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Development and Execution of New Prefabricated Steel Bulk-head Construction Method

*ð;î ô j (Kazuhiko Hijikuro) & "N ¾ (Koji Kanbara)) Ì %(MæsaÕari Tominaga) 6×5 À7•(Masao Nagano) , § ô0d (Kazunori Niimura)

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+« • d #Ý ... †4 B M •7• _>* u\$ 1¤ Ê b S4 í ‹ d 2 b q4:4E ¥ b " Š c \!› b G \^ @ }>* È å0 5r d b 0¿ _ 6 S W Z'1*... } c I } _5ð \ † Ç Ý _ q#Ý K S , d 2 b6ä\$Î \ 8 :% † †0¿ K S Q b) Ý>* ¥ Ý ¤ î ° - Ý d 2 x5ð'ö%® È d 2 ^] b , K 8 d 2 b #' \$x6ä\$Î _ M [_ B Œ † Ÿ u>* I } _ Ò G>* S4 (F " í0 4 Æ [ô3ÿ ? X Æ _ ‹ d [A • †0° b d 2 †6ä\$Î K S G b d 2 c1¤ Ê b s ^ } N75 < >* È D x M+á b æ h ^] _ v ó o _ Â#Ý [A • • e c È å0 5r d [‹ K S>1' b5ð0 É Þ Á È1¤ Ê _ X 8 Z>* 0¿0£ í ‹ d > | g >' b0è9, í0£ b) Ý † r \ u S v b [6 •

Synopsis:

In reclaiming coastal industrial lands at Mizushima Works, it has been aimed at to develop a new construction method with the full utilization of steel products in addition to the efforts for making the best selection of a design and execution method of bulk-head structure. And some new techniques were successfully developed such as "Corrugated Pipe Cellular Cofferdam" and "Interlocked Steel Pipe Piling" methods.

Another addition is the new one as described in the heading, which is characterized by simple structural design, easy fabrication and quick execution. This method can be applied at a low cost not only to bulk-head but to several structures such as breakwaters, spurdikes and general retaining walls. This paper introduces the design and execution of three types of prefabricated steel bulk-head at Mizushima Works together with test results and soil measurement data.

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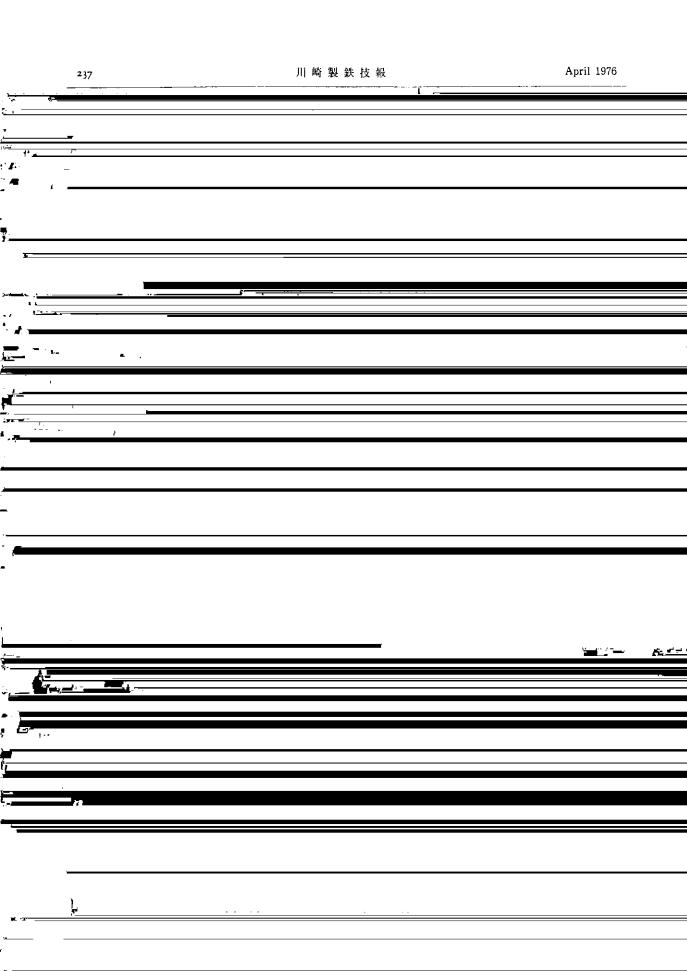
在11.個制プルハブ灌出下出の開路レ宇協例

