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Mine Operations

The Republic of Liberia is situated on the coast along the south-west corner of West Africa, bordered by Sierra Leone, Guinea and Cote d'Ivorie. It is Africa's oldest republic, founded by freed American and Caribbean slaves in 1847. It has had democratically elected governments since 2006. It has robust mining laws based upon well-established Australian system and a pro-mining government. The region is under-explored for gold.

The company has five main operational gold mines currently in Republic of Liberia.

- New Liberty Gold Mine 3 different Underground Operations On-going
- Ndablama Gold Mine 1 Underground Operation and 1 Open-pit Operations On-going • Weajue Gold Mine - 2 different Underground Operations On-going
- Matambo Gold Mine 3 different Open-Pit Operations On-going
- Kokoyah Gold Mine

Our Capacity

Open Pit Mining

- Fully fledged operational capabilities: Drill & blast, Loading, Haulage, Dewatering • 2 open-pit operations are on-going at Leopard Rock and Matambo.
- Daily production capacity: 32,500 BCM/day
- Daily drilling capacity: 50,00 m/day
- Peak number of employees: 1500+
- Number of mining equipment items: 120+

Underground Mining

- Operational capabilities: Drill & blast, loading, haulage, backfilling, ventilation, anchor supporting, dewatering, hoise mine shaft opening for ventilation
- 7 underground mine operations ongoing (Larjor, Larjor-WW, Kinjor, Marvoe, Weajuee-South, Weajuee-North, Ndablama)
- Daily production capacity: 10,700 tonnes/day for all UG operations
- Daily advancement capacity: 95 m/day for total UG operations • Number of employees: 500+
- Number of mining equipment items: 150+

Processing

NLGM has Processing Plant with the 3.9M tonnes per annum capacity consisting of Crushing & Milling, CIL & Elution, Gold Room and tailings storage facility. All of the ore from the surrounding mines is processed through this central plant. The TSF is in the process of being expanded. In 2023 the plant produced 360k ounces of gold. The bullion with a high level of purity is exported for further refining and sale.

Crushing & Milling

- Total crusher & milling capacity: 11,500 tpd
- 2 x Jaw crusher 4 x Cone crusher
- 2 x Ball mill
- 3 x Vertimill
- CIL & Elution
- 3 x Pre-ox tank
- 18 x Leach tank • Elution Circuit Capacity: 5 tonnes of Carbon Per elution batch
- Gold Room Full-scope gold refining and pouring capacity
- Overall gold recovery rate: 94%
- Tailings Management
- In-house construction and maintenance capability
- Water level management to ensure safe freeboard
- In-place instrumentation for stability
- Perimeter monitoring boreholes
- Construction Quality Assurance (CQA)
- Engineer of Record (EoR)
- Development of 30Mton capacity TSF-2 project • Plant Maintenance
- Fully fledged maintenance capacity
- Preventive maintenance
- Periodical maintenance Achieved crushing availability: 87%
- Achieved milling availability: 96% Cold and hot commissioning

Heavy Mining Equipment (HME) Workshops

Well-equipped Heavy Mining Equipment (HME) workshops have been built at the key mining locations for servicing and repairs. There are over 700 items of equipment in the Machine Park.

Workshop capabilities include:

- Periodic, Corrective, Predictive and Proactive Maintenance
- Repair
- Parts Machining
- Bodywork

Welding

Transport/Ore Haulage

In addition to the mining equipment, the company also runs a fleet of about 100 32 and 50 tonnes payload tipper trucks for transporting ore from the Ndablama and Weaju mines to the processing plant at New Liberty. The road trucks are also used to transport bulk items from the main ports to site as needed.











