



## Environmentally Friendly Alchemy and Mining Technology





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1

## About the Industry

Introduce the team's environmentally friendly gold stripping technology, patents and awards. And the use of high-performance environmentally friendly gold-drawing chemicals in the world's mineral sand extraction, combined with automated alchemy equipment, the most unique and innovative high-performance environmentally friendly alchemy to create a sustainable business philosophy.

2

## Gold Performance And Benefit Analysis

Introduce the cost-benefit analysis of gold-plating alchemy equipment, how to create optimal alchemy benefits under environmentally-friendly conditions, and reduce the cost of mining and gold extraction to achieve optimal production capacity.

3

## Business and Competitive Advantage

Introduce how the team can use the unique and innovative gold extraction alchemy technology to obtain the favor and cooperation of mine owners and owners, and create a new blue ocean market in the limited Red Sea market.

4

## Environmental Hazards and Protection

Cyanide alchemy causes environmental and ecological catastrophe, and brings huge losses to enterprises and people. In the face of the ecology that is about to get out of control, how can the new SG-99 green alchemy bring new weather and future to the earth?

# Preface

## Gold, The Real Money !!

- When the global political turmoil, when market volatility increasing, when the global monetary system is facing a high risk of collapse, gold has become the premier banking and finance preservation and hedging instruments.
- Gold is the basic support of the international monetary, but the next wave of new global currency.
- Gold downside risk is limited, due to the volatility in the price of gold near historic lows. Due to the low gold price volatility index, the higher positions, the expected short-term price of gold is still room to rise further.
- The appeal of gold: either inflation or deflation, it can save the owner of wealth, and gold is the few in inflation and deflation in assets also rose.

# R & D Process

2011

The patent layout of stripping technology for research and development results, and began to design and build waste recycling equipment.

2015~2016

The team improved the gold-free saturation of the cyanide-free gold stripping agent and began to use it in the test of gold ore stripping gold. The experimental results showed that the alchemy output was 2~3 times higher than the traditional method, and the working time is only 1/5 or less of the traditional method. More importantly, the process has no environmental pollution and reduces the safety and toxicity of work.

2010

Started efforts to develop cyanide-free electrolytic stripping technology and began to use small quantities in waste recycling.

2012~2014

- Participated in the Pittsburgh Invention Exhibition in the United States and won the gold medal.
- Received the first prize of the Middle East Kuwait World Invention Association.

2018

The R&D team began to design the first generation of semi-automatic mining and gold stripping equipment to mass produce environmentally friendly alchemy. And the project is listed as the company's main business project.

In 2018, the company invested in the second generation of fully automatic mining gold stripping equipment and invested in the mining market.

# Team Technology - High Efficiency Environmentally Friendly Gold Stripping Condenser (SG-99)

The cyanide-free chemical stripping agent used in waste recycling will be re-adjusted to become SG-99 high-efficiency environmentally friendly gold stripping syrup.

## Speed and performance

- At present, the production efficiency of the team's alchemy is in the same gold content of ore, the gold stripping rate is **over 98%**, and it can produce **two to three times more than** the traditional method. In the gold stripping operation time, there is only **one-fifth** of the traditional cyanide alchemical method.

## Non-toxic and environmentally friendly

- At present, most miners in China, Asia and Africa still use cyanide stripping technology, but the cyanide stripping process will cause great damage to the human body. In the process of gold stripping and refining with SG-99 syrup, **it is completely non-toxic and harmless, and the wastewater treatment is simple and will not cause secondary pollution of the environment.**

## Cost-effective

- SG-99 excellent gold stripping effect and speed, can completely remove the gold in the ore, short time and high efficiency, with automation equipment, will be able to process more ore in a shorter time, can reduce the cost of refining gold. Because the process is non-toxic and environmentally friendly, the cost of subsequent waste disposal is reduced.

# Core Competitiveness of Enterprises

## Analysis of core competitiveness gold industry

- 1 1234 Core competitiveness of enterprises Ability to integrate a win-win for miners**

Since the gold stripping rate of SG-99 gold stripping agent is as high as 98% or more, for many gold mines in mainland China, if it can be combined with this team, it will be able to produce nearly one to three times more gold. Because this technology has strong uniqueness, if the mine chooses to cooperate with us, it will certainly increase the output value of gold and create a win-win situation.
- 2 The special nature of the product and irreplaceable**

SG-99 gold stripping agent is blended with cyanide-free chemical stripping agent, and the molten gold saturation is increased to 3~12g/L. It is the best among all gold stripping agents at present; therefore, in addition to the need for alchemy equipment, the mine owner also needs to match SG-99 to optimize the alchemy production capacity which also shows the special importance and irreplaceability of SG-99.
- 3 No competitors blue ocean market**

At present, most of the gold mining industry is traditional cyanide alchemy. At present, there is no such technology that is environmentally friendly and has excellent gold stripping effect and speed. Therefore, there is no competitor in this field. Instead, these mine owners are all future combined target customers.
- 4 Create a drug-free environment jobs , Build green alchemy**

China is the first gold producer. In the process of mining gold, the use of cyanide is staggering. Under the awareness of environmental protection, SG-99 will become the first non-toxic gold stripping agent to take environmental protection and cost benefits. This new green alchemy will lead China to a new realm of alchemy technology.

