

**For Immediate Release**  
**Date: December 29, 2021**

**TSX:ORV**  
**#21-2021**

**ORVANA FILES 2021 ANNUAL INFORMATION FORM AND NI 43-101 REPORT FOR DON MARIO;  
AND ANNOUNCES UPDATED PEA FOR TAGUAS**

**Highlights:**

- **OroValle, Spain:** Replenishes reserves depletion, maintains 5 Year Life of Mine, and increases total resources tonnage by 24% to 14,023 kt;
- **Taguas, Argentina:** Increases its total resources tonnage 246% to 133,626 kt, and updates NI-43-101 PEA to NPV of USD 57M;
- **Don Mario, Bolivia:** Adds 9,151 kt to its resources tonnage based on a new NI 43-101 report on its old time tailings.

**TORONTO, ONTARIO, December 29, 2021 – Orvana Minerals Corp. (TSX:ORV)** (the “Company” or “Orvana”) announces the filing of its annual information form for the year ended September 30, 2021 (the “AIF”) and independent 43-101 report on the Don Mario Tailings Reprocessing Project, Eastern Bolivia (the “Don Mario Tailings Reprocessing Report”). The Company is also pleased to provide a summary of its updated preliminary assessment report for Taguas Project (the “2021 Taguas PEA”), which will be filed on SEDAR within 45 days from the date hereof.

Juan Gavidia, CEO of the Company stated: *“Fiscal 2021 has proven to be a fantastic value creation year for our shareholders, with a year-on-year 205% increase in resources tonnage, growing from 52 Mt to 159 Mt. Our persistent exploration investment is paying off spectacularly this year, allowing us to keep pursuing development of our three assets with a much larger mineral resource base”.*

**Summary of Mineral Resources & Mineral Reserves <sup>(1)</sup>:**

Mineral Resources	Category	Tonnage (M t)		Variance (M t)
		September 30, 2021	September 30, 2020	
Orovalle	Measured & Indicated	10.3	7.9	2.4
	Inferred	3.7	3.4	0.3
Don Mario Oxides Stockpile	Measured	2.2	2.2	-
Don Mario Tailings	Indicated	3.7	-	3.7
	Inferred	5.5	-	5.5
Taguas	Interred	133.6	38.6	95.0
<b>Total</b>		<b>159.0</b>	<b>52.1</b>	<b>106.9</b>

Mineral Reserves	Tonnage (M t)		Variance (M t)
	September 30, 2021	September 30, 2020	
Orovalle	3.3	3.4	(0.1)
Don Mario	2.0	2.0	-
<b>Total</b>	<b>5.4</b>	<b>5.5</b>	<b>(0.1)</b>

*(1) Detailed information about Mineral Resources and Reserves as at September 30, 2021 and September 30, 2020 is included in the Company’s annual information forms for the years ended September 30, 2021 and*

September 30, 2020, available under the Company's profile at [www.sedar.com](http://www.sedar.com) and on the Company's website at [www.orvana.com](http://www.orvana.com).

## Don Mario Tailings Reprocessing Report

Orvana retained DGCS S.A. ("DGCS") to prepare a technical report for the Don Mario Tailings Reprocessing Project, in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101").

The Company, through its wholly owned subsidiary EMIPA, is the owner of the Don Mario Operation, a set of assets that includes Las Tojas ore body, and the previously mined out Lower Mineralized Zone, Upper Mineralized Zone and Cerro Felix mines, plus the Processing Plant and the Tailings Storage Facility. Operations at Don Mario were temporarily suspended in the first quarter of fiscal 2020 and is currently in care and maintenance.

Between April and June 2018 EMIPA executed a drilling program in the Don Mario Tailings Storage Facility, to determine the tailings resources. Two extraction methods have been considered to mining the tailings accumulated, as a mixed and escalated method. The considered methods are mechanical extraction and hydraulic extraction. The treatment considered is CIL-CIC-Flotation, to take advantage of potential synergies with the Oxides Stockpile Project.