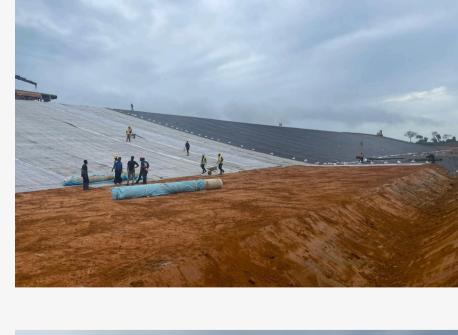






















CONTACT LOCATIONS

E-Mail info@avesoro.com

De Carteret House, 7 Castle Street, St Helier, JE2 3BT, Jersey, Channel Islands

Jersey Office

Monrovia Office

18th Street Payne Avenue Intersection 1000, Monrovia, Liberia

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New Liberty



New Liberty is the key asset in Avesoro Resources' portfolio is the New Liberty Gold Mine, which is Liberia's first and largest commercial gold mine. Construction at New Liberty commenced in April 2014, with first gold poured from the process plant on 31 May 2015 and gold sales commencing in August 2015. Commercial Production was declared at New Liberty on 1 March 2016.

The New Liberty ore is hosted in a steeply dipping shear zone in ultramafics and amphibolites.

The New Liberty operation consists of two worked-out open pits, an underground mine with three separate portals and a large processing plant with tailings dams. All the ore mined in the region is processed through the New Liberty plant which has an industry standard flowsheet consisting of a three-stage crushing, milling, gravity separation and carbon in leach plant.

The mining is focused on the steeply dipping, deeper ore, under the worked-out open pits. This is extracted by underground operations, accessed by four diffrent portals (Larjor, Larjor-WW, Kinjor and Marvoe) developed into the sides of the

- Three stage crushing primary jaw, secondary cone, tertiary cone
- 2 x Ball mill 3.2 MW drive each 475 tph total
- 3 x Vertical mill 1 MW drive each
- Mill Capacity 4 Mtpa crushed ore.
- Conventional gravity circuit with centrifugal concentrator
- 3 parallel CIL circuit
- 93 95% recovery overall
- TSF 1 120 Ha with waste rock perimeter walls.
- TSF 2 250 Ha under construction

The mining is focused on the steeply dipping, deeper ore, under the worked-out open pits. This is extracted by underground operations, accessed by three portals (Larjor, Kinjor and Marvoe) developed into the sides of the open pits.

New Liberty UG Mine (Aug-2020 to Present)

- Four Different Underground Decline at New Liberty (Larjor, Larjor-WW, Kinjor, Marvoe)
- Two different Sublevel Stope mining methods is applying at New Liberty UG; (Transverse and Longitudinal)
- Total Lateral Development has reached about 38.9 km (Project to End of the 2024) • The deepest underground portal has reached the final vertical depth (440m)
- Project-to-date production:
 - Total mined: 6.6 M tonnes
 - Total ore: 4.9 M tonnes
 - Average ore grade mined: 2.93 g/t gold
 - Total waste: 1.7 M tonnes

New Liberty Open Pit Mine (Oct-2014 to Jun-2022)

- Pits Width Lengths are: Larjor: 320 m, Kinjor-Marvoe: 500 m
- Length of Pits: Larjor: 615 m, Kinjor-Marvoe: 1.5 km
- Open pit has reached the final depth (245m)
- Project-to-date production: • Total mined: 165 M tonnes
 - Total ore: 9 M tonnes
 - Average ore grade mined: 2.79 g/t gold
 - Total waste: 156 M tonnes

Key Facts

Mine Type	OP/UG
Metals Mined	Gold
Deposit Type	Orogenic Gold
Production Type	Surface Mining at OP / Sublevel Stope Mining at UG
Process Type	CIL (Average Recovery %94.39)
Remaining Life Of Mine	OP is Completed. For UG, based on proven and probable reserves, the remaining life of undergrounds mid of 2031
2024 Production Physicals	2.15Mt @3.01g/t, 210kOz









Processing

The 3.9M tonnes per annum processing plant at New Liberty comprises two parallel but interconnected CIL circuits, giving excellent resilience and flexibility.