# Comparison of Alchemy

A comparative analysis of aqua regia, cyanide and SG-99 in the extraction of gold

## Aqua Regia

Output was: Au  
Melting Saturation: < 0.5g / L  
Melting rate: Slow 12 ~ 36 hr  
Pharmacy Ingredients: Nitric acid + covered pot  
corrosive agent: Very high  
Pharmacy Security: Toxic acid  
Waste treatment: And a large number of bases  
Waste disposal costs: in  
Tailings disposal costs: in

## Cyanide

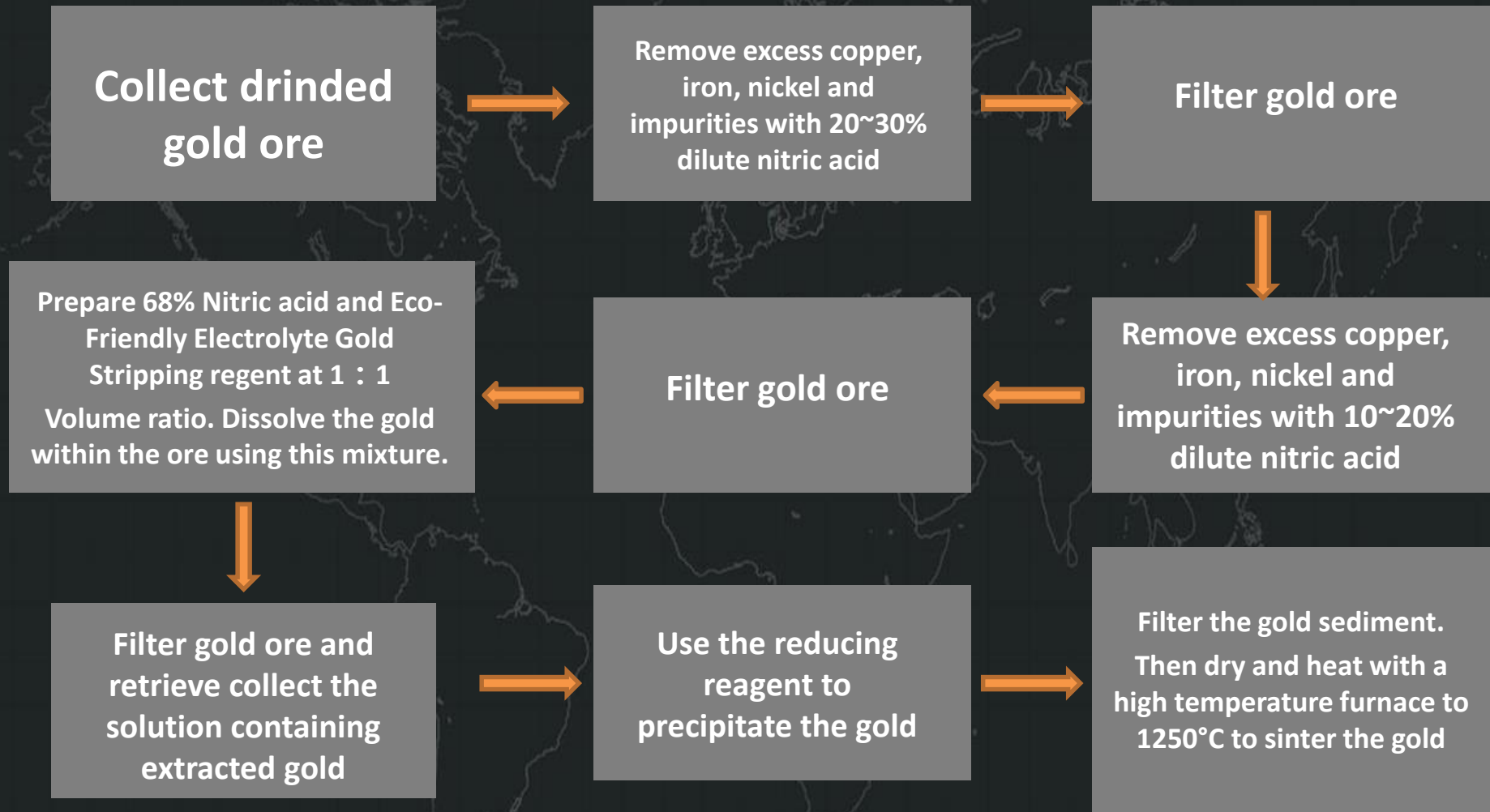
Output was: Au  
Melting saturation: 0.6 ~ 2g / L  
Melting rate : slow > 48 hr  
Pharmacy ingredients: sodium cyanide + ...  
Pharmacy corrosive: Medium  
Pharmacy Security: toxic Waste treatment: a large number of hypochlorous acid Sodium treated  
Disposal costs: High Tailings disposal costs: High

## SG-99 Gold Stripping Agent

Output was: Au, Pd, Pt, Ir Melting saturation: 3 ~ 12g / L  
Melting rate: fast 2 ~ 6 hr  
Pharmacy Ingredients: SG-99 reconcile Preparation  
Pharmacy corrosive: Medium  
Pharmacy Security: Non-toxic acid  
Waste treatment: Moderate alkali neutralization  
Disposal costs: low  
Tailings disposal costs: low