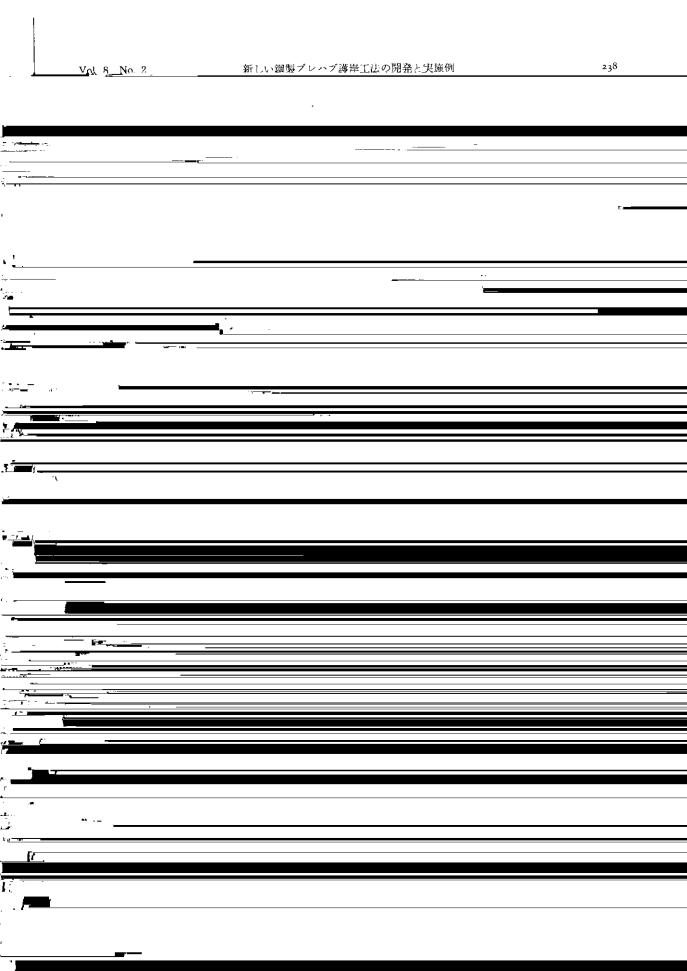
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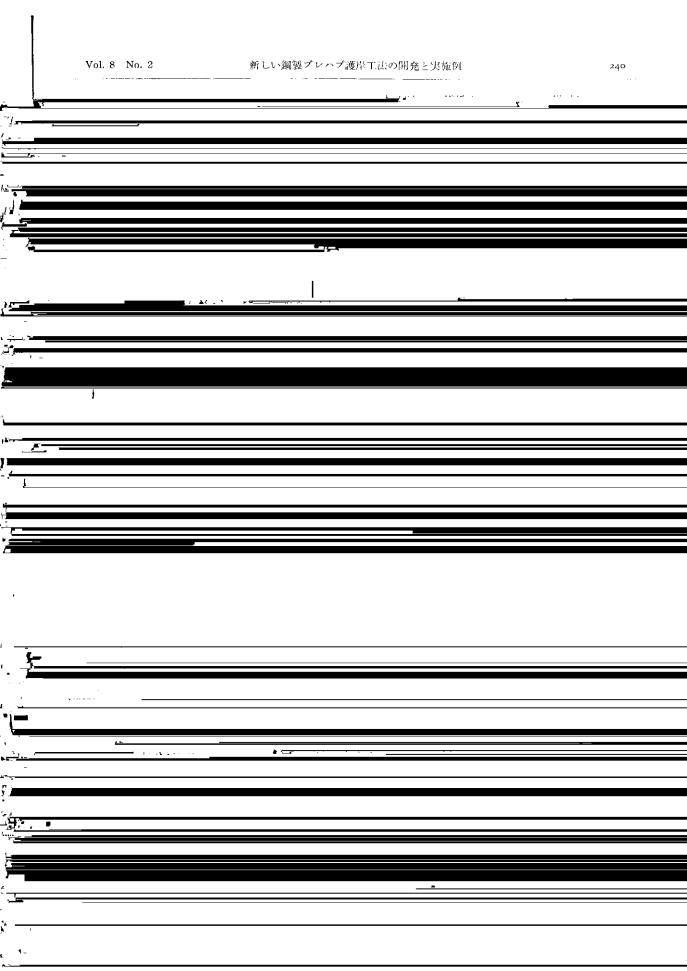
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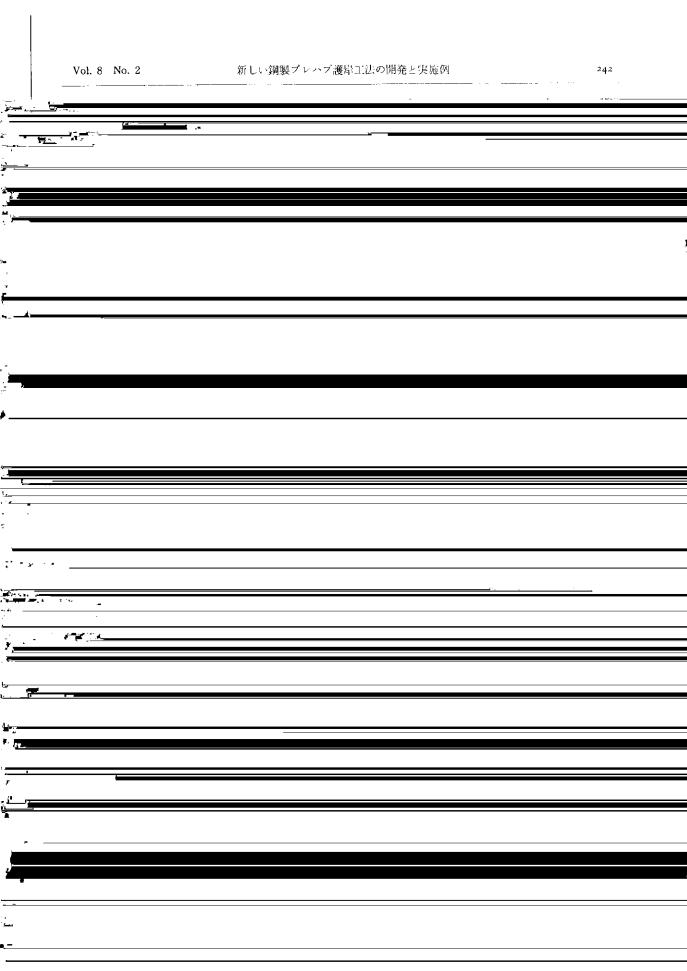
神原幸治——*











