitoba	Carlisle Goldfields	
574	Changkeng	8	3.95	1,009,928	China	Minco Gold	
575	Maud Creek	10	3.03	1,008,427	Australia	Crocodile Gold	
576	Racey	80	0.36	1,007,000	USA, Oregon	Natural Resource Holdings	
577	Mnogovershinoe	7	4.28	1,004,431	Russia	Highland Gold	•
578	Nova Lima Sul	6	5.53	1,002,755	Brazil	Anglogold Ashanti	
579	Ngayu	4	7.59	1,000,498	Africa, DRC	Loncor Resources	
580	Badran	11	2.80	1,000,200	Russia	Zapadnaya Gold Mining	•

## Top 50 Producing Mines:

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
1	Grasberg	4765	0.56	85,800,000	Indonesia	Freeport Mcmoran
2	South Deep	415	6.10	81,330,718	Africa, South Africa	Goldfields
3	Olimpiada	748	3.22	77,435,009	Russia	Polyus Gold
4	Lihir	1020	1.69	55,347,469	Papua New Guinea	Newcrest
5	Mponeng	111	14.24	50,832,453	Africa, South Africa	Anglogold Ashanti
6	Muruntau	625	2.49	50,000,000	Uzbekistan	Government of Uzbekistan
7	Cadia Valley	3630	0.41	48,116,771	Australia	Newcrest
8	Oyu Tolgoi	3755	0.38	46,070,529	Mongolia	Ivanhoe
9	Pueblo Viejo	493	2.53	40,113,819	Dominican Republic	Barrick / Goldcorp
10	Hycroft	3024	0.32	31,245,354	USA, Nevada	Allied Nevada Gold
11	Obuasi	173	5.35	29,839,664	Africa, Ghana	Anglogold Ashanti
12	Evander	109	8.16	28,653,856	Africa, South Africa	Pan African Resources
13	Turquoise Ridge	161	5.18	26,794,589	USA, Nevada	Barrick / Newmont
14	Paracatu	2000	0.38	24,579,390	Brazil	Kinross
15	Burnstone	140	5.05	22,679,473	Africa, South Africa	Great Basin Gold
16	Boddington	1153	0.61	22,494,382	Australia	Newmont
17	Masimong	113	6.01	21,883,936	Africa, South Africa	Harmony Gold
18	Carlin	408	1.66	21,809,732	USA, Nevada	Newmont
19	Moab Khotsong	35	18.51	20,912,161	Africa, South Africa	Anglogold Ashanti
20	Blagodatnoye	283	2.26	20,559,841	Russia	Polyus Gold
21	Telfer Complex	991	0.64	20,353,144	Australia	Newcrest
22	Penasquito	1962	0.32	20,162,335	Mexico	Goldcorp
23	Cortez Operation	242	2.46	19,149,846	USA, Nevada	Barrick
24	Ahafo	318	1.73	17,711,897	Africa, Ghana	Newmont
25	Bulyanhulu	56	9.68	17,451,827	Africa, Tanzania	Barrick
26	Verninskoye	240	2.24	17,273,915	Russia	Polyus Gold
27	Kisladag	943	0.54	16,527,230	Turkey	El Dorado
28	Los Filos	607	0.83	16,232,344	Mexico	Goldcorp
29	Tasiast	407	1.19	15,525,962	Africa, Mauritania	Kinross
30	Sukari Mine	455	1.06	15,453,309	Egypt	Centamin Egypt
31	Tarkwa	317	1.50	15,263,556	Africa, Ghana	Goldfields
32	Goldstrike	113	4.18	15,146,492	USA, Nevada	Barrick
33	Phakisa	47	10.00	15,011,076	Africa, South Africa	Harmony Gold
34	Kumtor	141	3.29	14,867,353	Kyrgyzstan	Centerra
35	Tshepong	42	10.03	13,474,721	Africa, South Africa	Harmony Gold
36	Porgera	120	3.37	13,057,405	Papua New Guinea	Barrick
37	Cripple Creek	561	0.72	12,986,783	USA, Colorado	Anglogold Ashanti
38	Canadian Malartic	397	1.01	12,914,109	Canada, Quebec	Osisko
39	Yanacocha	432	0.88	12,283,642	Peru	Newmont / Buenaventura
40	Geita	143	2.67	12,278,043	Africa, Tanzania	Anglogold Ashanti
41	Porcupine	294	1.25	11,793,798	Canada, Ontario	Goldcorp
42	Phoenix	685	0.51	11,270,018	USA, Nevada	Newmont
43	Target	46	7.59	11,247,384	Africa, South Africa	Harmony Gold
44	Cooke	75	4.63	11,140,438	Africa, South Africa	Gold One International
45	Choco 10	199	1.73	11,059,206	Venezuela	Rusoro
46	Veladero	515	0.65	10,832,010	Argentina	Barrick
47	Loulo	73	4.37	10,252,078	Africa, Mali	Randgold
48	Damang	165	1.90	10,103,686	Africa, Ghana	Goldfields
49	Super Pit / Kalgoorlie	236	1.31	9,911,783	Australia	Barrick / Newmont
50	Malomir	371	0.82	9,778,079	Russia	Petropavlovsk