Most Advantageous

# Process of Patented Gold Stripping



# Alchemy in a Traditional Way

Traditional alchemy methods are not only time-consuming, highly polluting, but also inefficient in gold extraction



## The first phase of mining and screening

1. Placer collection
2. Water was added into the drum ores, pulverized ore rolling about 2-4 hour
3. Concentrated pool water cleaning, screening and using gravity watercourse
4. Human shaking screening



## The second stage of gold ore

5. After screening ore removed
6. The reaction vessel was stirred cyanide sand thrown about 72 hour
7. Adding carbon powder-coated tablets gold
8. High temperature combustion to remove impurities

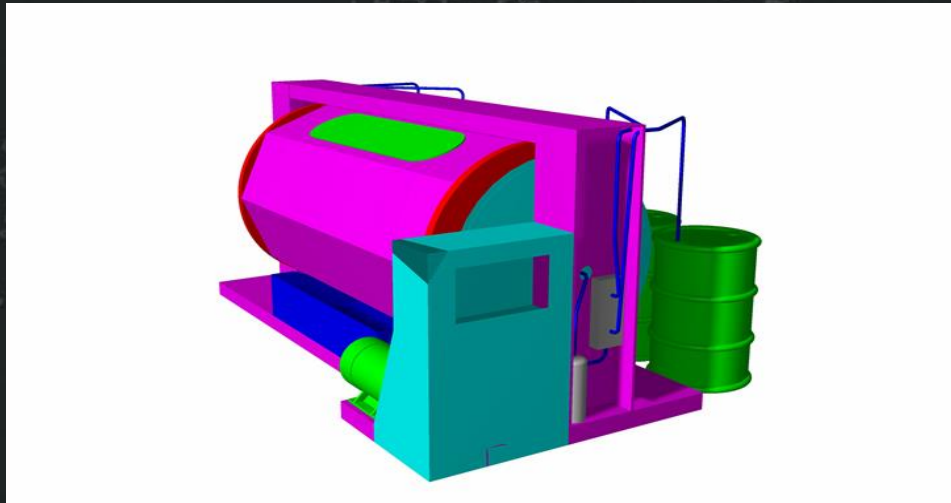


## The third stage Alchemy

9. Removing impurities carbonate
10. High-temperature purification of gold plus borax

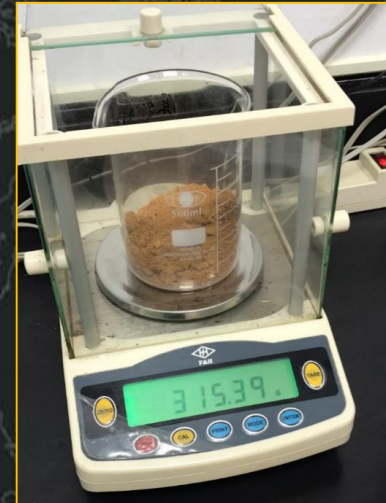
# SG-99 Environmentally Friendly Alchemy Method

SG-99 agent combined with automated alchemy equipment can shorten the alchemy time, no pollution in the whole process, and the gold stripping rate exceeds 98%.



## The First phase of Screening impurities

1. After collecting and screening by the sands of the ground.
2. Dilute Removal of copper, iron, nickel nitrate impurities in the ore.
3. Filter Ore.



## The Second stage Ore Melting

4. Remove the ore after screening again Dilute Removal of copper, iron, nickel nitrate impurities in the ore.
5. Filter sand again.
6. With SG-99 Pharmacy Dissolved in the gold ore, gold get water.

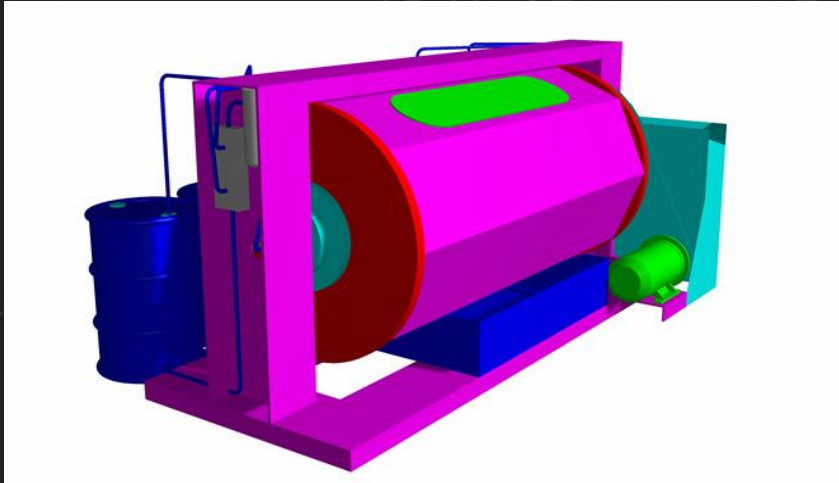


## The Third stage Reduction Alchemy

7. After the gold is extracted, the ore is filtered and the saturated SG-99 solution is taken out.
8. Adding a reducing agent to precipitate gold, gold became mud.
9. Gold clay was filtered, dried, and heated to a high temperature furnace using C1250 Degree of sintering bullion.

