

TENTATIVE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN DIEGO REGION

RESOLUTION NO. 2001-03

A RESOLUTION REQUIRING SEDIMENT STUDIES FOR ESTABLISHING SHIPYARD SEDIMENT CLEANUP LEVELS FOR SOUTHWEST MARINE, INC. SAN DIEGO COUNTY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. The Regional Board must establish final sediment cleanup levels for Southwest Marine, Inc. (Southwest Marine) in accordance with State Water Resources Control Board – Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304*.
2. Elevated levels of pollutants exist in the San Diego Bay sediment adjacent to Southwest Marine. The concentration of these pollutants causes or threatens to cause a condition of pollution that harms the beneficial uses designated for San Diego Bay.
3. On March 10, 1999, the Regional Board adopted Resolution No. 99-12 establishing interim sediment cleanup levels for Southwest Marine and WDR Order No. 99-14 establishing dredging requirements for Southwest Marine. The interim cleanup levels were derived from the AET cleanup levels for Campbell Shipyard and Shelter Island Boatyard.
4. On March 10, 1999, the Regional directed the Executive Officer to establish an informal peer review panel to determine the appropriateness of using the Campbell Shipyard AET cleanup levels at Southwest Marine.
5. Southwest Marine has performed assessment activities to delineate the extent of these pollutants adjacent to its facility. Five remediation areas were identified which contained copper, lead, mercury, zinc, and PCB concentrations that exceeded the Campbell Shipyard and Shelter Island Boatyard AET cleanup levels.
6. Six cleanup level options have been selected for establishing final sediment cleanup levels at Southwest Marine. The six options consist of the following:
 - Option 1 – Background Reference Station
 - Option 2 – Effects Range Median
 - Option 3 – Campbell Shipyard & Shelter Island Boatyard AET Levels – 20% Safety Factor (Pre-Sampling Program)

- Option 4 - Campbell Shipyard & Shelter Island Boatyard AET Levels (Pre-Sampling Program)
- Option 5 – Site-Specific AET Levels (Comprehensive Chemical Analysis)
- Option 6 – No Action

These options have been considered and evaluated in the February 16, 2001, *Final-Regional Board Report, Shipyard Sediment Cleanup Levels, NASSCO & Southwest Marine Shipyards, San Diego Bay and Response to Comments, Regional Board Report, Shipyard Sediment Cleanup Levels, NASSCO & Southwest Marine Shipyards, San Diego Bay.*

7. There are a variety of complimentary approaches available to derive cleanup levels (e.g. Apparent Effects Threshold (AET), Equilibrium Partitioning, Spiked Sediment Toxicity, human health risk assessment) which taken together, can provide a firm foundation for a site specific cleanup level at Southwest Marine that would be fully protective of beneficial uses.
8. The Regional Board has notified the discharger and all known interested parties of its intent to establish final sediment cleanup levels for Southwest Marine.
9. The San Diego Unified Port District (Port District) owns the land where Southwest Marine is located. The Port District has been notified of this proposed Regional Board action and has been provided with the opportunity to participate pursuant to Water Code Section 13307.
10. This action is exempt from the requirements of the California Environmental Quality Act (Public Resources Code 21000 et seq.) in accordance with Title 14, California Code of Regulations, Chapter 3, Section 15270.
11. The Regional Board, in public meetings on October 11, 2000 and February 21, 2001, heard and considered all comments pertaining to the proposed action.

NOW THEREFORE BE IT RESOLVED THAT,

1. The Executive Officer shall issue a Water Code Section 13267 letters to Southwest Marine requiring the submission of a site-specific study by June 21, 2001 to develop sediment cleanup levels and identify sediment cleanup alternatives. The Site Specific Study should include at a minimum the information described below.

a) Site Specific Study to Develop Cleanup Levels

- i) Southwest Marine shall submit a work plan and time schedule to complete a site assessment; develop sediment cleanup levels, including an adequate margin of safety, for constituents of concern identified through on-site chemical screening
- ii) Southwest Marine shall develop cleanup alternatives with projected cleanup costs.
- iii) Southwest Marine shall determine cleanup level(s) through scientifically defensible methods and designed to provide adequate protection for the most sensitive beneficial use of San Diego Bay. This requires that an extremely broad group of organisms that are affected by water quality conditions be considered. These include benthic (living in sediments) and epibenthic (living on the surface of sediments) organisms, organisms living in the water, waterfowl and shorebirds, and terrestrial animals (including humans) which eat aquatic organisms.
- iv) Southwest Marine shall determine cleanup levels for each constituent of concern by several complimentary methods as determined by Regional Board staff. There is no single method that measures the effects of contaminated sediments at all times and to all organisms. The selection of complementary allow for the integration of empirical data developed for Apparent Effects Thresholds (AET), theoretical information used in Equilibrium Partitioning (EqP), and cause and effect relationships established by spiked bioassays. The methods used to determine cleanup levels shall at minimum include the following:
 - (1) Equilibrium Partitioning (EqP) Approach – Cleanup levels will be established at chemical concentrations in sediment that ensure interstitial water concentrations do not exceed adopted water quality objectives or USEPA water quality criteria (in the absence of adopted water quality objectives)
 - (2) Apparent Effects Threshold - The Apparent Effects Threshold (AET) approach is the sediment concentration of a contaminant above which statistically significant biological effects (e.g. amphipod mortality in

bioassays, depressions in the abundance of benthic infauna) would always be expected. The method applies the triad of chemical, toxicological, and benthic community field survey measures to determine a concentration in sediments above which adverse effects are always expected.

(3) Spiked Sediment Toxicity – Dose response measurements are established by exposing test organisms to sediments that have been spiked with known amounts of chemicals or mixtures of chemicals.

v) Southwest Marine shall assess access the potential health risk to humans from exposure to pollutants through the food chain attributable to the contaminated sediment. If preliminary screening indicates an unacceptable risk to human health, a detailed human health risk assessment shall be conducted.

vi) Southwest Marine shall submit other additional information on cleanup costs, alternatives and methods as determined by Regional board staff. In determining this information staff will review and update the August 3, 1995 letter from the Regional Board to Southwest Marine and describing the minimum criteria for contaminated sediment assessment.

2. REF-03, as described on Page 29 of the February 16, 2001 staff report titled “Final Regional Board Report, Shipyard Sediment Cleanup Levels, NASSCO & Southwest Marine Shipyards, San Diego Bay,” shall serve as the “Background Reference Station” representing background sediment conditions that existed before the discharge at NASSCO and Southwest Marine. The background sediment chemical concentrations at REF-03 for the chemicals of concern at Southwest Marine include:

Constituent	Background Reference Station Dry Weight (mg/kg)
Copper	87.5
Zinc	139
Lead	41
PCBs	0.12
Mercury	0.57

The Executive Officer may modify the sediment chemical concentrations if new information indicates a change is appropriate.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on February 21, 2001.

TENTATIVE

JOHN H. ROBERTUS
Executive Officer