NEVADA ORGANIC PHOSPHATE

Research Note- July 20, 2023

Prepared by: RAK Consultants CANADA Inc.

“The Organic Phosphate Fertilizer Demand Boom is Just Beginning - Climate Change Will Super-Charge It!”

Nevada Organic Phosphate Inc. (NOP)

0.035
0.00 (0.00%)

Fullscreen

1D 5D 1M 3M 6M YTD 1Y 3Y 5Y 10Y DAILY

Volume:

Nevada Organic Phosphate Inc. (NOP:CC)

$0.035 0.00 (0.00%)

Bid: 0.04 x 2000 Ask: 0.045 x 45000

July 17, 2023 9:30 AM ET Volume: 1,594

CAD | CANADIAN SECURITIES EXCHANGE | DELAYED PRICE

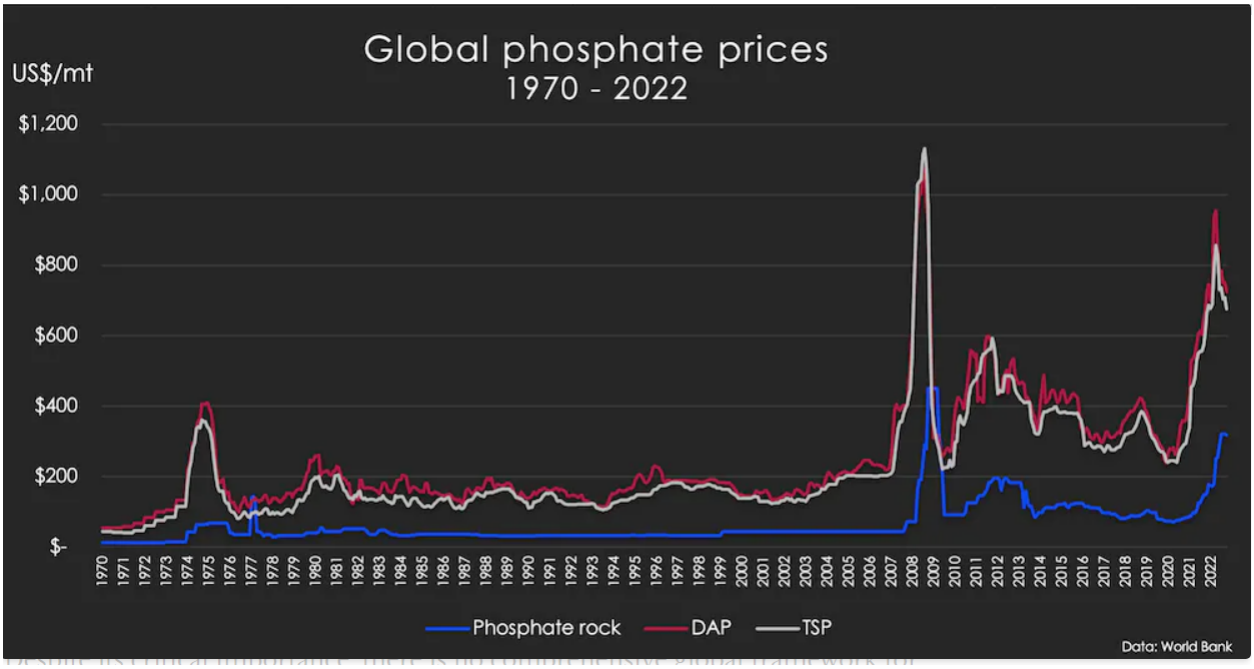
Total Shares O/S: 36 million

Total Warrants O/S: 30 million Fully Diluted: 76 million

1d	5d	1m	3m	6m	1y	5y

Last	0.035	Volume	1,594
Open	0.035	Prev. Cl…	0.035
High	0.035	Low	0.035
Bid	0.04	Ask	0.045
Bid Size	2000	Ask Size	45000
Beta	1.30585	VWAP	0.035
Year High	0.20	Year Low	0.03
Market …	1.27m	Total Sh…	36.17m
EPS	-0.02	Shares …	37.39m
		Exchange	CSE

Source: Canadian Securities Exchange (CSE)



Phosphate rock/**DAP**- diammonium phosphate/ **TSP**-triple super phosphate (all prices fob US Gulf)