前述(3)と表裏一体のものと考えられるが, 地盤支持力の不足によって護岸本体および護 Table 1 Results of tensile and bending test for the connection

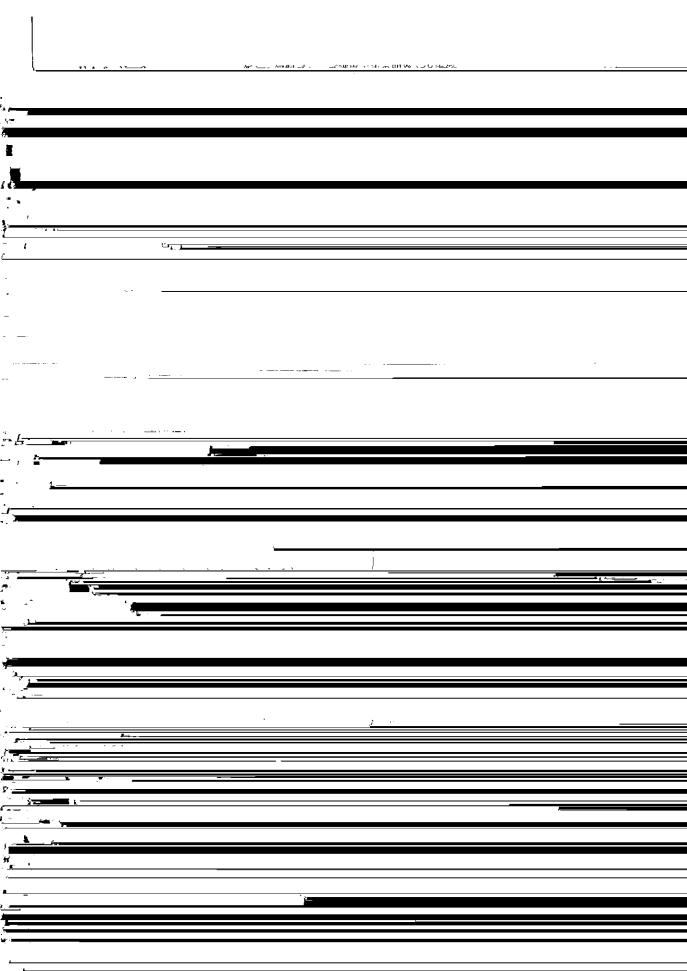
面へすべり出す現象で、土の力学的強度、物理的性質を十分把握したうえで施工の段階別にこまかく検討をおこなった。