Don Mario Tailings Reprocessing Project Mineral Resource Estimate – Effective September 30, 2021:

Cut Off Au	Indicated				Inferred			
	000 t	Au (g/t)	Ag (g/t)	Cu (%)	000 t	Au (g/t)	Ag (g/t)	Cu (%)
0.7	11	0.71	5.49	0.69	-	-	-	-
0.6	133	0.65	5.33	0.66	41	0.63	5.04	0.57
0.5	1,390	0.54	5.46	0.59	705	0.53	4.44	0.46
0.4	3,320	0.49	4.96	0.55	4,629	0.46	4.16	0.42
<b>0.3</b>	<b>3,677</b>	<b>0.48</b>	<b>4.79</b>	<b>0.53</b>	<b>5,474</b>	<b>0.45</b>	<b>4.00</b>	<b>0.40</b>
0.2	3,798	0.47	4.67	0.52	5,688	0.44	3.89	0.40
0.1	3,798	0.47	4.67	0.52	5,688	0.44	3.89	0.40

### Notes:

1. CIM definitions were followed for Mineral Resources, estimated by G. Zandonai, a qualified person for the purposes of NI 43-101, who is an employee of DGCS S.A., and is independent of the Company.
2. Highlighted Base Case of Au 0.3 g/t Cut Off considered for mine life.
3. Numbers may not add due to rounding.

The projected mine life ascends to approximately 3.8 years at a mining rate of 2.4 MT per year, considering the mineral resources estimate as at 0.3 g/t Au Cut Off.

Gino Zandonai of DGCS Exploration and Mining Consulting supervised the preparation of the Don Mario Tailings Reprocessing Report, is independent of the Company and a qualified person as defined by National Instrument 43-101 and has reviewed and approved the technical disclosure reported herein.

## 2021 Taguas PEA

Orvana retained SAXUM Engineered Solutions, from his Argentina office, in cooperation with Kappes, Cassidy & Assoc. (KCA) from Reno, NV; and NCL from Chile to prepare a Preliminary Economic Assessment for the Taguas Project.

The Taguas Property is host to a high-sulfidation epithermal gold-silver system hosted in altered tertiary age rhyolite volcanoclastic rocks. Supergene-oxidized gold-silver mineralization occurs on the south half of the Property. The oxide gold-silver mineralization consists of sub-vertical, northeast striking mineralized structures in an envelope of lower grade mineralization. The high-grade zones consist of relatively continuous

mineralization with gold grades ranging from 0.2 g/t Au to over 4.0 g/t Au and 10 g/t Ag to over 50 g/t Ag. Oxidation extends from surface to approximately 100m – 200m below surface. The present PEA refers only to this oxidized gold-silver mineralization occurring near surface in Cerros Taguas.

## PEA Highlights

- Pre-Tax NPV of US \$103.7M at 8.0% discount rate
- Pre-Tax Internal Rate of Return (IRR): 27.4%
- After-Tax NPV of US \$56.9M at 8.0% discount rate
- After-Tax IRR: 20.2%
- Payback Period (from start of operations): 2.9 years
- Initial Capital: US \$141.2M
- LOM Capital: US \$147.8M
- Estimated Average LOM All-In Sustaining Costs (AISC): US \$915/Au oz payable

*Mineral resources that are not mineral reserves do not have demonstrated economic viability. The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the results of the PEA will be realized. The PEA study is conceptual in nature and the PEA mine plan is based on 100% inferred resources. The projections, forecasts and estimates presented in the PEA constitute forward-looking statements and readers are urged not to place undue reliance on such forward-looking statements. Additional cautionary and forward-looking statement information is detailed at the end of this news release.*

## PEA Key Inputs

- Gold Price: 1,700 US\$/oz
- Silver Price 22 US\$/oz
- Construction: 1 year
- Production: 9.2 years
- Waste/Processed Feed: 0.69
- Mine: Maximum 14.0 Mt per year (total mined plus rehandling)
- Plant: 15,000 tons per day
- Au Recovery: 83%
- Ag Recovery: 42%
- Au LOM Production: 430Koz
- Ag LOM Production: 7,618Koz

## NPV After-Tax Sensitivity by Discount Rates

Discount Rate (%)	Net Present Value (USD M's)
5	79.0
<b>8</b>	<b>56.9</b>
10	44.4
15	20.2