# The Second-generation Automation Alchemy Overview

Automated alchemy equipment combined with SG-99 agent can maximize the benefits of alchemy



## SG-99 high efficiency Environmental stripping gold agents

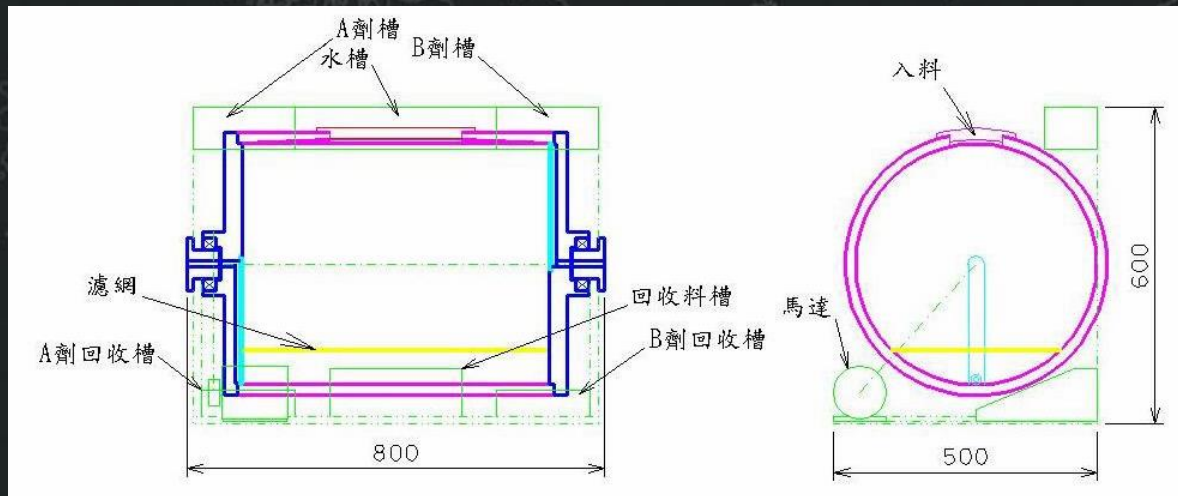
- Stripper gold ore, which can be applied to a wide range of metal strip on the gold ore mixed copper, copper alloy, aluminum and tin.
- Stripping ores can 98% More than the gold.
- Stripping gold short reaction time required in a conventional manner of 1/5.
- Environmental non-toxic, non-cyanide and other toxic and harmful substances, the waste is easy.

## Alchemy automation equipment specifications outlined

- Daily 8 Hour operation can handle 10 to 15 Tons of ore.
- The average daily output 400 ~ 600g gold.
- Fully automated design, reduce human error.
- The pipeline circuit design allows the SG-99 to be reused to the highest degree of saturation, avoiding unnecessary waste.
- No poison operation process, reduce environmental pollution.

# Introduction to the Second Generation of Small Automated Alchemy Equipment - GDEX-S Series

## Small alchemy equipment for gold sand purification and refining

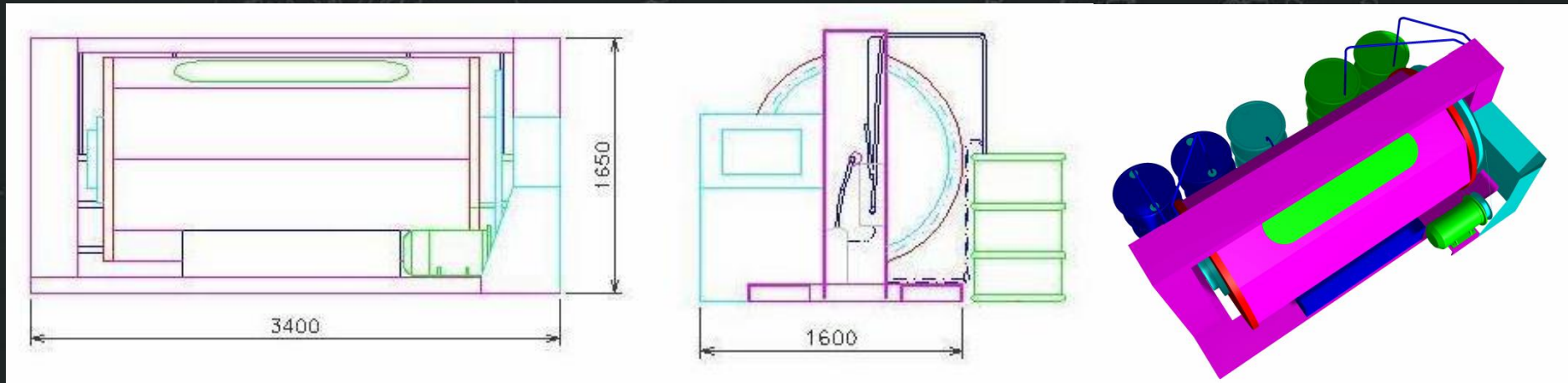


### Alchemy handling automation equipment (Small Equipment)

- Applicable area: Africa, poor infrastructure construction
- Scope of application: gold sand with high gold content (this type of ore is mostly in Africa, and the gold content is more than 50%)
- Power source: electricity, diesel generators, future estimated design solar version
- Machine characteristics:
  1. Mobile is more convenient and can be used in areas with poor traffic equipment.
  2. Due to the small volume of alchemy, it is suitable for refining high content of gold sand.
  3. The gold sand with low gold content can be refined to 99.99 pure gold.

