

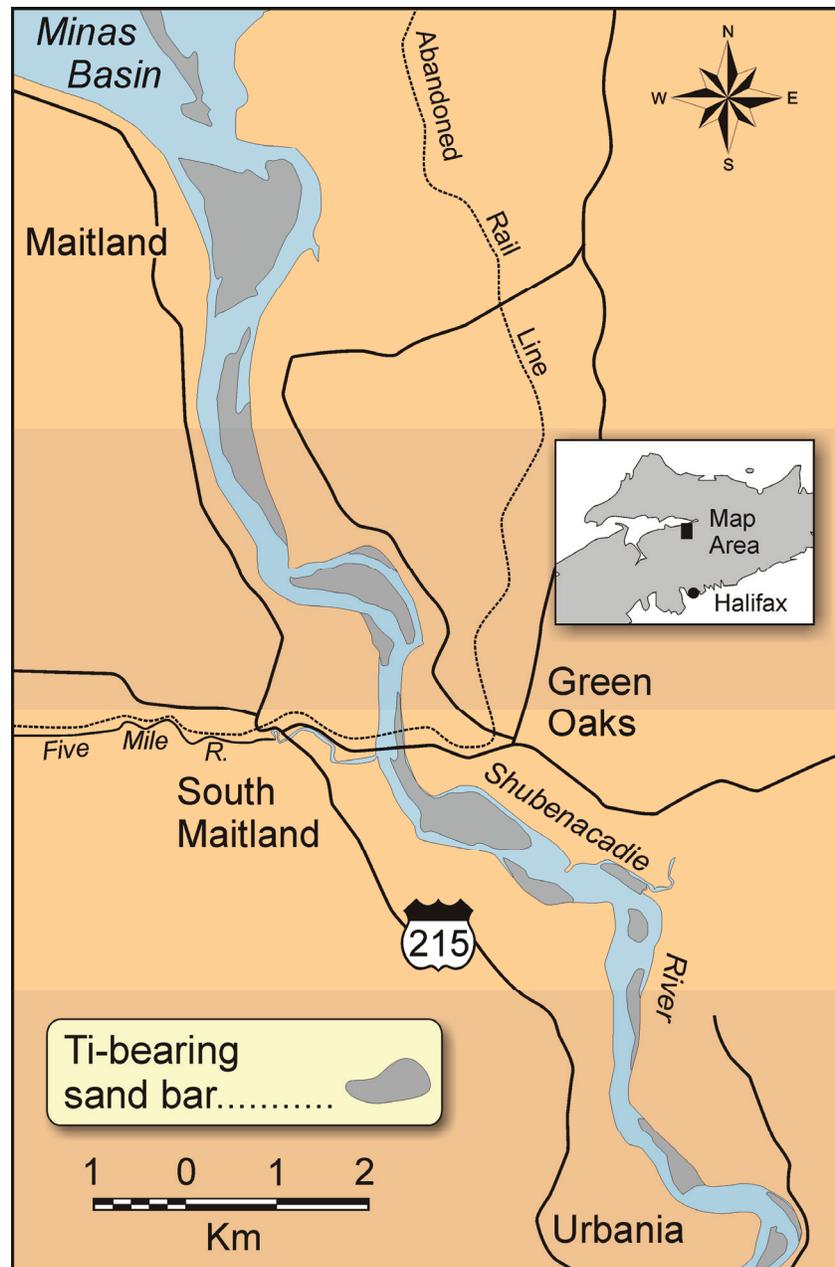
From the Mineral Inventory Files

Titanium Sands of the Shubenacadie River

The Minas Basin and lower portion of the Shubenacadie River are established as being the site of the world's highest tides (see vol. 16, no. 1). However, this area may soon become known as a producer of an important commodity, titanium. Titanium-bearing sands along the Shubenacadie River (see map) have been known since the time of the early settlers. However, it wasn't until R. H. MacDonald's 1992 study (NSDME, Report 92-1, p. 63-64) caught the interest of J. D. Ross of Titanium Corporation of Canada (recently amalgamated with NAR Resources Ltd.) that an immense potential resource was realized.

Titanium may be best known for its use in expensive golf clubs and other high tech equipment, but most of the metal is used in two applications. The paint, paper and plastic industries use titanium as a pigment and the aerospace industry uses it as an important structural component. Titanium makes up about 6% of a commercial airliner. The light weight and very high strength of titanium, together with its resistance to heat and corrosion, have no substitute in the aerospace and high tech industries; hence, the future outlook for the metal is predicted to remain strong.

NAR Resources Limited (Montreal Exchange) is currently evaluating the economic feasibility of producing titanium from the large Ti-bearing sand bar deposits along the intertidal portion of the Shubenacadie River (see map). Their efforts (June 12, 2001, Press Release) have delineated a massive resource of 330 million tonnes of mineral sand grading an average of 1.94% heavy minerals (0.9% cut-off). Additional deposits to the west and south could increase this tonnage by up to 45%. Mineralogical examination of the heavy mineral separates has shown that they consist predominantly of the Ti-bearing minerals ilmenite, rutile and leucoxene as well as magnetite and minor zircon and garnet. NAR's intention will be to extract the resource using



standard dredges and gravity separation processes employed in the mineral sand mining industry.

The origin of the Ti-bearing minerals is not known but likely sources include one or any combination of the following: long eroded portions of the North Mountain basalt, mafic intrusions of the Cobequid Highlands, or Horton

Group sedimentary rocks that immediately underlie the area of the deposits. Whatever the origin, it appears that nature has essentially crushed, concentrated and deposited this massive resource and left it along the Shubenacadie River to wait for processing.

George O'Reilly