Investment Case- NOP Aims to Be One of the Only Certified Pure Phosphate Rock Producers in the World as Global Supply Dwindles and Becomes More Unreliable

- **Nevada Organic Phosphate (NOP-CSE)** hosts one of the world's few clean, high purity phosphate rock deposits at Murdock Mountain in northeast Nevada in one of the most mining friendly & politically safe jurisdictions anywhere. Less that 5 % of known global phosphate rock deposits have no measurable toxic contaminants & by-products and as such, needs no acid-chemical treatments during production. This deposit is close to surface with easy access and substantial infrastructure already place.
- **Historical geological mapping has traced a potentially very large deposit** over an 8km strike length with an average thickness of 3.5 metres. Historic (non-43-101 compliant) estimates suggest that average grades could reach up to 15% P2O5. With precision exploration drilling commencing by early next year, the deposit could be much more expansive than previously indicated. (5-SEM_Murdock-Mtn-Prosphate-Project-Technical-Report-doc156084v2.pdf (nevadaphosphate.com).
- **It is believed that this deposit could be mined at extremely low cost** (company estimate of <US$200/ton) with a direct shipping "rock to soil" product with "slow-release" attributes. In other words, the company can mine it, grind it, bag it and ship by rail to the booming California organic market. All infrastructure, including rail & roads, are in place 6 km away from the project site close by the town of Montello, NV.
- **Certified pure slow-release organic phosphate rock currently sells for $US 500-550/ton (bulk- delivered California)- prices are moving up again in the 2H:2023 and the demand for organic phosphate market is expected to grow by + 8-10 % year for the next several years.**
- **The project has extremely low estimated drilling and prove-up costs to determine full extend of deposit and mine life**. The Murdock Mountain deposit is part of the huge "Western Phosphate Field" encompassing parts of six western states in the United States, but it specifically lies in a **very rare ore type hosted by oolitic limestone at surface and likely be easy to extract with company estimated exploration and mine plan costs of only US$ 350-500K in total.**

- **The organic food market is estimated to be worth US$120 billion in North America** (estimate supplied in 2021: Economic Research Service-USDA **)** and NOP will be well positioned to supply contaminant-free organic to the P2O5 demand arena (+ 8-10 % annual growth rates forecast for 2021-27).
- **NOP's solid management team** has direct experience in exploration and development, as well as in organic fertilizer distribution.
- **The early-stage status of NOP's clean phosphate rock project means that a potential valuation surge is not priced in yet**, as a premium for quick start-up, uncomplicated and low-cost processing, along with strong demand & pricing could be substantial once an updated resource estimate is provided and validated as early as mid 2024. **Interim valuation estimates are to be provided once drill results and a resource estimate update are provided by the company.**


MURDOCK MOUNTAIN
WINNEMUCCA
BATTLE MOUNTAIN
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ELY
CARSON CITY
YERINGTON
GABBS
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TONOPAH
CALIENTE
OVERTON
LAS VEGAS
BOULDER CITY


Montello
ELEV 4880

Highlights: Pure/Organic Phosphate Rock Supply Shortages Growing

- **Climate change impacts on global agriculture outputs are reaching a tipping point.** Organic phosphate will be needed to close the gap between synthetic (chemical acid-based) phosphate fertilizer's adverse environmental affects and healthy soil inputs enhancing plant growth. Sustainable food production increases will demand sustainable fertilizer applications and a lower carbon footprint, along with lower costs for the farmer. **This is occurring while the FAO estimates that global food production will grow by 70% over the next 30 years (2020 base).**

- **Without phosphorus food cannot be produced since all plants and animals need it to grow**. Put simply: if there is no phosphorus, there is no life. As such, **phosphorus-based fertilisers** – it is the "P" in "NPK" fertilizers – **have become critical to the global food system.**

- **Global supply of phosphate rock is declining rapidly** with China & Morocco jointly controlling just over 85% of the world's remaining high-grade supply. Also, these regions are not always a stable and sustainable source of supply, while others are reaching their economic end-of-life. This makes the global food system extremely vulnerable to disruptions in the phosphorus supply chain that can lead to sudden price spikes. For example, in 2008 the price of phosphate fertilisers rocketed 800**%.** (Source: CRU)

- As supply declines, **the global phosphate fertilizer market is expected to grow by 5.1% p.a. from 2021 to 2027 and reach US$79B by 2027 (Source: ReportLinker).**

- **Many of these acid-based phosphate deposits contain toxic contaminants like uranium, cerium, cadmium, and other toxic metals.** Chemical, acid-based processing is necessary to convert them to useable phosphate fertilizer. Chemical runoff from phosphate mining waste and farming over-applications tends to toxify groundwater, poisons the ecological biodiversity

surrounding farms, and is now causing larger area contamination and more frequent and larger toxic algae blooms as the climate warms.