# Introduction to the Second Generation of Large-scale Automated Alchemy Equipment - GDEX-L Series

## Small Equipment for Alchemy Pure gold dust and refining of



### Alchemy Large-scale Automation Equipment (Large Equipment)

- Applicable areas: basic electricity network and have plenty of water the mine
- Scope: After screening ore
- Power source: electric power, diesel generators
- Machine Features:
  1. Automation can be a long operation.
  2. Alchemical device has a modular design to support extensions.
  3. Can reduce environmental problems, to avoid environmental pollution.
  4. You can improve the speed of stripping gold and enhance the efficiency of stripping gold.

# Cost-benefit Analysis of SG-99 and Cyanide

Exploring the results of SG-99 high efficiency environmentally friendly gold stripping agent and cyanide from the perspective of cost

	Cyanide	SG-99 high efficiency and environmental protection gold stripping agent
Output was	Au	Au, Pd, Pt, Ir
Melting saturation (G / L)	0.5g / L	3 ~ 12g / L
A metric ton	450 USD	3000 USD
A metric ton syrup can obtain the value of gold	500g * 41 (USD / g) = 20500 <b>value= 20500</b>	Min: 3000g * 41 (USD / g) Max: 12000g * 41 (USD / g) <b>value = 123,000 - 492,000</b>
Program costs and value	An average of US\$1 cyanide agent can achieve a benefit of \$45.56	An average of US\$1 for SG-99 can achieve a <b>benefit of \$41-164.</b>
Pharmacy reaction time	> 72 hour	4 Within hours
Stripping ratio	<80%	> 98%
Sewage Treatment	Costly and cumbersome	Ease of handling and non-polluting

SG-99 can Achieved a very high cost-benefit ratio, together with a short reaction time, high stripping ratio, low pollution and low cost of waste disposal, have very good prospects.

# SG-99 Actual Testing Effect of Stripping Gold-Canadian Ore

Originally the use of cyanide extraction techniques can only extract 8g Au/ton, use SG-99 Rear Promoted to 9.6 Au/ton, Upgrade 20% Stripping ratio.



Ore



Crushed



Soak SG-99



Remove the water filter Gold



Reduction Precipitation



Remove the Gold Powder



High Temperature Sintering



Upgrade 20% Stripping Ratio

# SG-99 Actual Testing the effect of Stripping Gold - Indonesia and North Korea

According to the test results, Indonesian ore can extract 41.23g Au/ Ton. North Korean ore can extract 31.84g Au/ Ton.



Indonesia and North ores containing other metal elements copper, nickel, zinc and iron, and it must begin using nitric acid for pickling process for stripping gold.



# SG-99 Actual Testing the effect of Stripping Gold - Refractory Gold

Refractory gold Refers to the "intractable gold", this is the doping samples of sulfide gold ore, the origin of New Zealand.



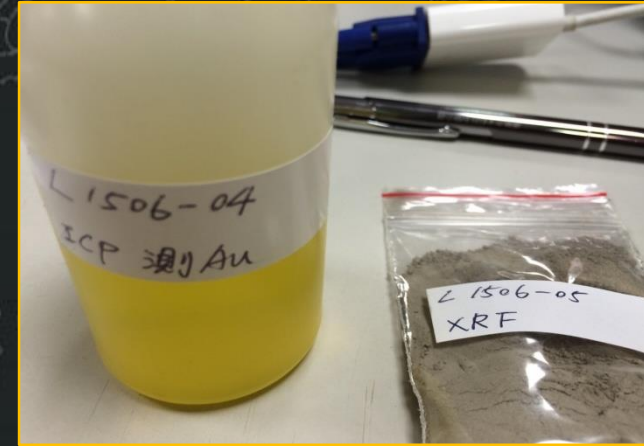
Ore



Crushed



Soak SG-99



Gold removed by filtration and reduced water

## Ore Composition Analysis

- Gold Au (0.0122%)
- Silicon Si (6.25%)
- Sulfur S (0.538%)

## The Results of Stripping Gold

- Only the use of cyanide refining 40g Au/ Ton
- Using SG-99 to extract 230g Au/ Ton, the output is 575% more, and the results are amazing!!
- Gold and sulfide will combine, and SG-99 can effectively separate gold and refine it.

# SG-99 in Philippine Bureau of Mines Test

In March 2017, the team went to the Philippines for experiments. The Philippine Minerals Bureau personally participated in the experimental process and confirmed the benefits of SG-99 in gold mines.



## Experimental Information

- Experimental Unit: Bureau of Mines of the Philippines
- Experimental Location: LABORATORY OF MINES AND GEOSCIENCES BUREAU (MGB)
- The results: confirmed stripping ratio is as high as 98% and above



# SG-99 is Tested in China GuiYan Platinum Co., Ltd.

2017/4/7 in the gold-plated test of "SG-99 Pharmacy" at GuiYan Platinum Co., Ltd.