## Top 50 Undeveloped Deposits:

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
1	Pebble Deposit	10776	0.31	107,269,278	USA, Alaska	Northern Dynasty
2	Natalka	1693	1.68	91,179,118	Russia	Polyus Gold
3	KSM Deposit	2895	0.52	48,592,023	Canada, BC	Seabridge Gold
4	Donlin Creek	634	2.20	44,854,369	USA, Alaska	Barrick / NovaGold
5	Blyvoor	548	2.43	42,912,145	Africa, South Africa	Village Main Reef
6	Snowfield	2203	0.49	34,982,848	Canada, BC	Pretium Resources
7	Sukhoi Log	384	2.67	33,000,000	Russia	Government of Russia
8	Cerro Casale	1995	0.50	32,235,824	Chile	Barrick / Kinross
9	Las Cristinas	1116	0.86	30,804,000	Venezuela	Government of Venezuela
10	Detour Lake Mine	887	1.02	29,029,852	Canada, Ontario	Detour Gold
11	La Colosa	905	0.92	26,764,551	Colombia	Anglogold Ashanti
12	Pascua-Lama	662	1.20	25,634,059	Chile	Barrick
13	Caspiche	1646	0.47	24,866,976	Chile	Exeter Gold
14	Livengood	1511	0.49	23,783,819	USA, Alaska	Int'l Tower Hill Mines
15	Buffels	55	12.56	22,183,073	Africa, South Africa	Village Main Reef
16	Metates	1247	0.50	20,184,542	Mexico	Chesapeake
17	Kibali	190	3.11	19,003,488	Africa, DRC	Randgold
18	Rosia Montana	558	1.04	18,562,670	Romania	Gabriel Resources
19	Conga	924	0.59	17,498,007	Peru	Newmont/ Buenaventura
20	Galore Creek	1629	0.31	16,151,012	Canada, BC	Novagold / Teck
21	El Morro	1350	0.36	15,435,066	Chile	Goldcorp / NewGold
22	Marmato	489	0.91	14,346,681	Colombia	Gran Colombia
23	Wafi / Golpu / Nambonga	590	0.75	14,313,502	Papua New Guinea	Newcrest
24	King King	917	0.48	14,203,336	Philippines	St. Augustine Gold
25	Red Hill - Gold Rush	99	4.43	14,096,222	USA, Nevada	Barrick
26	Bloemhoek	63	6.90	13,998,103	Africa, South Africa	Wits Gold
27	Mt. Todd	508	0.82	13,390,766	Australia	Vista Gold
28	BruceJack	30	13.50	13,191,120	Canada, BC	Pretium Resources
29	New Prosperity	1011	0.40	13,156,783	Canada, BC	Taseko Mines
30	Goliath Gold	82	4.67	12,315,879	Africa, South Africa	Gold One International
31	Megamine	82	4.63	12,207,128	Africa, South Africa	Goliath Gold
32	AGA Mineração	63	5.81	11,792,412	Brazil	Anglogold Ashanti
33	Warrior	28	12.83	11,496,121	Australia	Citigold
34	Courageous Lake	153	2.30	11,322,353	Canada, BC	Seabridge Gold
35	Titiribi	635	0.54	11,041,150	Colombia	Sunward
36	Fruta del Norte	52	6.62	11,029,634	Equador	Kinross
37	DBM Project	61	5.47	10,776,922	Africa, South Africa	Wits Gold
38	Kyzyl	40	8.05	10,353,047	Kazakhstan	Ivanhoe
39	Golpu	500	0.63	10,196,602	Papua New Guinea	Harmony Gold
40	Toroparu	370	0.84	9,958,573	Guyana	Sandspring Resources
41	Gaby	499	0.62	9,946,791	Equador	International Minerals/Chinese Firm
42	Orisyvo	335	0.92	9,945,022	Mexico	Fresnillo
43	Lobo Marte	311	0.98	9,755,932	Chile	Kinross
44	Freddies 9	36	8.51	9,745,656	Africa, South Africa	Harmony Gold
45	Volcan	431	0.69	9,551,776	Chile	Hochschild Mining
46	Maoling	319	0.91	9,333,998	China	Mundoro Capital
47	Blackwater	391	0.73	9,196,062	Canada, BC	NewGold
48	Cote Lake	312	0.87	8,751,738	Canada, Ontario	IAMGold
49	Rainy River	252	1.04	8,439,368	Canada, Ontario	Rainy River Resources
50	Aurora	80	3.26	8,362,898	Guyana	Guyana Goldfields