- The traditional process for making acid-based fertilizer involves dissolving phosphate rock in either nitric or sulphuric acid. Diammonium phosphate (DAP) and monoammonium phosphate (MAP) are created by reacting ammonia and phosphoric acid, which forms a slurry that is then solidified to produce a granulated fertilizer. **These widely used types of P2O5 fertilizers are expensive to produce, are potentially toxic to the soil and the environment over time and as little as 10-15% of the acid-based phosphate applications are taken up by the plant.** Soil mycorrhiza degradation and general soil health is only one negative result. Ever increasing and damaging algae blooms and negative biodiversity impacts are another.

- **Slow-release, organic rock phosphate does NOT destroy the micro-organisms in the soil (or cause any of the other negative environmental impacts as described above) which are vital for the life and health of the soil, unlike synthetic and chemically treated high concentration phosphates (DAP/MAP) which make the majority of phosphate fertilizers on the market.**

- **NOP does not plan to use a large open pit mining operation that exhibits high levels of site disturbance.** Initially, they anticipate using large backhoes, shipping the raw rock only 6 km to Montello, NV, grinding the phosphate rock into granules in town and bagging it (50-100 kilo bags) and shipping it by rail (Southern Pacific Railway spur right in town, as well as just off Hwy SR 30) directly to farmers in the western US (especially for the organic farming market in California which is booming and growing exponentially). **In time, the shallow dipping, nearly flat-lying deposit will be amenable to simple underground mining methods, thus avoiding any significant surface habitat disturbance or contamination.**

- **This simplified mining methodology means estimated low operating costs (<US$200/ton) and potential high margins (+50-60%),** as pricing for pure,

organic phosphate rock fertilizer is currently in the US$500-550/ton range when the operation is in full swing. NOP's prime market is literally just next door.

- **Organic farmers want this product desperately because of its slow-release properties, zero toxicity, benign environmental footprint, and superior optimum mineral reaction with soil hosted micro-organisms.** Murdock Mountains' oolitic rock phosphate is composed of Franklinite (a carbonate rich variety of fluorapatite, which is the fastest acting apatite phosphate mineral, and is ideally suited for organic fertilizer applications).

Upcoming Milestones: Fast Tracking to Production

- **Environmental, biological, and cultural studies are being completed** and will be submitted to the Bureau of Land Management (BLM) of Nevada- expectations are for approvals before the end of this year.

- **An exploration permit will be applied for immediately thereafter** for a resource drilling program of 58 drill holes (11,600 feet). The project site is composed of sedimentary rock that also has substantial calcium carbonate deposits yielding 3-4% P2O5 that could significantly increase the historical resource estimate to yield an average blended grade of 8% P2O5, which is the preferred average grade for most organic farmers.

- **Full mine plan and resource update (NI 43-101/JORC) planned for mid - late 2024** and application for a **mining permit** to be submitted as well.

- **Operations could be underway as soon as by the end of 2024**, if all site studies, resource estimates, mine plan and permits are approved by the state and local regulators. Funding for all of the above activities will be undertaken soon as the studies are approved by the BLM.

Recommendation: A Hidden Gem in the Fert/Ag Space

- ✓ **We strongly recommend that investors investigate Nevada Organic Phosphate closely as an early-stage Ag investment.** The company has the potential to be a low-cost "game-changer" in the organic rock phosphate space, with an extremely low environmental footprint, start-up, and operating cost base.

- ✓ **The company is directed by a seasoned and experienced management team and board.** Their "no-nonsense" style sits well with investors and regulators as they make progress through the various milestones necessary to bring the project into production and cash-flow positive as soon as possible.

