

< Supplementary information >

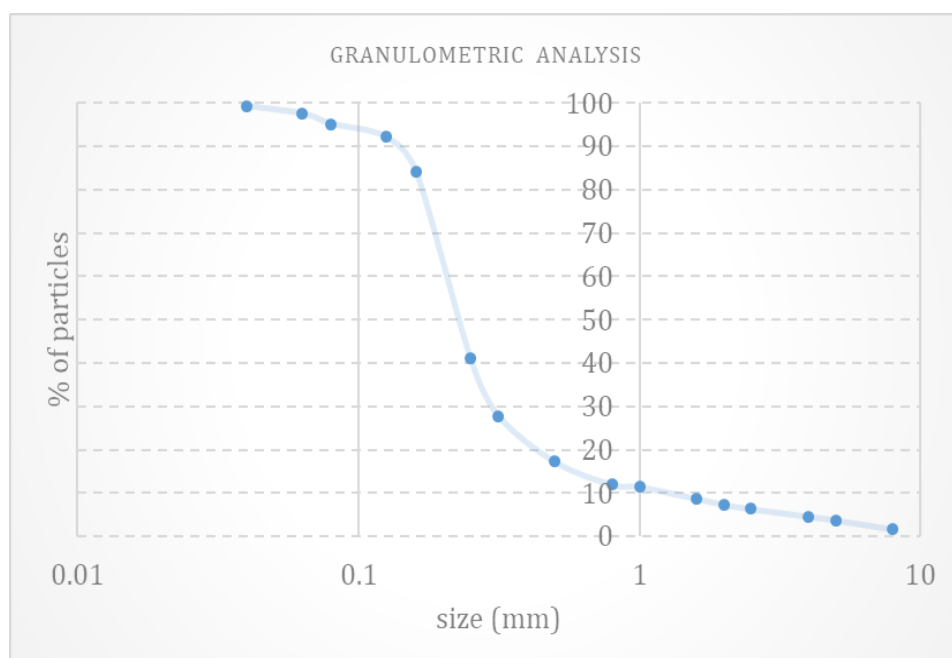


Figure S1. The results of granulometric analysis of phosphate ore from Djebel Onk after mechanical preparation.

Table S1. Particle size distribution of phosphate ore from Djebel Onk. R- mass retained, CR – cumulative mass retained, CP – cumulative passing.

Fractions	R (g)	R (%)	CR (g)	CR (%)	CP (g)	CP (%)
≥8 mm	34	1.7	34	1.7	1998	99.9
5-8 mm	42	2.1	76	3.8	1924	96.2
4-5 mm	17	0.9	93	4.7	1907	95.4
2.5-4 mm	35	1.8	128	6.4	1872	93.6
2-2.5 mm	20	1.0	148	7.4	1852	92.6
1.6-2 mm	27	1.4	175	8.8	1825	91.3
1-1.6 mm	55	2.8	230	11.5	1770	88.5
800 µm-1 mm	10	0.5	240	12.0	1760	88.0
500-800 µm	105	5.3	345	17.3	1655	82.8
315-500 µm	212	10.6	557	27.9	1443	72.2
250-315 µm	264	13.2	821	41.1	1179	59.0
160-250 µm	861	43.1	1682	84.1	318	15.9
125-160 µm	162	8.1	1844	92.2	156	7.8
80-125 µm	60	3.0	1904	95.2	96	4.8
63-80 µm	47	2.4	1951	97.6	49	2.5
40-63 µm	35	1.8	1986	99.3	14	0.7
≤40 µm	9	0.5	1995	99.8		
Total	1995	99.8				

Figure S2. Technological procedures (mechanical preparation) conducted for preparation of 80-160 μm fraction.

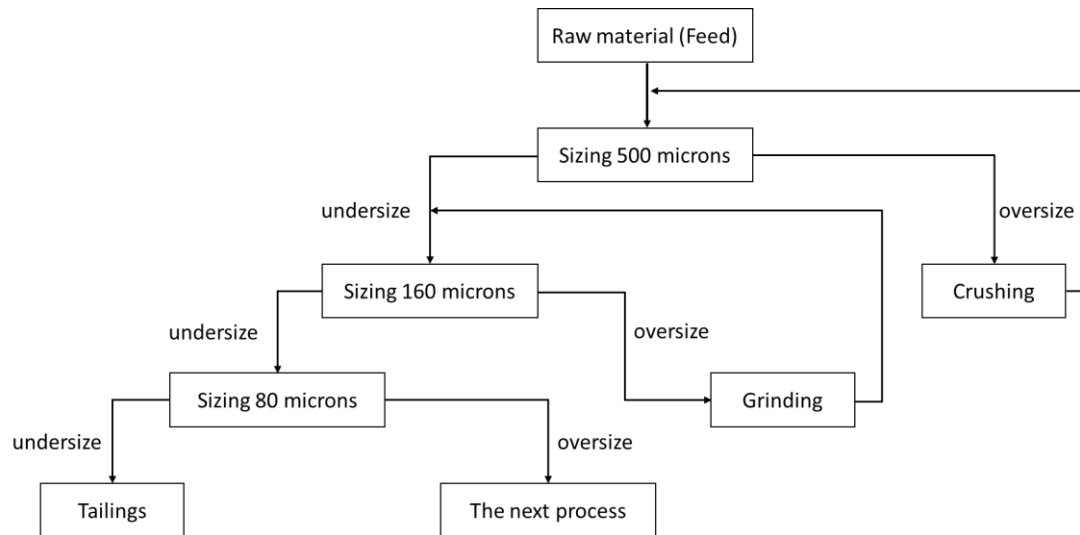


Table S2. Powder diffraction analysis parameters.

Radiation	CuK _{α1} ($\lambda=1,540598\text{\AA}$)
	Ni filter for K _β elimination
Tension	40 kV
Current	40 mA
Range	5°- 70° 2 Θ
Step size	0 0,02° 2 Θ
Time limit	200 s
Detector type	X'Celerator - strip detector