## Top 50 Producing Mines by Grade:

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
1	TauTona	3	27.99	2,807,684	Africa, South Africa	Anglogold Ashanti
2	Great Noligwa	2	19.20	1,304,000	Africa, South Africa	Anglogold Ashanti
3	Moab Khotsong	35	18.51	20,912,161	Africa, South Africa	Anglogold Ashanti
4	Savuka	5	17.45	2,979,070	Africa, South Africa	Anglogold Ashanti
5	Kirkland Lake	8	16.55	4,480,782	Canada, Ontario	Kirkland Lake Gold
6	Bambanani	3	16.39	1,475,461	Africa, South Africa	Harmony Gold
7	Mponeng	111	14.24	50,832,453	Africa, South Africa	Anglogold Ashanti
8	Gosowong	5	13.71	2,076,165	Indonesia	Newcrest
9	Zaruma	6	13.22	2,493,363	Equador	Dynasty Mining
10	Kopanang	23	12.25	9,247,512	Africa, South Africa	Anglogold Ashanti
11	Plutonic	6	10.08	1,953,124	Australia	Barrick
12	Tshepong	42	10.03	13,474,721	Africa, South Africa	Harmony Gold
13	Phakisa	47	10.00	15,011,076	Africa, South Africa	Harmony Gold
14	Red Lake	17	9.93	5,572,910	Canada, Ontario	Goldcorp
15	Kusasaletu (Elandsrand)	29	9.69	9,035,318	Africa, South Africa	Harmony Gold
16	Bulyanhulu	56	9.68	17,451,827	Africa, Tanzania	Barrick
17	Kupol	9	9.60	2,647,391	Russia	Kinross
18	Olympias	17	8.92	4,736,909	Greece	El Dorado
19	Kedrovka	4	8.70	1,019,400	Russia	Zapadnaya Gold Mining
20	Mayskoye	25	8.66	6,961,982	Russia	Polymetal
21	Evander	109	8.16	28,653,856	Africa, South Africa	Pan African Resources
22	Novosirokinksoye	8	7.60	1,915,906	Russia	Highland Gold
23	Target	46	7.59	11,247,384	Africa, South Africa	Harmony Gold
24	Kensington	7	7.37	1,714,445	USA, Alaska	Coeur D'Alene
25	Efemcukuru	11	6.95	2,484,658	Turkey	El Dorado
26	Seabee	6	6.64	1,259,111	Canada, Quebec	Claude Resources
27	Joel	20	6.40	4,158,310	Africa, South Africa	Harmony Gold
28	Kalana Gold Mine	6	6.33	1,140,328	Africa, Mali	Avnel Gold Mining
29	Vatukoula	21	6.16	4,198,241	Fiji	Vatukoula Gold Mines
30	Musselwhite	17	6.13	3,289,353	Canada, Ontario	Goldcorp
31	South Deep	415	6.10	81,330,718	Africa, South Africa	Goldfields
32	Leonora Complex	27	6.08	5,223,534	Australia	St. Barbara
33	Jerritt Canyon	20	6.04	3,923,401	USA, Nevada	Veris Gold
34	Masimong	113	6.01	21,883,936	Africa, South Africa	Harmony Gold
35	Doornkop	41	5.98	7,898,082	Africa, South Africa	Harmony Gold
36	Lamaque	13	5.93	2,478,499	Canada, Quebec	White Tiger Gold
37	El Penon	20	5.70	3,682,923	Chile	Yamana
38	Timmins West Mine	15	5.67	2,824,952	Canada, Ontario	Lake Shore Gold
39	Tanami	23	5.61	4,057,582	Australia	Newmont
40	Obuasi	173	5.35	29,839,664	Africa, Ghana	Anglogold Ashanti
41	Corrego do Sitio	31	5.18	5,119,462	Brazil	Anglogold Ashanti
42	Turquoise Ridge	161	5.18	26,794,589	USA, Nevada	Barrick / Newmont
43	Burnstone	140	5.05	22,679,473	Africa, South Africa	Great Basin Gold
44	Lamego	7	4.92	1,130,998	Brazil	Anglogold Ashanti
45	Agnew	24	4.90	3,812,433	Australia	Goldfields
46	San Dimas Mine	10	4.89	1,549,877	Mexico	Primero Mining
47	Kanowna Belle	8	4.79	1,244,000	Australia	Barrick
48	Goukoto	31	4.66	4,614,686	Africa, Mali	Randgold
49	Cooke	75	4.63	11,140,438	Africa, South Africa	Gold One International
50	Casa Berardi Mine	24	4.52	3,494,854	Canada, Quebec	Hecla Mining