- ✓ **Providing a company valuation and peer group comparisons are premature** at this time. However, on an estimated mine production cost/ton basis (provided by the company), we know of no other clean organic rock producer that can match NOP's potential at the present time, simply because **there are no mines of this geometry and purity level in existence today.**

- ✓ **We will follow-up this short introductory research report with a full overview of the NI 43-101 resource and mine plan update once ready and approved by management, including a preliminary valuation and peer group comparables.**

- ✓ **We recommend investors go to the company's recently launched website** by following this link: NEVADA ORGANIC PHOSPHATE (nevadaphosphate.com) and view their story & updated corporate presentation.

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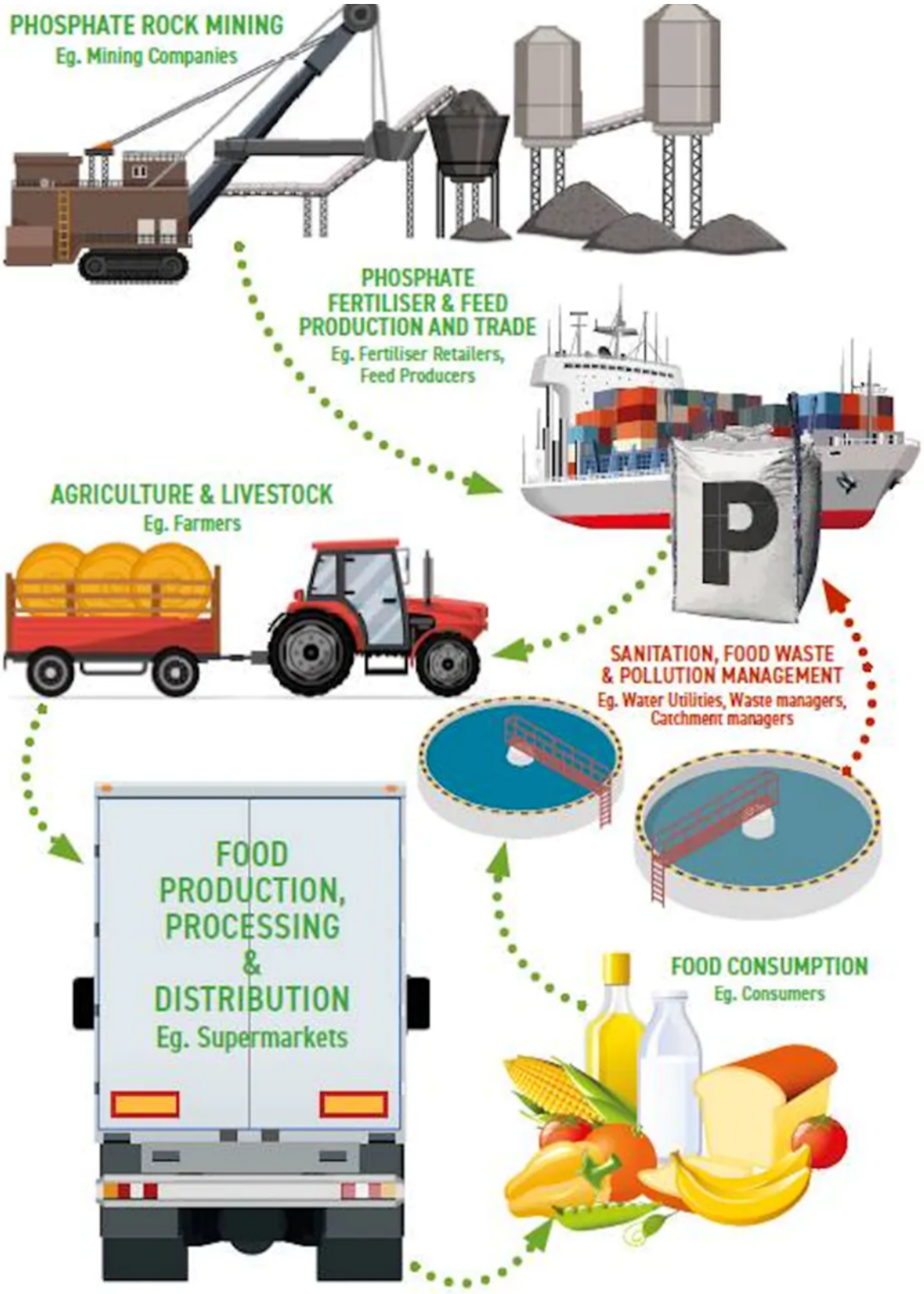
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