State of California

The Resources Agency

Memorandum

DEC. 20 1974

To : Inspector Russell Goodrich

Date: 12/17/74

c/c : Michael Martin, Monterey

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From : Department of Fish and Game

Howard Martin, Patrol Captain.
Santa Barbara M.R.R.

Subject: Diving Survey: Diablo Canyon; P.G.E. , Intake Cove Siltation Status.

Michael Martin, M.R.R. Enviornmental services, has requested assistance in surveying the results of silt removal operations at Diablo Canyon intake cove.

On Dec. 13,1974 the intake cove was surveyed by 2 teams of Dept. divers : Team 1, L.L.Laurent, H.L.Thomas and Team 2 : R.J. Mahon, H.Martin and (part time) Fred Wendell. Divers Thomas and Martin have prior diving knowledge of this cove from both before and after the siltation.

TECHNIQUE: Divers used random and pre determined compass courses to provide for coverage and to prevent duplication of effort. Divers used "yardstick" type rulers to measure silt deposits, and frequently surfaced to relay this information to Michael Martin in nearby skiff for recording. The yardsticks were inserted through the silt with relative ease, and little resistance was noted until contact was made with the original substrate, at which point measurements were taken.

Visibility varied from 2 to 4 ft. at Eastern portion of cove to approx. 6 ft. at Western inlet area, with obvious decreases to zero visibility at points of diver caused disturbances while checking silt composition.

These silt beds were noted to be very soft and unstable, and divers were able to penetrate with gloved hands to depths of 20 inches or more with ease. The general consistancy was similar to soft, fine (smooth) slippery clay type mud.

FINDINGS: The Eastern (approx. $\frac{1}{2}$)portion of the cove contains deposits of silt over the entire sub-tidal area surveyed. The silt depths vary with the bottom, or rock contours, with concentrated deposits noted filling rock crevices, and "troughs", and covering entire bottom areas at the deepest water areas. These deeper water areas have vast, heavy deposits of silt covering many large rocks completely, and much of this portion was determined to be covered with silt depths of 20 to 24 inches. The silt measurements listed are less than actual silt depths due to fact that many times the measuring stick hit rock tops.

A small area of the Western section of the cove was checked to observe the dredge operations and results. The area checked was near the intake structure and the results of the dredging operation was obvious, as much of stable, native rocky type bottom was uncovered. Some small areas and mounds of silt were obviously missed by the suction nozzle at areas between and protected by large rocks which hampered the dredge effectiveness...

PRIOR DIVING: My official Dept. dive records show a total of 11 (eleven) hrs. dive time in this intake cove PRIOR to any construction activity. The purpose of these dives was to assist in removing and transplanting abalone from the breakwater sites and from the intake cove, and to document prior conditions.

The majority of this cove was ideal habitat, and supported a large healthy population of abalone of all age groups. Many abalone were transplanted, however many were inaccessable and were left in the cove during construction activities. The large numbers of abalone remaining became obvious upon the pumping dry of the area within the intake coffer dam, when many formerly inaccessable abalone became visible.

SUMMARY:

The entire intake cove sub-tidal area remains completely smothered by a layer of silt of varied depths. Much of the most productive habitat is buried beneath vast beds of silt deposits to a known depth of at least 2 feet. This silt has not stabilized during approximately three (3) years of existence. No plant or animal life was noted on sub-tidal rocks, and any potential recruitment appears non-existent and improbable under present conditions.

The over all general appearance of the present bottom is similar to that of a large mud sump.

Recommendation:

Every effort possible should be taken to restore this cove to the former productive status, which is well documented elsewhere.

The silt must be removed by whatever means become necessary, including new techniques to wash the silt from the rocks and crevices.

Followup investigations should evaluate effects of placing these dredging spoils at present offshore dumping locations.

Howard Martin
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