All of the ore from the surrounding mines is processed through this central plant.

The first circuit (known as MAPA 1) was commissioned in 2014 when the New Liberty mine was developed. The second circuit (MAPA 2) was commissioned in 2021. A further upgrade was made to expand the capacity of the leach circuit and this was commissioned in early 2022.

The tailings storage facility (TSF) at New Liberty is in the process of being expanded.

In 2023 the plant produced 360k ounces of gold. The bullion with a high level of purity is exported for further refining and sale.









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CONTACT LOCATIONS

E-Mail info@avesoro.com **Jersey Office**

Monrovia Office

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De Carteret House, 7 Castle Street, St Helier, JE2 3BT, Jersey, Channel Islands

18th Street Payne Avenue Intersection 1000, Monrovia,



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Ndablama



Ndablama Open pit mining commenced in 2021 and was completed in 2023. At Ndablama Gold mine, Leopard Rock open-pit Operations was started in 2024.

All the ore is transported to the plant at New Liberty via a 45km haul road.

Mining of the down-dip extension of the mineralization will continue by underground operation, using a drift-and-fill mining methods due to the moderate dips.

Ndablama UG Mine (Mar-2023 to Present)

- Drift & Fill mining method is applying at Ndablama UG
- Total Lateral Development has reached about 9.1 km
- The deepest underground portal has reached the final vertical depth (200 m)
- Project to May 2024 production:
 - Total mined: 0.80 M tonnes
 - Total ore: 0.35 M tonnes
 - Average ore grade mined: 2.75 g/t gold
 - Total waste: 0.45 M tonnes

Ndablama Open Pit Mine (Jan-2021 to Mar-2023)

- Pit Width Length is: 570 m
- Length of Pit: 770 m
- Open pit has reached the final depth (220m)
- Project-to-date production:
 - Total mined: 84.5 M tonnes
 - Total ore: 13.5 M tonnes
 - Average ore grade mined: 1.10 g/t gold
 - Total waste: 71 M tonnes

Leopard Rock Open Pit Mine (Sep-2024 to Present)

- Project was starting September-2024
- Leopard rock pit is 930 m long and 450 m wide at the EOY-2024 (Project on going)
- Open pit has reached the 70 m depth at the EOY-2024 (Project On-going)
- Project to date production metrics:
 - Total Mined: 4.16 M tonnes
 - Total Ore: 0.11 M tonnes
- Total Waste: 4.05 M tonnes

Key Facts

Mine Type	OP/UG
Metals Mined	Gold
Deposit Type	Orogenic Gold
Production Type	Surface Mining at OP / Drift & Fill Mining at UG
Process Type	CIL (Average Recovery %94.39)
Remaining Life Of Mine	Based on proven and probable reserves, the remaining life of the Ndablama underground mid of 2027. For Leopard Rock OP, mid of 2026
2024 Production Physicals	420kt @2.17 g/t, 30KOz



CONTACT

E-Mail

LOCATIONS

Jersey Office

info@avesoro.com

De Carteret House, 7 Castle Street, St Helier, JE2 3BT, Jersey, Channel Islands

Monrovia Office

18th Street Payne Avenue Intersection 1000, Monrovia, Liberia

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Weajue



Only Underground Operations are ongoing at this site. Construction of the Weajue underground portal and support facilities commenced in 2022. Ore production from underground operations started in 2023, with all the ore being transported to the New Liberty processing plant.

Mining of the Weajue mineralisation is conducted using a combination of transverse & longitudinal sublevel stoping and Cut & Fill mining methods due to the varying dips in the folded orebody. Mining of the down-dip extension of the mineralization will continue by underground operation.