## Top 50 Undeveloped Deposits by Grade:

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
1	Dvoinoeye	2	17.47	1,318,825	Russia	Kinross
2	Cerro Blanco	4	15.52	1,931,657	Guatemala	Goldcorp
3	Suyai	6	14.18	2,553,089	Argentina	Yamana
4	BruceJack	30	13.50	13,191,120	Canada, BC	Pretium Resources
5	Segovia	3	13.22	1,409,514	Colombia	Gran Colombia
6	Warrior	28	12.83	11,496,121	Australia	Citigold
7	Curraghinalt	7	12.78	2,704,377	Ireland	Dalradian Resources
8	Buffels	55	12.56	22,183,073	Africa, South Africa	Village Main Reef
9	Jerusalem	3	11.92	1,300,364	Ecuador	Dynasty Mining
10	Idaho-Maryland Deposit	4	11.88	1,527,802	USA, California	Emgold Mining Corporation
11	Cochénour	9	11.18	3,252,978	Canada, Ontario	Goldcorp
12	Westwood	11	10.77	3,801,563	Canada, Quebec	IAMGold
13	Burítica	17	9.86	5,409,873	Colombia	Continental Gold
14	Madsen	4	9.48	1,226,505	Canada, Ontario	Claude Resources
15	Fire Creek	7	9.48	2,106,396	USA, Nevada	Klondex Mines
16	El Dorado	5	9.43	1,550,456	El Salvador	Pacific Rim Mining
17	Windfall	5	9.23	1,356,433	Canada, Quebec	Eagle Hill Exploration
18	Eleonore	26	9.16	7,690,186	Canada, Quebec	GoldCorp
19	F2 / Phoenix	12	9.00	3,348,000	Canada, Ontario	Rubicon Minerals
20	T'Boli	4	8.70	1,071,462	Philippines	Cadan Resources
21	Freddies 9	36	8.51	9,745,656	Africa, South Africa	Harmony Gold
22	Kyzyl	40	8.05	10,353,047	Kazakhstan	Ivanhoe
23	Ngayu	4	7.59	1,000,498	Africa, DRC	Loncor Resources
24	Cerro Negro	29	7.50	7,076,519	Argentina	Goldcorp
25	Mount Monger	7	7.45	1,711,590	Australia	Silver Lake Resources
26	Mongbwalu	10	7.44	2,385,047	Africa, DRC	Anglogold Ashanti
27	Taldybulak	9	7.23	2,077,750	Kyrgyzstan	Zijin Mining / Kyrgyz Government
28	Cuiaba	20	7.21	4,543,412	Brazil	Anglogold Ashanti
29	San Jose Mine	6	7.13	1,450,063	Argentina	McEwen Mining/ Hochschild
30	Green Bay	5	6.95	1,090,255	Canada, Newfoundland	Maritime Resources
31	Bloemhoek	63	6.90	13,998,103	Africa, South Africa	Wits Gold
32	Fruta del Norte	52	6.62	11,029,634	Ecuador	Kinross
33	Back River	32	6.39	6,549,006	Canada, Nunavut	Sabina Gold & Silver
34	Frankfield East	6	6.19	1,187,124	Canada, Ontario	Gowest Gold
35	Rice Lake Complex	18	5.95	3,459,766	Canada, Manitoba	San Gold
36	AGA Mineração	63	5.81	11,792,412	Brazil	Anglogold Ashanti
37	Pajingo	7	5.78	1,294,497	Australia	Evolution Mining
38	Unisel	28	5.67	5,027,344	Africa, South Africa	Harmony Gold
39	Eastern Dragon	6	5.64	1,034,160	China	El Dorado
40	Barbrook	11	5.56	2,002,987	Africa, South Africa	Vantage Goldfields
41	Meliadine	45	5.55	8,097,660	Canada, Nunavut	Agnico Eagle
42	Nova Lima Sul	6	5.53	1,002,755	Brazil	Anglogold Ashanti
43	DBM Project	61	5.47	10,776,922	Africa, South Africa	Wits Gold
44	Rio Blanco	6	5.44	1,049,400	Ecuador	International Minerals
45	California	6	5.44	1,090,331	Colombia	AUX (via Galway Gold)
46	Baberton	17	5.35	2,947,736	Africa, South Africa	Pan African Resources
47	Tau Lekoa	22	5.35	3,757,643	Africa, South Africa	Village Main Reef
48	Three Bluffs	9	5.31	1,506,123	Canada, Nunavut	North Country Gold
49	Wiluna	17	5.29	2,843,346	Australia	Apex Gold
50	Eau Claire	11	5.24	1,927,329	Canada, Quebec	Eastmain Resources

## Undeveloped Deposits over 1mm oz owned by Independent Juniors

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
1	Pebble Deposit	10776	0.31	107,269,278	USA, Alaska	Northern Dynasty
2	KSM Deposit	2895	0.52	48,592,023	Canada, BC	Seabridge Gold
3	Donlin Creek	634	2.20	44,854,369	USA, Alaska	Barrick / NovaGold
4	Blyvoor	548	2.43	42,912,145	Africa, South Africa	Village Main Reef
5	Snowfield	2203	0.49	34,982,848	Canada, BC	Pretium Resources
6	Caspiche	1646	0.47	24,866,976	Chile	Exeter Gold
7	Livengood	1511	0.49	23,783,819	USA, Alaska	Int'l Tower Hill Mines
8	Buffels	55	12.56	22,183,073	Africa, South Africa	Village Main Reef
9	Metates	1247	0.50	20,184,542	Mexico	Chesapeake
10	Kibali	190	3.11	19,003,488	Africa, DRC	Randgold
11	Rosia Montana	558	1.04	18,562,670	Romania	Gabriel Resources
12	Galore Creek	1629	0.31	16,151,012	Canada, BC	Novagold / Teck
13	Marmato	489	0.91	14,346,681	Colombia	Gran Colombia
14	King King	917	0.48	14,203,336	Philippines	St. Augustine Gold
15	Bloemhoek	63	6.90	13,998,103	Africa, South Africa	Wits Gold
16	Mt. Todd	508	0.82	13,390,766	Australia	Vista Gold
17	BruceJack	30	13.50	13,191,120	Canada, BC	Pretium Resources
18	New Prosperity	1011	0.40	13,156,783	Canada, BC	Taseko Mines
19	Megamine	82	4.63	12,207,128	Africa, South Africa	Goliath Gold
20	Warrior	28	12.83	11,496,121	Australia	Citigold
21	Courageous Lake	153	2.30	11,322,353	Canada, BC	Seabridge Gold
22	Titiribi	635	0.54	11,041,150	Colombia	Sunward
23	DBM Project	61	5.47	10,776,922	Africa, South Africa	Wits Gold
24	Toroparu	370	0.84	9,958,573	Guyana	Sandspring Resources
25	Orisyvo	335	0.92	9,945,022	Mexico	Fresnillo
26	Maoling	319	0.91	9,333,998	China	Mundoro Capital
27	Rainy River	252	1.04	8,439,368	Canada, Ontario	New Gold
28	Aurora	80	3.26	8,362,898	Guyana	Guyana Goldfields
29	Martabe	191	1.31	8,032,639	Indonesia	G-Resources
30	Amantaytau	93	2.66	7,971,611	Uzbekistan	Oxus Gold
31	Mount Milligan	727	0.33	7,616,191	Canada, BC	Thompson Creek Metals
32	Rovina Valley	433	0.54	7,506,937	Romania	Carpathian Gold
33	Volta Grande	128	1.76	7,209,169	Brazil	Belo Sun
34	Golden Meadows	134	1.65	7,111,961	USA, Idaho	Midas Gold
35	Spanish Mountain	533	0.40	6,875,921	Canada, BC	Spanish Mountain Gold
36	Hardrock	74	2.75	6,563,077	Canada, Ontario	Premier Gold Mines
37	Back River	32	6.39	6,549,006	Canada, Nunavut	Sabina Gold & Silver
38	Batero Quinchia	491	0.39	6,087,161	Colombia	Batero
39	Cerro Maricunga	474	0.39	5,936,149	Chile	Atacama Pacific Gold
40	Esaase	128	1.44	5,930,593	Africa, Ghana	Asanko Resources
41	Golden Summit	255	0.68	5,603,839	USA, Alaska	Freegold Ventures
42	Sleeper	551	0.31	5,443,978	USA, Nevada	Paramount Gold
43	Buritica	17	9.86	5,409,873	Colombia	Continental Gold
44	Paul Isnard	117	1.43	5,371,779	French Guiana	Columbus Gold
45	Bombore	158	1.03	5,261,337	Africa, Burkina Faso	Orezone
46	Angostura	53	3.06	5,201,363	Colombia	Eco Oro
47	Springpole	154	1.03	5,096,050	Canada, Ontario	Gold Canyon Resources
48	Kiaka	147	1.06	5,009,102	Africa, Burkina Faso	Volta Resources
49	Banfora	112	1.40	5,004,228	Africa, Burkina Faso	Gryphon Minerals
50	Central Murchison	62	2.52	4,990,821	Australia	Metals X

