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Diego, CA 91941-7720, and **Claire Spychalla**. *Arithmetic of Numerical Semigroups on Compound  
Sequences*.

An increasing sequence  $A = (a_1, a_2, \dots, a_n)$  of natural numbers is called *compound* if it satisfies the condition  $a_2 a_3 \cdots a_{n-1} \leq \gcd(a_1, a_2) \gcd(a_2, a_3) \cdots \gcd(a_{n-1}, a_n)$ . In particular, every geometric sequence  $(a^n, a^{n-1}b, a^{n-2}b^2, \dots, b^n)$  is compound. If we further insist that  $\gcd(A) = 1$ , then we may form the primitive numerical semigroup minimally generated by  $A$ . We study the structure of this semigroup, finding the Apery sets and Frobenius number, and then compute various arithmetic invariants such as catenary degree and delta sets. (Received September 02, 2014)