Weajue UG Mine (Jan-2022 to Present)

- Two different portal entrances. (Weajue-South, Weajue-North)
- Sublevel Stope Mining method is applying at Weajue UG's. (Transverse & Longt.)
- Total Lateral Development has reached about 18.9 km
- The deepest underground portal has reached the final vertical depth (340 m)
- Project-to-date production:
 - Total mined: 2.23 M tonnes
 - Total ore: 1.4 M tonnes
 - Average ore grade mined: 3.47 g/t gold
 - Total waste: 0.83 M tonnes

Key Facts

Mine Type	UG
Metals Mined	Gold
Deposit Type	Orogenic Gold
Production Type	Fully Mechanized Sub-Level Stoping and Cut & Fill
Process Type	CIL (Average Recovery %94.39)
Remaining Life Of Mine	Based on proven and probable reserves, the remaining life of the Weajue-south end of 2028, Weajue-North is 2029
2024 Production Physicals	850kt @3.38 g/t, 92KOz



• CONTACT

LOCATIONS

E-Mail info@avesoro.com

Jersey Office

De Carteret House, 7 Castle Street, St Helier, JE2 3BT, Jersey, Channel Islands Monrovia Office

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Matambo



Only Open-Pit Operations are ongoing at this site. Three different open pit are located. (Matambo-1, Matambo-2, Matambo-3) Ore production from open-pit operations started at the end of 2023 with all the ore being transported to the New Liberty processing plant.

Matambo Open Pit Mine (Dec-2023 to Present)

- Project was starting December-2023. Project was suspended at February -2024, after that Restart at beginning of December-2024
- Matambo pit has 450 m long and 390 m wide at the EOY-2024 (Project on going)
- Open pit has reached the 15 m depth at the EOY-2024 (Project On-going)
- Project to date production Metrics:
 - Total Mined: 2.72 M tonnes
 - Total Ore: 0.02 M tonnes
 - Total Waste: 2.7 M tonnes

Key Facts

Mine Type	OP
Metals Mined	Gold
Production Type	Surface Mining method
Process Type	CIL (Average Recovery %94.39)
Remaining Life Of Mine	Based on proven and probable reserves, the remaining life of mine is 3 years
2024 Production Physicals	20kt @0.86 g/t, 575oz



• CONTACT

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E-Mail info@avesoro.com

Jersey Office

De Carteret House, 7 Castle Street, St Helier, JE2 3BT, Jersey, Channel Islands Monrovia Office

18th Street Payne Avenue Intersection 1000, Monrovia, Liberia

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Kokoyah



The Kokoyah Gold Mine started as an open pit operation in 2016 and progressed underground in 2020. Underground mining stopped in 2022 until the gold price becomes more favourable.

- Acquired from Amlib Holdings Plc in April 2014 at PFS stage.
- Mine designed, constructed and in operation approximately 2 years after acquisition, with production commencing in May 2016
- Three stage primary jaw, rod mill and ball mill
- Ball mill design 65 tph 1.3 MW drive
- Mill Capacity 0.75 Mtpa crushed ore.
- Conventional gravity circuit with Knelson concentrator
- CIL circuit
- 92 95% recovery overall
- TSF Fully lined and waste rock perimeter walls.

Kokoyah UG Mine (Aug-2020 to Dec-2022)

- First Underground Mine operation for Republic of Liberia
- Two different Main Mining methods is applying at Kokoyah UG;
 - Cut & Fill Method (Arhavi Gold vein)
 - Transverse and Longitudinal Sublevel Stopes and Drift &Fill Method (İstanbul Gold Vein)
- Total Lateral Development has reached about 10.3 km
- The underground portal has reached the final vertical depth (244 m)
- Project-to-date production:
 - Total mined: 0.91 M tonnes
 - Total ore: 0.54 M tonnes
 - Average ore grade mined: 3.81 g/t gold
 - Total waste: 0.38 M tonnes

Kokoyah Open Pit Mine (Jan-2016 to Dec-2021)