## Undeveloped Deposits over 1mm oz owned by Independent Juniors (51-100)

	Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
51	Haile Deposit	91	1.65	4,843,096	USA, North Carolina	Romarco Minerals
52	Pakrut	70	2.10	4,718,884	Tajikistan	Kryso Resources
53	Yubilenoye	83	1.75	4,648,994	Kazakhstan	SUN Gold
54	OJVG Golouma	90	1.59	4,585,341	Africa, Senegal	Oromin Explorations
55	Carrapateena	292	0.48	4,504,959	Australia	Oz Minerals
56	Ilovitza	432	0.32	4,444,208	Macedonia	Euromax Resources
57	Borden Lake	131	1.03	4,336,212	Canada, Ontario	Probe Mines
58	Amulsar	151	0.89	4,316,652	Armenia	Lydian International
59	Golden Highway	114	1.17	4,303,387	Canada, Ontario	Moneta Porcupine
60	Xietongmen	220	0.60	4,237,980	Tibet	Continental Minerals
61	Inata	95	1.38	4,206,440	Africa, Burkina Faso	Avocet Mining
62	Passendro	116	1.12	4,169,370	Africa, CAR	AXMIN
63	Corosue Dam Complex	89	1.45	4,156,137	Australia	Saracen Mineral Holdings
64	Spring Valley	249	0.52	4,142,755	USA, Nevada	Midway Gold
65	Shahuindo	218	0.58	4,055,155	Peru	Sulliden
66	Dachang	44	2.82	4,034,215	China	Inter-Citic
67	Copper Canyon	400	0.31	3,989,680	Canada, BC	Novagold / Teck
68	Borborema	109	1.11	3,869,018	Brazil	Crusader Resources
69	Tau Lekoa	22	5.35	3,757,643	Africa, South Africa	Village Main Reef
70	Meekatharra	64	1.75	3,593,217	Australia	Reed Resources
71	Pinson	30	3.70	3,582,227	USA, Nevada	Atna / Barrick
72	Bullabulling	108	1.02	3,554,841	Australia	Bullabulling Gold
73	Loma Larga	35	3.13	3,516,646	Equador	INV Metals
74	Rice Lake Complex	18	5.95	3,459,766	Canada, Manitoba	San Gold
75	AntaKori (Sinchao)	295	0.36	3,411,675	Peru	Southern Legacy Minerals
76	Monument Bay	93	1.13	3,383,086	Canada, Manitoba	Mega Precious Metals
77	Duparquet	59	1.79	3,381,585	Canada, Quebec	Clifton Star Resources
78	Bronson Slope	317	0.33	3,375,344	Canada, BC	SnipGold
79	F2 / Phoenix	12	9.00	3,348,000	Canada, Ontario	Rubicon Minerals
80	Batie West/Konkera	59	1.76	3,344,204	Africa, Burkina Faso	Ampella Gold
81	Morelos	22	4.60	3,315,186	Mexico	Torex Gold
82	Bau	71	1.44	3,305,552	Malaysia	Besra Gold
83	Dublin - Eagle Gold	151	0.67	3,280,407	Canada, Yukon	Victoria Gold
84	Coffee	64	1.56	3,231,043	Canada, Yukon	Kaminak Gold
85	Central Tanami	30	3.31	3,216,429	Australia	Tanami Gold
86	Tri-K	72	1.38	3,214,108	Africa, Guinea	Avocet Mining
87	Juby	100	1.00	3,212,050	Canada, Ontario	Temex
88	Moss Lake	90	1.10	3,188,545	Canada, Ontario	Moss Lake Gold
89	Whistler Deposit	225	0.44	3,173,662	USA, Alaska	Kiska Metals
90	Fäboliden	93	1.05	3,145,433	Sweden	Lappland Goldminers
91	Miwah	104	0.94	3,142,347	Indonesia	East Asia Minerals
92	Wasamac	34	2.75	3,007,310	Canada, Quebec	Richmont Mines
93	Douay	117	0.80	3,003,220	Canada, Quebec	Aurvista
94	Manica	51	1.82	2,961,278	Africa, Mozambique	Auroch Minerals
95	Baberton	17	5.35	2,947,736	Africa, South Africa	Pan African Resources
96	Lindero	188	0.48	2,893,179	Mexico	Goldrock Mines
97	Kobada	98	0.89	2,848,000	Africa, Mali	African Gold Group
98	Wiluna	17	5.29	2,843,346	Australia	Apex Gold
99	Sawayaerdun	54	1.63	2,816,191	China	GobiMin
100	Bibiani	51	1.70	2,809,330	Africa, Ghana	Noble Mineral Resources

