

57 S. Gay St. Baltimore
January 7th, 1868

Professor Lawes
Dear Sir

Enclosed you will find
analyses of Navassa Guano & of the S.
Carolina Phosphate, both made by myself.
It is proper to say that both these are variable
& these are good specimens of the two articles.
The S. C. phosphate contains sometimes 40 per cent.
of sand & the Navassa Guano is occasionally
diluted with much more carbonate of lime & oxide
of iron & alumina than the enclosed analysis shows.
It also contains occasionally quantities of phos-
phate of iron & aluminium.

Very Respectfully
Yr. Obedt. Servt.

A. Snowden Tiggish

P.S. Should you at any time desire to know any
thing concerning our guanos & fertilizers, I shall be
very happy to communicate to you any information I possess.

Navarro Guano

Moisture (expelled at 212°)	3.13
Organic matter & combined water	7.69
Insoluble silicious matter	2.24
Soluble silica	0.04
Lime	36.38
Magnesia	0.96
Sesquioxide of Iron	5.75
Alumina	4.65
Alkalies	0.13
Phosphoric Acid	36.87
Carbonic Acid	1.20
Sulphuric Acid	0.64
Chlorine	0.11
	99.39

Probable Combination

Water & silica with organic matter	13.10
Bone Phosphate of Lime	64.39
Phosphate of Magnesia	3.11
Carbonate of Lime	2.73
Lime combined with silica & organic acids	0.09
Sulphate of Lime	0.95
Phosphate of Iron	3.76
" " Alumina	3.03
Chloride of Sodium	0.18
Sulphate of Soda	0.14
Alumina	3.96
Sesquioxide of Iron	4.85
	100.00

Regt
Nurapa
Suano
1867

[Faint handwritten notes, possibly a list of names or dates]

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South Carolina Phosphate
7 miles west of Charleston

Water (expelled at 212°)	6.24
Organic matter & combined water	5.49
Sand	13.61
Lime	37.99
Magnesia	0.92
Peroxide of Iron	3.85
Alumina	1.65
Iodine	0.12
Phosphoric Acid	25.56
Carbonic Acid	3.04
Sulphuric Acid	1.16
Chlorine	0.19
	99.82

Probable Combination

Moisture, Organic Matter & Sand	25.00
Hydrated Sulphate of Lime	2.31
Bone Phosphate of Lime	52.29
Phosphate of Magnesia	2.33
Carbonate of Lime	6.91
Lime combined with Organic Acids	4.97
Peroxide of Iron & Alumina	5.50
Chloride of Iodine	0.31
	99.82