- Three different Open pits are located at Kokoyah Gold Mine
- Pits Width Lengths are: Arhavi: 244 m, İstanbul: 288 m, Ankara: 140 m
- Length of Pits: Arhavi: 483 m, İstanbul: 536 m, Ankara: 195 m
- İstanbul Open pit has reached the final depth (145m)
- Arhavi Open pit has reached the final depth (135m)
- Ankara Open pit has reached the final depth (55m)
- Project-to-date production:
 - Total mined: 37 M tonnes
 - Total ore: 2 M tonnes
 - Average ore grade mined: 4.24 g/t gold
 - Total waste: 35 M tonnes

Key Facts

Mine Type	OP / UG
Deposit Type	Orogenic Gold
Production Type	Surface Mining at OP / CAF, DAF and Sublevel Stope Mining at UG
Process Type	CIL (Average Recovery %94.88)
Remaining Life Of Mine	Completed
2023 Production Physicals	35kt @3.89 g/t, 4KOz



• CONTACT

E-Mail

• LOCATIONS

Jersey Office

De Carteret House, 7 Castle Street, St Helier, JE2 3BT, Jersey, Channel Islands Monrovia Office

18th Street Payne Avenue Intersection 1000, Monrovia, Liberia

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Geology

There are four main departments under the Group Geology leadership: Exploration, Drilling, Resource Geology and Mine Geology.

EXPLORATION

The Exploration department explores for economically viable ore deposits. They focus on suitable geological environments and aim to minimise the time from exploration to production.

Avesoro's Drilling Department is very well equipped with an impressive range of rigs, enabling the company to quickly and comprehensively drill and assess prospects and add ounces of gold to the portfolio.

• DRILLING

RESOURCE GEOLOGY

The Resource Geology department develop orebody models using geological, geochemical, and geophysical data for the different gold prospects in the relevant regions.

 MINE GEOLOGY The Mining Geology department is responsible for managing the quality and economic production of the ore zone, determined after assessing the results of grade control sampling and lithological and structural mapping and modelling in the open pit and underground operations.









Liberia

quartz veins in schists and amphibolites.

Liberia is situated within the Archean Shield portion of the 1.7Ga Man Craton. The Liberian deposits are located in sheared Archean formation rocks. The Archean rocks have been subjected to deformation and shearing, with the principal structures acting as conduits for mineralizing fluids which features rich gold deposits.

The New Liberty, Weaju and Ndablama deposits are all hosted in intercalated ultramafics and amphibolites and these were sheared and invaded by siliceous fluids which carried the gold. The Kokoyah mineralisation is associated with erratic

New Liberty

The New Liberty Project is underlain by three main stratigraphic units, which are further subdivided into minor zones of varying mineralogical assemblages. The geology is dominated by tremolite-chlorite-actinolite-talc plus/minus magnetite rich meta-ultramafic, sometimes with phlogopite, and flanked by migmatite gneisses. The Hanging wall Complex (HWC) consists of migmatite and gneisses. Amphibolite bands alternate with quartz-feldspathic gneiss repeating in fractals, from meter through to millimeter scales. The Footwall Complex (FWC) rocks are similarly banded, but the bands have a wider zone of foliated leucocratic gneiss and contain less but larger concentrations of hornblendic gneisses. The silicified metamorphosed ultrabasic suite (SMUS) is the principal host to the gold mineralization, and generally contains quartz, chlorite and amphibole, and a host of mafic minerals, including talc. At the contact separating the HWC and FWC from the SMUS are transitional rocks, named here as garnet phlogopite plus/minus actinolite gneiss, which have a strong schistosity and coarse grain size. This unit is also found within the ultramafic sequence.



Ndablama

The Ndablama Project is underlain by Archean greenstone comprised of amphibolite gneisses and ultramafic rocks. Geologically, Ndablama is subdivided into three main entities, designated the Northern, Central and Southeastern zones. The general geology of Ndablama consist of mafic and ultramafic rocks. The mafic package consists of amphibolite schists and gneisses which envelope a series of ultramafic schists. The ultramafic rocks have been subdivided into magnetite-rich and magnetite-poor zones. The ultramafic and mafic rocks are located close to the contact with a large granitic batholith to the east. The metavolcanic sequence has been intruded by granitic sills.

