Taking the spud record of the last three seasons, it has been found that the average life of a thirty-six inch by thirty-six inch (36″ x 36″) dredge spud is 5.7 months, working day and night. It must be remembered that the dredges have been working for the greater proportion of the time in rock and hardpan at a depth of water ranging from 30 to 40 feet. Examination of the broken spuds has shown that in most cases the failure was due to the giving way of the outer fibres of the stick under tensile stress. A few spuds however, have failed by a longitudinal shear along the grain.

Two dredges are now being fitted with forward spuds 42″ x 42″ and it is hoped that they will prove more satisfactory as regards length of service.

The boom is built entirely of steel and is supported at its outer end by two parts of a wire rope which passes around a revolving cap on a pivot at the apex of the A frame. The A frame is of wood, its lower extremity resting upon the top of the forward spud slides. It is guyed by wire cables extending aft to the lower members of the hog frames.

Three of the dredges have wooden hulls, but the latest machine is built of steel.

A dredge crew is composed of one engineer, one assistant engineer, one cranesman, one firemen, and four deckmen. The engineer has charge of the whole machine and is responsible for its operation generally. He handles the levers controlling the main engines, capstan engines, spud drums and stern spud moving ahead gear. The assistant looks after the machinery and sees that lubricators and oil cups are filled and in proper working order. He also relieves the engineer when the latter has for any reason to leave the operating dredge. The cranesman stands on a small platform secured to the side of the boom and manipulates the levers controlling the swinging engine, backing drum and dipper handle compression cylinder. The fireman tends the boiler and when opportunity permits, is supposed to help the assistant when oiling. The deckmen handle lines and do general work about the dredge.

A night shift is identical with the day crew but has in addition a watchman whose duties are to scour floors and decks, wipe down the machinery and keep the dredge throughout as clean as possible.

Dredges 2, 3 and 4 are equipped with Clyde boilers, while No. 1 dredge has a boiler of the locomotive type.

Four of the floating derricks are equipped with clam shells of opproximately four cubic yards capacity. The clam shells unload soft material exceedingly well and also give good satisfaction when handling rock provided it is fairly well broken. In the latter class of work the clams are fitted with cast steel teeth which can be attached or detached in a few minutes time. The remaining der-