贡研铂业股份有限公司  
分析结果报告单  
NO:

委托单位			
样品名称	渣液		
测定要求	Au		
来样日期	2017年4月7日	完成日期	2017年4月12日
样品编号	分析元素名称	分析结果	
		%	g/L
116k2412	Au	29.8%	
* 渣液	Au	3.52 mg/L	
* 渣液	Au	0.61 mg/L	
3# 渣	Au	0.91%	
备注			

第一联：委托单位存（盖章有效）

审核人：杨洋 检测员：褚磊、赵瑞、杨洋

## Experimental Information

- In this experiment, 50 grams of ore was melted twice with SG-99.
- For the first time, the gold was melted with 710 mL of the drug, and the concentration of gold was 3.52 mg/L.
- The second time, the gold was melted with 600 mL of the drug, and the concentration of gold was detected to be 0.61 mg/L.

## Experimental and Calculated Conversion

- The first molten gold result:  $0.71 \text{ L} * 3.52 \text{ mg / L} = 2.499 \text{ mg}$  (50 g of ore gold content 2.5 mg, converted to a ton of gold content 49.98)
- The second molten gold result:  $0.6 \text{ L} * 0.61 \text{ mg / L} = 0.366 \text{ mg}$  (50 g of ore was immersed for the second time, the gold content was 0.37 mg, and the conversion of one ton of gold was 7.32)
- 50 g of ore was melted twice with SG-99 to obtain 2.87 g of pure gold, and the conversion result was 57.3 g Au/ Ton.
- The result of the cyanide refining yielded only 20 g Au/Ton, while the SG-99 refining result was 57.3 g Au/Ton, and the yield increased by 285.5 %.

# SG-99 is Tested in China GuiYan Platinum Co., Ltd.

2017/4/7 in the GuiYan Platinum Co., Ltd. with "SG-99 Pharmacy" for gold stripping test, calculating the stripping rate is 98.4%

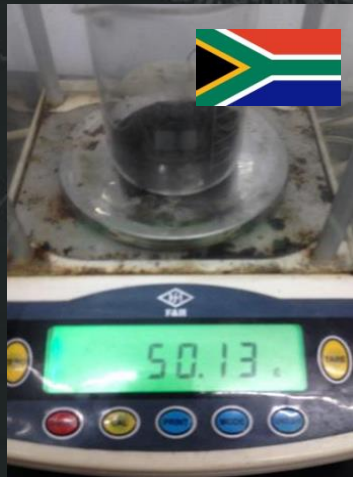
Project	Ore weight (g)	SG-99 capacity (mL)	After refining concentration (mg/L;ppm)	Gold content (mg)	Conversion Gold (g/Ton)
The first stripped of gold	50g	710 mL	3.52	2.5 mg	<b>49.98</b>
The second stripping gold	50g	600 mL	0.61	0.37 mg	<b>7.32</b>
The residue pyrometallurgical	-	-	-	-	0.91
<b>Total</b>					<b>58.21</b>

## Analysis of Results

- The first refining with SG-99 yielded 2.5mg of gold, and the melting rate was as high as 85.86%. The refined ore was re-refined with SG-99 to obtain 0.37mg of gold, and the melting rate was 98.4%.
- The same batch of ore is refined with cyanide. According to the experience provided by the mine owner, only 20g Au/Ton can be obtained, while SG-99 can be used to obtain 57.3g Au/Ton.
- The gold extraction efficiency is as high as 286.5%.
- The experimental data is provided after the test by GuiYan Platinum Co., Ltd.

# SG-99 Actual Testing the effect of Stripping Gold – other Ore Samples

It has been proven that the effect of SG-99 on ore stripping is amazing.



**South African Ore**  
43.2 g Au / Ton



**Philippines Ore**  
23.2 g Au / Ton



**Falkland Islands Ore**  
140 g Au / Ton



**Phoenix Ore**  
24.3 g Au / Ton



**Indonesia Ore**  
41.23 g Au / Ton



**North Korea Ore**  
31.84 g Au / Ton


# Other Customers Ore refining Test Report

It has been proven that the effect of SG-99 on ore stripping is amazing.

北台檢驗科技股份有限公司  
檢驗報告

地址：桃園縣平鎮市牛車路一段130號	
電話：0939642655	傳真：03-4507051
申請案號：1070871	申請人：賴高松
委託單位：金鼎	委託日期：107.05.16
樣品名稱：溶液	報告日期：107.05.16
檢驗結果	
溶液 50g 藥水 500cc	Au = 258 g/T Au < 1 g/T
以下空白	
分析方法：ICP	
<p>聲明事項：1. 本報告共1頁，影印及分發使用無效。 2. 本分所僅對送檢樣品負責，提供申請單位參考用，不得作為法律訴訟或宣傳廣告之用。 3. 本分所報告內容不得隨意翻印或複製。</p>	
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申請案號：1062066	申請人：賴高松
委託單位：金鼎	委託日期：106.11.09
樣品名稱：溶液	報告日期：106.11.09
檢驗結果	
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以下空白	
分析方法：ICP	
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申請案號：1070944	申請人：賴高松
委託單位：金鼎	委託日期：107.05.25
樣品名稱：溶液	報告日期：107.05.25
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電話：0939642655	傳真：03-4507051
申請案號：1071092	申請人：賴高松
委託單位：金鼎科	委託日期：107.06.14
樣品名稱：溶液	報告日期：107.06.14
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# SWOT Analysis

Analyse its own Advantages and market opportunities with SWOT matrix.

