

Client: Sable Mining Africa Ltd.  
 Value: \$US 42,120,000  
 Services: Haul road design, geotechnical investigation  
 Project Duration: May 2014 – Dec 2015

## Nimba Iron Ore, Guinea and Liberia

### Preliminary Mine Haul Road Design and Geotechnical Investigation

#### The Task

Sable Mining Africa Ltd. obtained an iron ore mining concession in the Mount Nimba region of the Republic of Guinea, with Phase 1 of the project comprising the extraction of 3Mtpa DSO (Direct Shipping Ore) from the concession area.

Iron ore product was to be transported from the mine site to the Port of Buchanan, from where it was then to be exported. Transportation of the ore was via a combination of truck (haul road) and rail, with the start of the rail route at Yekepa in Liberia.

#### Design Services

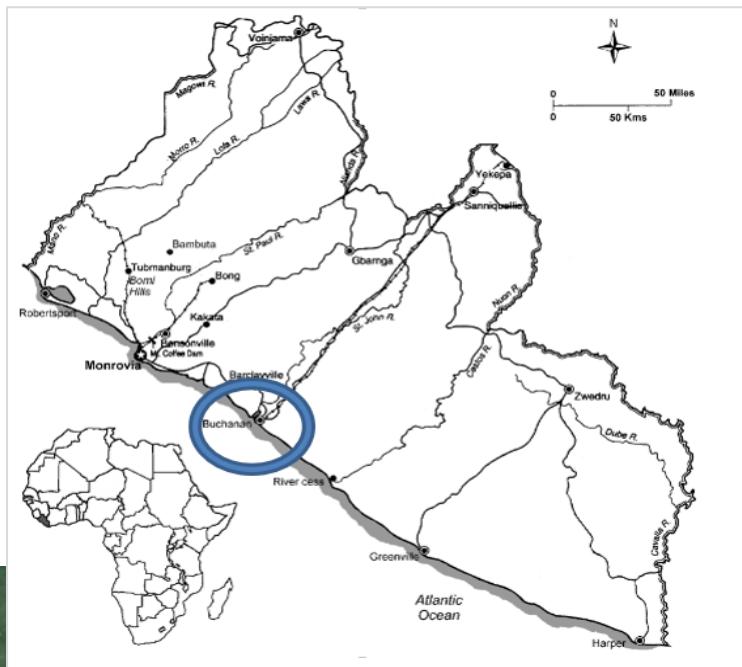
The construction of a haul road from the mine area in Nimba (Guinea), to the rail siding offloading area in Yekepa (Liberia), formed part of initial infrastructure development for the mine, for which Nurizon was appointed by the client to undertake the design of the haul road. The route totalled 53km in length and the preliminary designs included the road's geometric design (alignment and vertical profiling), preliminary bridge designs, and cattle and pedestrian crossing details.

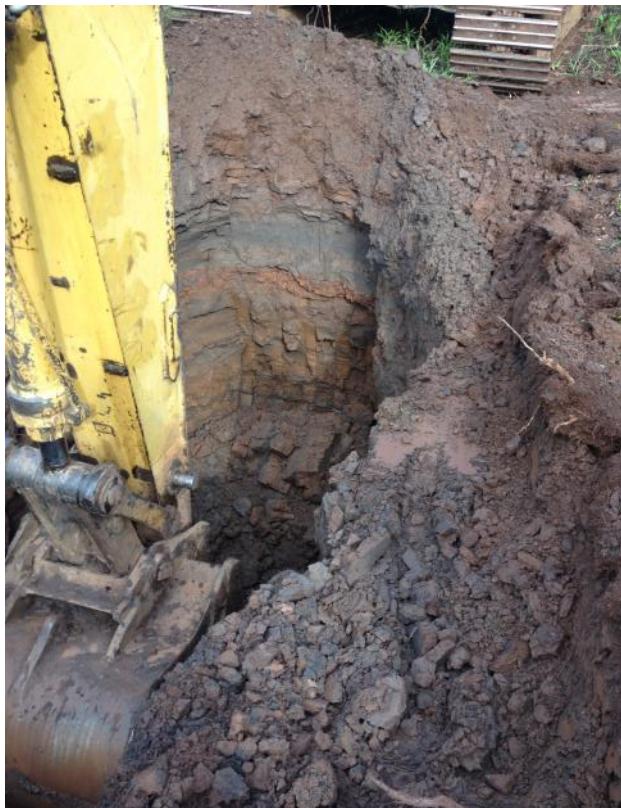
Nurizon was also responsible for the geotechnical investigation for the proposed Port of Buchanan facility in Liberia. The investigation consisted of near-surface excavations (using a 30T excavator) - 28 profiled test pits, with a maximum depth of excavation of 5m; and Dynamic Cone Penetrometer (DCP) testing (17 DCPs). Samples were also collected for laboratory testing.



## The Result

The preliminary design of the haul road provided the client with a high-level estimated design cost for the route alignment, whilst the geotechnical investigation provided information regarding the geology, in-situ material/rock properties (level of bedrock), founding recommendations, the presence of groundwater, and the identification of problematic soil conditions, amongst other characteristics.





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