A simplified lithological sequence of Ndablama comprises three distinct packages: - The Hanging wall is comprised of a package of amphibolite gneisses sparsely intercalated with granitic gneiss and deformed granitic intrusions.

Towards the base of the package bands of magnetite-rich ultramafic can also be found. - The middle package of amphibolite and ultramafic schists. The ultramafic are comprised of tremolite chlorite with either magnetite of phlogopite, and biotite. Occasionally, this package is intruded by granite breccias and quartz-rich veins usually along the contact zone between the mafic and ultramafic rocks. This package is host to the mineralization zone.

- A lower package (the footwall) which is made up of more amphibolite and granitic gneiss units which are intruded by microcline granite and has weak hematite alteration.



The Matambo Project is named as two separate deposits which names are Center and West, within a 15 km-long.

Matambo

The Matambo East deposit sits within a metamorphic suite of granite, described locally as meta-granite. The meta-granite has undergone multiple phases of metamorphism and has a range of alteration assemblages, namely silification with varying degrees of carbonate, chlorite, epidote, and plus/minus sulphide. The northern and southern extent of the granite is truncated by an Archean Greenstone belt that includes mafic volcanics, amphibolite,

ultramafic, a range of schist plus/minus garnet-hornblende-biotite schists and minor intrusive dolerites.

The Matambo West deposit is largely the same geological setting as the Matambo East deposit with a package of meta-granite bounded by an Archean Greenstone belt that includes mafic volcanics, amphibolite, ultramafic, a range of schists plus/minus garnet-hornblende-biotite schists. There is a significant dolerite dyke intrusion within Matambo West that has displaced the meta-granite mineralization lodes. The dyke is void of gold mineralization and is more than likely a late-stage event.



Weajue

The Weaju project is one of the typical orogenic gold deposits found within the greenstone belt. In the highly deformed area, there are many lithological units. The lithological units carrying ore within the mineralization zone are GRTM (Magnetite Tourmaline Granite), AMP (Amphibolite), and UMMT (Magnetite-Tremolite-Chlorite Schist). There is a rock type called GRBR (Granite Breccia) that bounds the mineralization zone but does not contain ore. Silicification, which is one of the alteration types, is important in many systems and is directly related to ore at the Weaju project. Phlo (Phlogopite) and chl (Chlorite) alteration are directly associated with the ore. Pyrite and pyrrhotite (Sulphide Minerals) minerals are found within the mineralization zone as gangue.



Kokoyah

Kokoyah lies within the Liberian Age Province and is dominated by northeast-southwest trending, strongly deformed amphibolite and gneissic units with a volcanic origin. Several episodes of deformation are recorded in the metamorphic rocks, including several generations of cross-cutting folding and faulting, metamorphism and locally inferred unconformities. Certain areas have undergone varying degrees of partial melting resulting in pegmatites and migmatites being observed. A swarm of northwest trending dolerite dykes of Jurassic age intrude the gneisses and amphibolites. A major east-northeast trending zone of intense shearing, the St John Shear Zone, runs through the Project area. A number of east-west narrow ductile shear zones (DSZ) have been identified, which have been preserved as carbonaceous or graphitic shears in some artisanal workings. A series of parallel to sub-parallel northeastsouthwest trending Reidel structures have also been field mapped in the Resource Area.



AVESORO

LOCATIONS

Jersey, Channel Islands

Jersey Office De Carteret House, 7 Castle Street, St Helier, JE2 3BT,

Monrovia Office 18th Street Payne Avenue Intersection 1000, Monrovia, Liberia

in

CONTACT

E-Mail

Social Media

info@avesoro.com