## Advantage

- SG-99 has high-efficiency alchemy effect, high melting gold saturation, high gold stripping rate and extremely fast alchemy speed.
- The SG-99 process is non-toxic, environmentally friendly, and easy to dispose of.
- With alchemy equipment, you can maximize the benefits of alchemy and create a green alchemy.



## Disadvantaged

- The SG-99 agent is more expensive than the general cyanide and must be combined with the output of the whole plant, and the construction cost is high.
- The Chinese market is vast and lacks a comprehensive promotion of sales channels. It requires district sales and distribution, and the management costs are high.

## Opportunity

- At present, China's mining industry uses sodium cyanide heap leaching gold extraction, which has caused major damage to the environment. Therefore, the government's awareness of environmental protection has increased.
- In 2017, the team conducted experiments in Yunnan GuiYan Platinum to obtain the favor of relevant mining companies in China.



## Threat

- Small and medium-sized private mines use low-cost sodium cyanide alchemy and are not easily regulated by the government.
- Product equipment is easily copied in China, resulting in replicas or cottage products.

# SWOT Strategic Planning Analysis

## Establishing business strategy based on cross-analysis of SWOT matrix

SO

- China's current use of highly toxic cyanide alchemicals has caused serious environmental damage. The use of SG-99 is non-toxic and easy to dispose of, making it possible to minimize alchemical pollution. In addition, SG-99 high-melting gold saturation, high gold stripping rate and fast melting speed, with the replacement of cyanide alchemical conditions, can be used for the promotion of automation equipment for listed or large-scale mining companies.
- For small and medium-sized mining companies, the team can carry out alchemy foundry. According to the current market environment, gold mining outsourcing and foundry are very common business models. According to SG-99's excellent gold production efficiency, it can create a win-win market strategy.

OW

- Due to the high price of SG-99, it is also necessary to cooperate with automated alchemy equipment. The cost of construction is not low. Therefore, it is necessary to combine the strength of the industry and academia to coordinate with the government's environmental protection policy and promote the promotion of green alchemy.
- In terms of access, there is a lack of national enterprises in the initial stage of promotion. Therefore, two or three large enterprises are selected to conduct cross-industry alliances. If the partners have semi-official enterprises, the promotion effect can be accelerated.

ST

- The team expects that the biggest prestige is the generation of counterfeit goods. Therefore, the SG-99 base agent has been protected by the Chinese government's patents, and in the production process, if there is no complete technical formula, it is difficult to obtain good alchemical benefits. Therefore, equipment technology transfer is adopted for large-scale enterprises with good reputation, and small and medium-sized enterprises will use foundry to cooperate.
- In response to the proliferation of cyanide, the team can gradually replace the cyanide alchemy with the fast and high-gold SG-99 technology. Under the premise of profit improvement, there is an opportunity to force small mining companies to choose to cooperate with us.

WT

- Since sodium cyanide heap leaching gold has caused major damage to the environment, the government should expeditiously formulate relevant laws and regulations to curb the tragedy. We strive to make the government formulate a new environmental alchemy standard through the combination of industry and government. Once the new regulations are implemented, a new sea blue market will be created.

# Short-term Strategy Development

## Short-term corporate strategy within one year

1

### **Manufacturing second generation automated alchemy equipment**

At present, the second generation of automated alchemy has completed the preliminary design, preparing for the next step of manufacturing, how to produce, test, transport, assemble, test and mass production, complete the standard operating procedures of each detailed process, and optimize the operation process. It is the most important goal at this stage.

2

### **Standardization and optimization of alchemy processes**

According to the experience of the team, the details of the mineral sand raw materials, pickling time, pickling ratio, gold stripping time, gold stripping agent ratio and other details of the process and the optimization of the data are optimized. In the process, a series of standardized operations were established to facilitate the sale of the entire plant output of automated alchemy equipment in the future.

3

### **Established a mining sands marketing business team, and strive to cooperate with small and medium-sized mining companies**

Establish a marketing team to carry out the ore contracting instructions and carry out the OEM business promotion for small and medium-sized private mining. In the future, through the high-efficiency gold output of SG-99 automated alchemy equipment, all the mineral sands of these willing small mines will be introduced into the company. In addition to improving production capacity, the company uses environmentally friendly and non-toxic green alchemy technology to create a win-win strategy for governments, mining owners and companies.

4

### **Actively establish equipment brand awareness, and carry out whole plant export business sales with large mining companies**

Through alliances with large mining companies or first-tier national enterprises, creating brand awareness of the products, utilizing the advantages of high-efficiency and environmentally-friendly gold-peeling blenders, combined with the government's green environmental protection policy, creating a non-toxic alchemical operation environment and further sales of the entire plant with output.

# To Develop Long-term Strategic Development

## 3 Long-term corporate strategy during the year

1

### **Establish a credible laboratory to conduct mineral sand inspection**

The establishment of the laboratory is mainly for the content detection and analysis, the next half of the business will fall in the mineral sand foundry, a credible testing unit helps to confirm the detection of gold ore content.

2

### **The company's automated alchemy equipment has increased to 10 units, and the amount of gold produced can reach 120 kg per month.**

The Ministry of Land and Resources will promote the “National Industry Standard for Green Mine Construction”. In the future, a set of green mine construction standards system will be formed. Mines that do not meet the standards of the green mine industry will withdraw from the market. At present, only the team in the Chinese market can provide environmental protection. And the refinement technology that meets the productivity benefits, that is, these small and medium-sized pits will become great potential customers in the future.

