

## EXECUTIVE SUMMARY

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Science Applications International Corporation (SAIC) conducted a reconnaissance REMOTS® sediment-profile and plan view photographic survey of the Boston Lightship Disposal Site (BLDS) from 9 to 11 August 1994. From the 1940s to 1976, when disposal stopped at BLDS, a majority of the Boston area's dredged material and other debris had been released at the site. The last recorded disposal at the site was in 1976 when about 8,000 m<sup>3</sup> were disposed. The REMOTS® sediment-profile and plan view photographic stations were located to examine possible historic dredged material that had been identified in a 1991 side-scan sonar survey of the area. The 1994 surveys were conducted as part of a long-term effort to examine historical disposal areas to determine whether remediation activity is recommended. The assessment of the REMOTS® and plan view data, in conjunction with the 1991 side-scan results, determined that remediation at the site was not necessary. Recolonization of old dredged material has been extensive. The benthos in the areas sampled was populated by a diverse community composed of Stage II and Stage III organisms representing a healthy benthic habitat with OSI values  $\geq 6$ . No difference was observed between the historic dredged material and the ambient sediment. In light of the healthy benthic habitat, only periodic monitoring is recommended. Sediment samples were collected at BLDS in 1994. They were archived and are available for analysis.

The REMOTS® sediment-profile and plan view photographic surveys were also conducted to gather information on the area's sedimentary environment. This information would determine if the BLDS was suitable to potentially receive dredged material from the Boston Harbor Navigation Improvement Project and Berth Dredging Project. The 1991 side-scan sonar survey had mapped areas of circular or track-like dredged material patterns at the site. The use of the area for dredged material disposal was consistent with its characterization as depositional or nonerosive (Knebel 1993). By focusing on the areas of dredged material disposal with the REMOTS® sediment-profile and plan view photographic survey, the reconnaissance effort produced no evidence to preclude the future use of BLDS for dredged material disposal. The major modal grain size was the silt/clay size class ( $> 4 \phi$ ) with very fine sands found in the surface sediments. Evidence of sediment resuspension was limited primarily to winnowing of silts/clays from surface sediments.

The assessment of BLDS was efficiently accomplished by basing the REMOTS® sediment-profile and plan view photographic survey on the results of the previous side-scan survey. The combined data sources provided a broad picture of the status of the historical dredged material which has been at the disposal site for nearly 20 years. Based on the 1994 survey results, remediation is not necessary for BLDS, and the depositional environment does not preclude its use as a disposal area.