## PEA Inferred Resource

### Estimate of Inferred Mineral Resource for Cerro Taguas Oxides reported at 0.25 g/t AuEq Cut-off

COG g/t AuEq	Tonnes Mt	Au g/t	Ag g/t	AuEq g/t	Contained Metal	
					Au koz	Ag koz
0.25	55.0	0.35	12.1	0.49	619	21,429

**Notes:**

1. Mineral Resource estimate prepared by Mr. R. Simpson, P.Geo., of GeoSim Services Inc. with an effective date of June 30, 2021. Mineral Resources are classified using the 2014 CIM Definition Standards.
2. Gold equivalent (AuEq g/t) calculations were based on assumed metal prices of \$1700/oz Au, and \$20/oz Ag.
3. An optimized pit shell was generated using the following assumptions: metal prices in Note 2 above; a 45° pit slope; mining costs of \$2.00 per tonne, processing costs of \$5.20 per tonne, and general & administrative charges of \$1.50 per tonne. All amounts are expressed in US dollars.
4. Totals may not sum due to rounding.
5. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

## PEA Mining & Processing

The mining method proposed for the Property in the PEA is conventional truck and shovel open pit mining. The proposed recovery process will be crushing of mineralized material at a rate of 15,000 tpd, stacking in 10 m lifts on a permanent heap leach and gold and silver recovery from the heap leach pregnant solution in a Merrill-Crowe recovery plant where gold and silver will be precipitated to produce doré gold bars.

Nestor Lares, COO of SAXUM, was in charge of the Argentinian team as well to engage and coordinate the work of Caleb Cook of KCA and Carlos Guzman of NCL, and their respective teams, in the preparation of the PEA. Caleb and Carlos are independent of the Company and both qualified persons as defined by National Instrument 43-101 and have reviewed and approved the technical disclosure reported herein. The PEA will be filed on SEDAR within 45 days from this news release.

Once filed, the 2021 Taguas PEA will replace the previous preliminary economic assessment dated May 14, 2019 and filed on SEDAR on July 9, 2019.

## Orovalle Mineral Resources and Reserves

### SUMMARY OF MINERAL RESOURCES INCLUSIVE OF MINERAL RESERVES – SEPTEMBER 30, 2021

Zone	Tonnage (000 t)	Grade (g/t Au)	Grade (g/t Ag)	Grade (% Cu)	Contained Metal (000 oz Au)	Contained Metal (000 oz Ag)	Contained Metal (000 lb Cu)
Measured + Indicated	10,340	3.62	10.15	0.47	1,205	3,373	107,586
Inferred	3,684	3.74	7.04	0.32	446	852	25,838

**Notes:**

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at gold equivalent ("AuEq") cut-off grades of 2.48 g/t for Boinás oxides, 2.11 g/t for Boinás skarns and 1.96 g/t for Carlés. AuEq cut-offs are based on recent operating results for recoveries, off-site concentrate costs and on-site operating costs. AuEq cut-off grades of 2.48 g/t was used for La Brueva.
3. Mineral Resources are estimated using a long-term gold price of US\$1,700 per ounce; copper price of US\$3.25 per pound; and

- a silver price of US\$ 20 per ounce. A US\$/Euro exchange rate of 1/1.20 was used.
4. Mineral Resources are inclusive of Mineral Reserves.
  5. A crown pillar of 60 m is excluded from the Mineral Resource below El Valle TSF.
  6. A crown pillar of 40m is excluded from the Mineral Resource below Boinás East open pit.
  7. Unrecoverable material in exploited mining areas has been excluded from the Mineral Resources.
  8. A no-mining sterilization zone of 10 meters below already mined stopes in Boinás has been excluded from the Mineral Resources.
  9. A no-mining sterilization zone of 5 meters around waste filled stopes in Boinás has been excluded from the mineral resources.
  10. Areas of mineral blocks in Carlés and Boinas have been removed from the Mineral Resource report to ensure RPEEE.
  11. Numbers may not add due to rounding.
  12. El Valle mineral resources estimates were prepared under the supervision G. Collar, European Geologist, a qualified person for the purposes of NI 43-101, who is an employee of OroValle and thus not independent of the Company.