## Undeveloped Deposits over 1mm oz owned by Independent Juniors (101–150)

Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
101 Quinchia	134	0.65	2,805,906	Colombia	Seafield Resources
102 Condor	79	1.11	2,803,760	Ecuador	Ecuador Gold and Copper
103 Contact Project	20	4.32	2,786,726	Kyrgyzstan	Chaarat Gold Holdings
104 Harmony Gold	64	1.35	2,777,822	Canada, BC	Taseko Mines
105 Robertson	174	0.49	2,741,670	USA, Nevada	Coral Gold
106 Red Dome/Mungana	131	0.65	2,719,630	Australia	Mungana Goldmines
107 Increible	41	2.06	2,710,467	Venezuela	Rusoro
108 Curraghinalt	7	12.78	2,704,377	Ireland	Dalradian Resources
109 Buccaneer	128	0.65	2,672,000	Australia	ABM Resources
110 Murchison	59	1.38	2,632,861	Australia	Silver Lake Resources
111 Granada Gold Deposit	77	1.06	2,630,236	Canada, Quebec	Gold Bullion Development
112 El Valle-Boina	17	4.86	2,613,964	Spain	Orvana
113 Timok	55	1.48	2,612,761	Serbia	Avala Resources
114 Comstock Project	88	0.92	2,597,463	USA, Nevada	Comstock Mining
115 Soledad Mountain	159	0.50	2,579,216	USA, California	Golden Queen
116 Didipio	94	0.83	2,500,973	Philippines	OceanaGold
117 McPhillamy's	57	1.35	2,499,011	Australia	Regis Resources
118 San Francisco	147	0.52	2,446,304	Mexico	Timmins Gold
119 Karma	72	1.06	2,437,260	Africa, Burkina Faso	True Gold Mining
120 La India	16	4.60	2,395,872	Nicaragua	Condor Gold
121 Gatsuurt	28	2.68	2,394,071	Mongolia	Centerra
122 TGME	17	4.23	2,373,193	Africa, South Africa	Stonewall Resources
123 Borealis	92	0.79	2,333,241	USA, Nevada	Gryphon Gold
124 Premier Project	117	0.61	2,282,433	Canada, BC	Ascot Resources
125 Los Cardones	78	0.91	2,281,406	Mexico	Vista Gold
126 Goldfields 2	48	1.47	2,252,837	Canada, Saskatchewan	Brigus Gold
127 Crucero	69	1.00	2,214,814	Peru	Lupaka Gold
128 Ormsby	33	2.08	2,203,753	Canada, NWT	Tyhee
129 Awak Mas	62	1.10	2,192,058	Indonesia	Vista Gold
130 Imperial	122	0.55	2,173,846	USA, California	Delta Gold
131 Coolgardie	30	2.26	2,168,958	Australia	Focus Minerals
132 Dynasty	14	4.70	2,165,332	Equador	Dynasty Mining
133 Maclellan Deposit	34	1.94	2,143,053	Canada, Manitoba	Carlisle Goldfields
134 Golden Eagle	37	1.80	2,111,081	USA, Washington	Midway Gold
135 Nucleus	132	0.50	2,106,942	Canada, Yukon	Northern Freegold
136 Fire Creek	7	9.48	2,106,396	USA, Nevada	Klondex Mines
137 Colomac	40	1.67	2,101,000	Canada, NWT	Nighthawk Gold
138 Palmarejo	44	1.48	2,094,960	Mexico	Coeur D'Alene
139 Taldybulak	9	7.23	2,077,750	Kyrgyzstan	Zijin Mining / Kyrgyz Government
140 Laverton	29	2.21	2,071,818	Australia	Focus Minerals
141 GJ	176	0.36	2,049,679	Canada, BC	NGeX
142 Fenn Gibb	65	0.97	2,046,940	Canada, Ontario	Lake Shore Gold
143 Bobrikovo	37	1.71	2,040,849	Ukraine	Korab Resources
144 Yaoure	43	1.48	2,040,000	Africa, Ivory Coast	Amara Mining
145 Salave	22	2.90	2,024,161	Spain	Astur Gold
146 Lily	22	2.82	2,016,972	Africa, South Africa	Vantage Goldfields
147 Barbrook	11	5.56	2,002,987	Africa, South Africa	Vantage Goldfields
148 Main Project	15	4.22	1,976,666	Kyrgyzstan	Chaarat Gold Holdings
149 Red Mountain	127	0.48	1,959,908	Canada, Yukon	AM Gold
150 Vinasale Project	57	1.08	1,959,886	USA, Alaska	Freegold Ventures