	strength (t)	moment(t·m)
A test	180	
B test (B-1)	176.5	>15

部材応力を検討するうえで、土圧、水圧、 土かぶり圧、地盤反力などの外力によって発 生する応力のほかに、鋼製ブロックの製作、 吊り上げ、運搬中におこる内部応力などにつ いてもあとにのべるような強度試験、計測を 実施した。

ものであり、B-2 はボルト締めだけのものである。

B-2 において、ボルトの設計耐力(23t/本×6未=138t)に対して試験結果は115tでありお



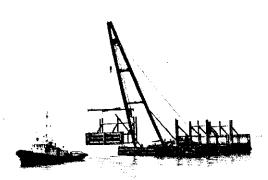
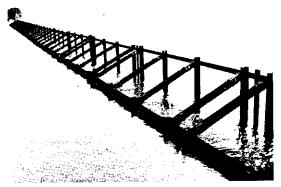


Photo. 3 Transportation of steel blocks to construction site on the sea



 $\begin{array}{ll} \textbf{Photo. 6} & \text{Simplified steel blocks settled in the} \\ & \text{sea } (K \cdot H \ C \ type) \end{array}$



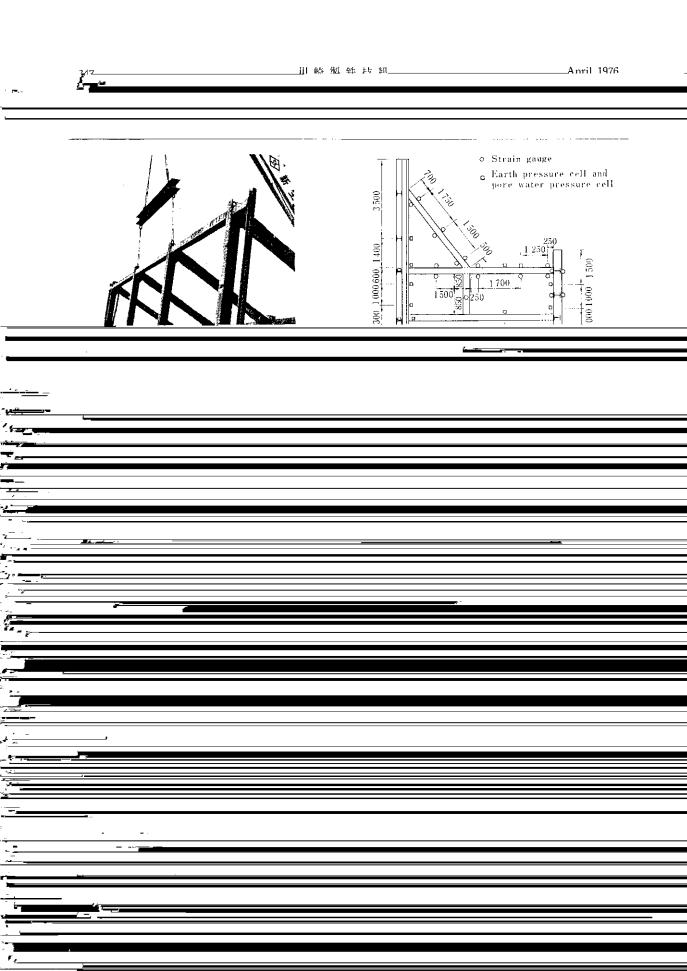
5.2.3 鋼矢板打および腹付け

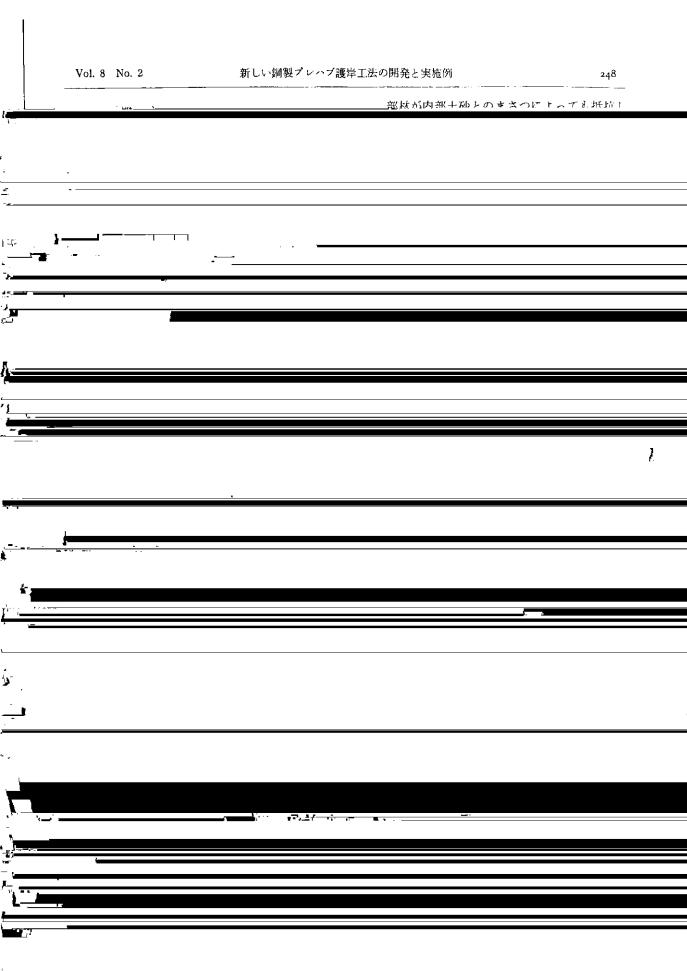
据付け後ただちに1次腹付けとして Faの前後

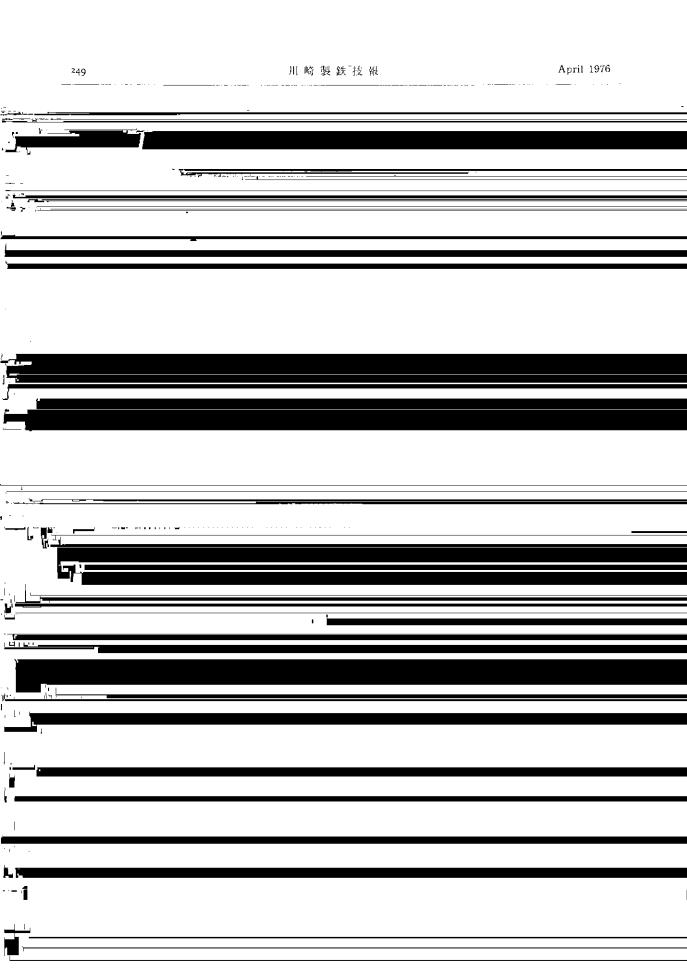


5・2・4 上 部 エ

背面盛土が完了した時点で上部にコンクリート を打設して仕上げる。**Fig. 5** に示したように下







15) 草胚 在此 李本、始元司上游于墨河心地形入野为传 (405)

16) 富永、長野、中田:第8回土質工学研究発表会講演集,(1973),72917) 神原、富永、剣持:第10回土質工学研究発表会講演集,(1975),879