## SUMMARY OF MINERAL RESERVES – SEPTEMBER 30, 2021

Category	Tonnage (000 t)	Grade (g/t Au)	Grade (g/t Ag)	Grade (% Cu)	Contained Metal (000 oz Au)	Contained Metal (000 oz Ag)	Contained Metal (000 lb Cu)
Proven and Probable	3,324	3.04	6.13	0.34	324	655	24,898

### Notes:

1. CIM (November 29, 2019) definitions and guidelines were followed for Mineral Reserve estimation.
2. Mineral Reserves are estimated using AuEq break-even cut-off grades by zone, consisting of 3.35 g/t AuEq for Boinás oxides (D&F), 2.90 g/t AuEq for Boinás skarns (SLS), and 2.09 g/t AuEq for Carlés skarn (SLS). AuEq cut-offs are based on recent operating results for recoveries, off-site concentrate costs, and on-site operating costs. AuEq factors are based on metal prices, metallurgical recoveries, metal payables, and selling costs.
3. Mineral Reserves are estimated using average long term prices of US\$1,600/oz Au, US\$18/oz Ag, and US\$3.00/lb Cu. A US\$/€ exchange rate of 1.20/1.00 was used.
4. A minimum mining width of 4 m was used.
5. Crown pillars of 75 m and 42 m are excluded from the Mineral Reserves below the El Valle TSF and Boinás East open pits, respectively.
6. A no-mining sterilization zone of 10 m below mined out stopes and 5 m around waste filled stopes has been applied.
7. El Valle mineral reserves estimates were prepared under supervision of Brian Buss, a qualified person for the purposes of NI 43-101, who is an independent consultant of the Company.
8. Numbers may not add due to rounding.

### Cautionary Statement

The Don Mario Tailings Reprocessing Report and the 2020 Taguas PEA (collectively, the "Reports") follows the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definitions Standards for Mineral Resources and Reserves (2014). The Reports have been completed in accordance with the Standards of Disclosure for Mineral Projects as defined by National Instrument 43-101. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Reserves and Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

**ABOUT ORVANA** - Orvana is a multi-mine gold-copper-silver company. Orvana's assets consist of the producing El Valle and Carlés gold-copper-silver mines in northern Spain, the Don Mario gold-silver property in Bolivia, currently in care and maintenance, and the Taguas property located in Argentina. Additional information is available at Orvana's website ([www.orvana.com](http://www.orvana.com)).

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**Cautionary Statements - Forward-Looking Information**

*Certain statements in this presentation constitute forward-looking statements or forward-looking information within the meaning of applicable securities laws ("forward-looking statements"). Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, potentials, future events or performance (often, but not always, using words or phrases such as "believes", "expects", "plans", "estimates" or "intends" or stating that certain actions, events or results "may", "could", "would", "might", "will" or "are projected to" be taken or achieved) are not statements of historical fact, but are forward-looking statements.*

*The forward-looking statements herein relate to, among other things, Orvana's ability to achieve improvement in free cash flow; the ability to maintain expected mining rates and expected throughput rates at El Valle Plant; the potential to extend the mine life of El Valle and Don Mario beyond their current life-of-mine estimates including specifically, but not limited to, in the case of Don Mario, the processing of the mineral stockpiles and the reprocessing of the tailings material; Orvana's ability to optimize its assets to deliver shareholder value; the Company's ability to optimize productivity at Don Mario and El Valle; estimates of future production, operating costs and capital expenditures; mineral resource and reserve estimates; statements and information regarding future feasibility studies and their results; future transactions; future metal prices; the ability to achieve additional growth and geographic diversification; the potential for discovery of additional mineral resources; future financial performance, including the ability to increase cash flow and profits; future financing requirements; and mine development plans.*

*Forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company as of the date of such statements, are inherently subject to significant business, economic and competitive uncertainties and contingencies, which includes, without limitation, as particularly set out in the notes accompanying the Company's most recently filed financial statements. The estimates and assumptions of the Company contained or incorporated by reference in this information, which may prove to be incorrect, include, but are not limited to the various assumptions set forth herein and in Orvana's most recently filed Management's Discussion & Analysis of the Company's most recently completed fiscal year, and the latest filed Annual Information Form (the "Company Disclosures") or as otherwise expressly incorporated herein by reference as well as: there being no significant disruptions affecting operations, whether due to labour disruptions, supply disruptions, power disruptions, damage to equipment or otherwise; permitting, development, operations, expansion and acquisitions at El Valle and Don Mario being consistent with the Company's current expectations; political developments in any jurisdiction in which the Company operates being consistent with its current expectations; certain price assumptions for gold, copper and silver; prices for key supplies being approximately consistent with current levels; production and cost of sales forecasts meeting expectations; the accuracy of the Company's current mineral reserve and mineral resource estimates; labour and materials costs increasing on a basis consistent with Orvana's current expectations; the availability of necessary funds to execute the Company's plan; there will be no material change to the results of the preliminary economic assessment, including but not limited to the mineral resource estimation, conceptual mine plan and operations, internal rate of return, sensitivities, taxes, net present value, potential recoveries, design parameters, operating costs, capital costs, production data and economic potential; the timing and costs for production decisions; permitting timelines and requirements are achieved in a timely manner; exploration and planned exploration programs are sufficiently funded and executed in a timely manner; timing for completion of a feasibility study; timing for first gold production; processing the stockpile at El Valle in connection with the metal production catch-up program; identifying additional resources beyond the replenishment of annual depletion rates at El Valle for the extension of mine life; issuing an updated PEA for Taguas in a timely manner; completion of the infill drilling program at Taguas; making a decision on the oxides stockpile at Don Mario in a timely manner; and the Company's general objectives and strategies.*

*A variety of inherent risks, uncertainties and factors, many of which are beyond the Company's control, affect the operations, performance and results of the Company and its business, and could cause actual events or results to differ materially from estimated or anticipated events or results expressed or implied by forward looking statements. Some of these risks, uncertainties and factors include: the potential impact of the COVID-19 on the Company's business and operations, including: our ability to continue operations; our ability to manage challenges presented by COVID-19; the accounting treatment of COVID-19 related matters; Orvana's ability to prevent and/or mitigate the impact of COVID-19 and other infectious diseases at or near our mines; our ability to support the sustainability of our business including through the development of crisis management plans, increasing stock levels for key supplies, monitoring of guidance from the medical community, and engagement with local communities and authorities; fluctuations in the price of gold, silver and copper; the need to recalculate estimates of resources based on actual production experience; the failure to achieve production estimates; variations in the grade of ore mined; variations in the cost of operations; the availability of qualified personnel; the Company's ability to obtain and maintain all necessary regulatory approvals and licenses; the Company's ability to use cyanide in its mining operations; risks generally associated with mineral exploration and development, including the Company's ability to continue to operate the El Valle and/or ability to resume long-term operations at the Carlés Mine; the Company's ability to successfully implement a sulphidization circuit and ancillary facilities to process the current oxides stockpiles at Don Mario; the Company's ability to successfully carry out development plans at Taguas; sufficient funding to carry out development plans at Taguas and to process the oxides stockpiles at Don Mario; the Company's ability to acquire and develop mineral properties and to successfully integrate such acquisitions; the Company's ability to execute on its strategy; the Company's ability to obtain financing when required on terms that are acceptable to the Company; challenges to the Company's interests in its property and mineral rights; current, pending and proposed legislative or regulatory developments or changes in political, social or economic conditions in the countries in which the Company operates; general economic conditions worldwide; current and future environmental matters; and*

*the risks identified in the Company's disclosures. This list is not exhaustive of the factors that may affect any of the Company's forward-looking statements and reference should also be made to the Company's Disclosures for a description of additional risk factors.*

*Any forward-looking statements made herein with respect to the anticipated development and exploration of the Company's mineral projects are intended to provide an overview of management's expectations with respect to certain future activities of the Company and may not be appropriate for other purposes. Forward-looking statements are based on management's current plans, estimates, projections, beliefs and opinions and, except as required by law, the Company does not undertake any obligation to update forward-looking statements should assumptions related to these plans, estimates, projections, beliefs and opinions change. Readers are cautioned not to put undue reliance on forward-looking statements. The forward-looking statements made in this information are intended to provide an overview of management's expectations with respect to certain future operating activities of the Company and may not be appropriate for other purposes.*