## Undeveloped Deposits over 1mm oz owned by Independent Juniors (151–200)

Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
151 San Augutin	152	0.40	1,957,336	Mexico	Silver Standard
152 Eau Claire	11	5.24	1,927,329	Canada, Quebec	Eastmain Resources
153 Atlanta	41	1.47	1,913,328	USA, Idaho	Atlanta Gold Ince
154 Kena	115	0.51	1,889,000	Canada, BC	Altair Gold
155 Somituri	36	1.63	1,870,000	Africa, DRC	Kilo Gold Mines
156 Tulu Kapi	25	2.34	1,869,644	Ethiopia	Nyota Minerals
157 Red Mountain (Kizildag)	61	0.96	1,869,082	Turkey	Mediterranean resources
158 Fraser Gold	107	0.52	1,806,942	Canada, BC	Teslin River Resources
159 Lucerito	140	0.40	1,800,666	Mexico	Fresnillo
160 Osbell	17	3.37	1,796,693	Canada, Quebec	Maudore Resources
161 Mt Kare	28	1.96	1,782,115	Papua New Guinea	Indochine Mining
162 Long Valley	92	0.60	1,760,383	USA, California	Vista Gold
163 Tonkin	41	1.34	1,748,678	USA, Nevada	McEwen Mining
164 Ixhuatan	39	1.38	1,745,121	Mexico	Brigus Gold
165 Wilco	128	0.42	1,739,735	USA, Nevada	Rye Patch Gold
166 Troilus	37	1.46	1,736,782	Canada, Quebec	Inmet
167 Bhukia Prospect	39	1.40	1,732,924	India	Indo Gold
168 Rosemont	33	1.62	1,732,152	Australia	Regis Resources
169 Mount Monger	7	7.45	1,711,590	Australia	Silver Lake Resources
170 Wa Gold Project	34	1.51	1,676,194	Africa, Ghana	Azumah Resources
171 West Omai	17	3.10	1,668,031	Guyana	Azimuth Resources
172 Grassy Mountain	48	1.07	1,668,030	USA, Oregon	Calico Resources
173 Ollachea	14	3.69	1,662,835	Peru	Minera IRL
174 Buffalo Ankerite	13	4.06	1,656,334	Canada, Ontario	Lexam VG Resources
175 Silver Coin	57	0.91	1,654,058	Canada, BC	Jayden Resources
176 Rio Grande	156	0.33	1,638,811	Argentina	Regulus Resources
177 Cerro Del Gallo	80	0.64	1,637,147	Mexico	Primero Mining
178 Garrcon	54	0.94	1,636,150	Canada, Ontario	Northern Gold
179 Goliath Gold	25	2.03	1,633,064	Canada, Ontario	Treasury Metals
180 Toka Tindung	56	0.91	1,626,376	Indonesia	Archipelago Resources
181 La Mina	80	0.62	1,592,084	Colombia	Bellhaven Copper & Gold
182 Noche Buena	91	0.54	1,585,174	Mexico	Fresnillo/Newmont
183 Newton	112	0.44	1,577,314	Canada, BC	Amarc Gold
184 Kiniero	20	2.40	1,555,685	Africa, Guinea	Semafo
185 El Dorado	5	9.43	1,550,456	El Salvador	Pacific Rim Mining
186 Kalkaroo	125	0.39	1,541,852	Australia	Havilah Resources
187 Idaho-Maryland Deposit	4	11.88	1,527,802	USA, California	Emgold Mining Corporation
188 RDM Mine	29	1.64	1,525,548	Brazil	Carpathian Gold
189 Mininko	54	0.87	1,525,489	Africa, Mali	Robex Gold
190 Three Bluffs	9	5.31	1,506,123	Canada, Nunavut	North Country Gold
191 Crucitas	38	1.23	1,502,725	Costa Rica	Infinito Gold
192 Pungkut	17	2.70	1,475,718	Indonesia	Sihayo Gold
193 Konongo	24	1.94	1,475,397	Ghana	Signature Metals
194 San Miguel	61	0.75	1,473,656	Mexico	Paramount Gold
195 Corcoesto	26	1.76	1,467,632	Spain	Edgewater Exploration
196 Valle Hondo	50	0.90	1,460,093	Venezuela	Rusoro
197 Laiva	22	2.04	1,454,688	Finland	Nordic Mines
198 San Jose Mine	6	7.13	1,450,063	Argentina	McEwen Mining/ Hochschild
199 Bucium	37	1.20	1,437,523	Romania	Gabriel Resources
200 Copper King	88	0.50	1,419,043	USA, Wyoming	Strathmore

