

New Businesses, Real Estate Development and Other Businesses



Shield machine worked at Tamagawa project



Tamagawa Joryu rainwater main sewerage line

Penta-Ocean has long been involved in the development of multi-faceted projects such as airports, various industrial facilities, and waste treatment plants, all on reclaimed land in coastal areas. Its advanced research and development capabilities have led to the Group's involvement in fields as diverse as air pollution and the elimination of dioxins from the air we breathe, to the development of wind power generation "farms" in coastal areas in various locations around the world, and many other fields. Penta-Ocean continues to develop construction materials, methods and concepts that meet many of the rapidly evolving needs of an increasingly urbanized global society. The Group is at the forefront of what has become known as geo-front developments, the creation of structures that protect urban centers from flooding, both from heavy rainfall and from tides.

Construction of very deep tunnels presents a unique challenge to construction companies involved in tunneling work. An expert in the field, Penta-Ocean employed the world's largest earth pressure-type sealed machine construction method in the building of the Tamagawa Joryu Rainwater Main Sewerage Line project. Since the finished internal diameters differ between the up and downstream sites (3.75m and 5.25m), two types of sealed machines were needed to complete the project. Penta-Ocean developed a large sealed machine, called "the Master," incorporating a smaller unit, known as "the Slave," so that the smaller unit could be detached where the diameter of the tunnel became smaller. This method has reduced construction time significantly.

The Asukayama Main Sewerage Line Project employed an innovative T-shaped junction sealing

method (T-Boss Method) to connect new and existing conduits underground through a lateral cutting process. The method has dramatically increased cost savings and shortened construction periods. The T-Boss Method was employed for the first time on this project.



Asukayama main sewerage line project site

The domestic real estate market showed signs of recovery during the term, primarily in urban centers. Group-wide efforts to promote Penta-Ocean's real estate development activities throughout Japan, resulted in a 75.3% increase in consolidated sales to ¥6,240 million (US\$59.0 million). Operating expenses also increased during the term, and therefore an operating loss of ¥678 million (US\$6.4 million) was recorded for the term.

In Penta-Ocean's other business segment, consolidated sales rose by 12.8% from the previous term, to ¥10,305 million (US\$97.5 million), thanks largely to the Group's shipbuilding business, sales and leasing of construction materials and facilities, and leasing of vessels. This segment did not record operating profit for the term, however, and consolidated operating loss for the term amounted to ¥411 million (US\$3.9 million), a year-on-year increase of ¥323 million (US\$3.1 million).