3

### **Combine the power of environmentally friendly equipment and the strength of production and government to promote to large mining companies**

Actively cooperate with the strength of the industry and academia to complete the report on the whole set of alchemy environmental protection equipment and environmental security assessment, and actively promote to large-scale listed gold mining groups such as Zijin Mining, Zhaojin Mining and Lingbao Gold.

On the other hand, the team and GuiYan Platinum Co., Ltd. are expected to cooperate, and the exclusive sales equipment team will be established by GuiYan Platinum and the team to expand the business volume. It is estimated that 35 sets of alchemy equipment will be sold in one year.

4

### **Create high-performance green alchemy brand equipment and promote it to neighbouring countries**

Environmental protection is the responsibility of all human beings. In order to end the pollution of cyanide alchemy, the team is committed to promoting high-performance green alchemy equipment. It is expected that after achieving considerable results in China in the next three years, the business front will be extended to Southeast Asia. The promotion area includes Vietnam, Cambodia, Indonesia and Myanmar.



## Tailings and Cyanide Pollution

- Lean ore mining, soil erosion, cyanide, sulfide, heavy metal pollution, dam, debris flow, has become a thorny issue, but also cause environmental and ecological havoc.



# Environmental Damage of Cyanide and Mine tail Reservoirs in China

The extraction of gold by cyanidation is the most widely used method of gold extraction in the 1980s, but it will cause heavy pollution if not managed properly.

1

At the end of 2006, a dam-breaking accident occurred at the Zifeng Shuiyindong Gold Mine in Zijin Mining, located in Zhenfeng County, Guizhou Province. About 200,000 cubic meters of waste slag containing traces of potassium cyanide and other components in the tailings pond overflowed, and the two downstream reservoirs were polluted.

2

At the end of April 2009, a leak occurred in the backwater system of the Dongping old mine tailings reservoir under Zijin Mining in Chongli County, Zhangjiakou, Hebei Province, causing some local residents to call for a total ban.

3

On July 4, 2010, the Zijinshan tailings in Shanghang County, Longyan City, Fujian Province suffered from dam failure. Fujian Tingjiang was contaminated by sodium cyanide, and the direct economic loss reached 31.77 million yuan.

4

On July 24, 2010, the tailings reservoir of Shiyuan Company, Shimiao Town, Luanchuan County, Henan Province collapsed, and the Yihe Bridge in Tangying Village, Tantou Town, Luanchuan County collapsed, and the county was flooded, causing at least 50 deaths and poisoning. Mineral sand and water directly affect the local ecological environment.

5

Baotou Steel is mined from Baiyun Obo and transported by train to Baotou Concentrator. The ore is crushed and ground into powder. After refining, all the remaining pulp is pumped to the tailings dam. More than 150 million tons of tailings and more than 17 million cubic meters of water are stored. There are about 70,000 tons of radioactive metal ruthenium. Now that the tailings dam is leaking continuously, it is found that the radioactive materials of the water source around the tailings dam are all exceeded.

The ore, slag and various types of wastewater immersed in various toxic chemicals are highly toxic, and China's disposal of waste is not perfect. The mine will build a large reservoir called the "tailing pond" to collect the wastewater generated after the refining. However, the pool "can only be inaccessible" and can only rely on natural evaporation and elevation of the mine dam. However, after repeated heavy rains in recent years, the mine tyrants are unbearable and is broken.

# Future Prospects for Gold Mining

## Green Gold Alchemys Worth Investing in...

1

**The national environmental protection policy is clear, and green development will become the lifeblood of the mining industry and the whole industry.**

After the 19th National Congress, the national level will pay more attention to green development. Recently, the Ministry of Land and Resources has learned that the “National Industry Standard for Green Mine Construction” will be released soon. In the future, **a set of perfect green mine construction standard system will be formed**, which does not meet the green mining industry standards. The mine will exit the market.

On July 5, 2017, the Ministry of Land and Resources issued a notice on the “Working Plan for the Cleanup of Mining Rights in Nature Reserves”. Since then, the cleanup of mining rights in protected areas has been carried out in various provinces and cities nationwide. So far, thousands of mining rights have been cleared nationwide.

2

**The mining industry is fully recovering, the price of gold is gradually rising, and the future gold industry is optimistic.**

Taking 2017 as an example, the stock prices of large mining companies around the world continue to soar. This shows that the mining industry is recovering. As a major gold producer in the world, China is bound to invest more in gold mining in the future.

There are fewer and fewer good mining areas, and the price of gold is rising. Therefore, how to increase excess capacity from limited gold mines will become the future trend of a gold mining company and also create a new blue ocean market for SG-99.

3

**The survival of the fittest in the mining industry, the survival of the fittest, as long as you can continue to profit**

Under the influence of the de-capacity policy, the mines with lower capacity have been shut down, the mining enterprises of “small, scattered and chaotic” will continue to decrease, the large and medium-sized mining enterprises will continue to increase, **and the development of future mines should also pay more attention to the combination of green technology and actively promote the transformation and upgrading of mining.**

SG-99 high-efficiency environmentally-friendly gold stripping agent is the perfect combination of environmental protection rate and green technology. In the future, it will lead China's mining industry to a new international stage through new environmental green alchemy.

THANK YOU!