## Undeveloped Deposits over 1mm oz owned by Independent Juniors (201-250)

Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
201 Amisk	59	0.75	1,413,520	Canada, Saskatchewan	Claude Resources
202 Segovia	3	13.22	1,409,514	Colombia	Gran Colombia
203 Marban Block	26	1.67	1,406,176	Canada, Quebec	NioGold Mining
204 Uzboy Project	33	1.33	1,398,101	Kazakhstan	Alhambra Resources
205 Cameron Lake	19	2.24	1,396,265	Canada, Ontario	Coventry Resources
206 Runruno	26	1.69	1,393,284	Philippines	Metals Exploration
207 Krasnyy	27	1.59	1,368,946	Russia	Kopy Goldfields
208 Windfall	5	9.23	1,356,433	Canada, Quebec	Eagle Hill Exploration
209 Gidgee	12	3.39	1,353,036	Australia	Panoramic Resources
210 J & L	10	4.35	1,351,581	Canada, BC	Huakan Mining
211 Siana	13	3.18	1,349,044	Philippines	Red 5
212 Almas	49	0.85	1,338,240	Brazil	Rio Novo
213 Mara Rosa	24	1.69	1,329,825	Brazil	Amarillo Gold
214 Amayapampa	35	1.17	1,318,726	Bolivia	LionGold Corp
215 Masounia	52	0.79	1,317,858	Africa, Guinea	Burey Gold
216 North Madsen	35	1.17	1,315,481	Canada, Ontario	Mega Precious Metals
217 Cuiú Cuiú	34	1.18	1,305,319	Brazil	Magellan Minerals
218 Jerusalem	3	11.92	1,300,364	Equador	Dynasty Mining
219 Mt Muro	28	1.46	1,297,217	Indonesia	Straits Resources
220 Pickle Crow	10	3.90	1,272,686	Canada, Ontario	PC Gold
221 SMP	31	1.26	1,260,566	Africa, Tanzania	Helio Resource
222 Grosvenor	19	2.05	1,247,130	Australia	Resource and Investment
223 Idaho Gold	41	0.94	1,237,546	USA, Idaho	Logan Resources
224 Madsen	4	9.48	1,226,505	Canada, Ontario	Claude Resources
225 Shambesai and Obdilla	17	2.19	1,218,834	Kyrgyzstan	Manas Resources
226 Okvau	16	2.41	1,218,834	Cambodia	Renaissance Minerals
227 Minto	88	0.43	1,217,257	Canada, Yukon	Capstone Mining
228 Columbia	25	1.50	1,198,065	USA, Montana	Atna
229 Mikei	29	1.26	1,192,097	Africa, Kenya	Red Rock Resources
230 Oksut	29	1.26	1,188,789	Turkey	Centerra
231 Frankfield East	6	6.19	1,187,124	Canada, Ontario	Gowest Gold
232 Pan Project	84	0.44	1,181,448	USA, Nevada	Midway Gold
233 Jubilee-Surluga	32	1.14	1,179,053	Canada, Ontario	Augustine Ventures
234 Barsele	34	1.07	1,178,485	Sweden	Orex Minerals
235 Sturec	25	1.44	1,177,871	Slovakia	Ortac Resources
236 Independence	23	1.62	1,176,400	USA, Nevada	Genesis Metals
237 Revenue	102	0.36	1,173,566	Canada, Yukon	Northern Freegold
238 Mt Holland	20	1.85	1,167,793	Australia	Convergent Minerals
239 Cahuilla	72	0.50	1,159,343	USA, California	Teras Resources
240 Tanlouka	43	0.83	1,154,178	Africa, Burkina Faso	Channel Resources
241 Kalgoorlie North	21	1.74	1,152,411	Australia	Excelsior Gold
242 Hope Brook	21	1.72	1,137,580	Canada, Newfoundland	Castillian Resources
243 Coringa	9	3.94	1,121,417	Brazil	Magellan Minerals
244 Aquarius	24	1.48	1,121,212	Canada, Ontario	St. Andrew Goldfields
245 Atlanta	31	1.12	1,107,899	USA, Nevada	Meadow Bay Gold
246 Green Bay	5	6.95	1,090,255	Canada, Newfoundland	Maritime Resources
247 Monterde	16	2.10	1,088,688	Mexico	Kimber Resources
248 T'Boli	4	8.70	1,071,462	Philippines	Cadan Resources
249 Nyakufuru	19	1.72	1,071,262	Africa, Tanzania	Resolute Mining
250 NICO	33	1.01	1,070,330	Australia	Fortune Minerals

## Undeveloped Deposits over 1mm oz owned by Independent Juniors (251–261)

Deposit Name	Tonnes (mt)	Grade	Contained Oz	Location	Ownership
251 Borosi	11	3.06	1,057,724	Nicaragua	Calibre Mining
252 Biely Vrch	42	0.79	1,055,090	Slovakia	EMED Mining
253 Taurus	33	0.99	1,052,115	Canada, BC	China Minerals
254 Upper Hallnor	16	2.02	1,029,422	Canada, Ontario	Temex
255 Sams Creek	19	1.71	1,025,335	New Zealand	MOD Resources / OceanaGold
256 Mt Henry	18	1.72	1,021,443	Australia	Panoramic Resources
257 Handeni / Magambazi	22	1.44	1,014,811	Africa, Tanzania	East Africa Minerals
258 Farley Lake	10	3.07	1,013,025	Canada, Manitoba	Carlisle Goldfields
259 Changkeng	8	3.95	1,009,928	China	Minco Gold
260 Racey	80	0.36	1,007,000	USA, Oregon	Natural Resource Holdings
261 Ngayu	4	7.59	1,000,498	Africa, DRC	Loncor Resources



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