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NTC SAN DIEGO
SSIC NO. 5090.3.A



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

California Regional Water Quality Control Board, San Diego Region

January 9, 2013

In reply refer to:
DOD100366600:CKomeylyan

Ms. Janet Lear, BRAC Environmental Coordinator
Department of the Navy, Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Subject: Additional Comments on the Feasibility Study Report for IR Site 12, the Former Naval Training Center Boat Channel, San Diego, (dated May 2012) (5090 Ser BPMOW.hmw/0279)

Ms. Lear:

The paper copy of the Feasibility Study Report (FS Report) that was reviewed by staff was missing several pages. The omission was discovered on December 12, 2012, the day after the last meeting between our agencies. Thus, the California Regional Water Quality Control Board, San Diego Region's (San Diego Water Board) comments on the FS Report dated May 16, 2012 are not complete. This letter contains the San Diego Water Board's additional comments on the information contained in the missing pages. The San Diego Water Board only has additional comments on the proposed Alternative Cleanup Levels/Preliminary Sediment Cleanup Goals as listed below:

1. The use of Lowest Apparent Effects Thresholds (LAET) as preliminary sediment cleanup goals is not appropriate in that these thresholds do not meet the Remedial Action Objectives. Apparent Effects Threshold (AET) values represent the highest concentrations at or above which an effect is always observed. LAETs have poor performance in that:
 - a. The LAET approach is intended to be used for all chemicals in the data set and not just a subset of chemicals (chemicals of concern identified at the site). The level of protection inferred from this methodology is lost if only a subset of chemicals is considered.
 - b. No justification is provided to support that the LAET concentrations are "conservative and protective of the sediment habitat and benthic invertebrates" as stated in the report.
 - c. These values do not accurately predict effects observed at the site.

- d. The use of LAETs as sediment cleanup goals is not protective of the beneficial uses due to uncertainties in the likelihood of impacts associated with chemical concentrations below the LAETs. Chemical concentrations below LAETs do not always exhibit "no observed" effects.
- e. Low sensitivity values for the LAETs indicate that the LAETs do not accurately account for the biological impacts that would be observed at the site.

	Amphipod AET Sensitivity	Sea Urchin AET Sensitivity	Final Station Assessment AET Sensitivity
Copper	14%	0%	13%
Lead	14%	0%	13%
Zinc	14%	0%	13%
Total Chlordane	29%	0%	25%
Total DDT	0%	0%	0%

Sensitivity = proportion of all stations exhibiting adverse biological effects that are correctly predicted.

2. The following are recommended alternative cleanup levels (ACLs) for the chemicals of concern at stations (S1S4, S1S6, S1S1, S1S5, S2S3, S2S4, S2S9, and S2S12) within the remedial footprint which will be protective of designated beneficial uses and which will not pose a significant threat to human health or the environment:

<u>Chemical</u>	<u>ProUCL Levels¹</u>	<u>Toxicity Threshold Levels²</u>	<u>Navy Proposed ACLs (LAETs)</u>
Copper (mg/kg)	115	110	185
Lead (mg/kg)	103	153	190
Zinc (mg/kg)	234	273	346
Total Chlordane (µg/kg)	6.3	11	15
Total DDT (µg/kg)	71	94	274

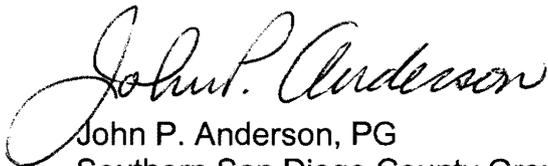
- ¹ The ProUCL levels were developed utilizing the ProUCL program and by calculating the 95% upper confidence limit of site-specific data for unimpacted or likely unimpacted stations.
- ² The toxicity threshold levels have been developed by calculating incidence of amphipod toxicity; it is the apparent level where the majority of stations with concentrations above which exhibit moderate or high amphipod toxicity (Attachment 1).

Due to various uncertainties and potential problems with the data and the lack of further studies to identify chemical stressors at the site, the lower of either ProUCL or Toxicity Threshold levels should be used as ACLs within the remedial footprint. Concentrations of COCs above these ACLs within the impacted stations should be remediated.

3. ACLs must achieve the best water quality which is reasonable if background levels cannot be restored, considering all demands being made and to be made on these resources and the total values involved, beneficial and detrimental, economic and social, tangible and intangible. Total values involved analysis for the appropriate Alternative Cleanup Levels/Preliminary Sediment Cleanup Goals will have to be conducted for the chosen final remedy.

In the subject line of any response, please include the reference number: **DOD100366600:CKomeylyan**. For questions, comments, or to set up a meeting/conference call to discuss this matter, please contact me by phone at (858)467-2734, or by email CKomeylyan@waterboards.ca.gov.

Respectfully,



John P. Anderson, PG
Southern San Diego County Ground Water Unit

Encl.: Attachment 1 – Figures 2-10 thru 2-14

JPA:jc:apt:jpa:ck

cc by email: Mr. Anthony Megliola, NAVFAQHQ, BRAC PMO, Anthony.Megliola@navy.mil;
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Tech Staff Info & Use	
Geotracker ID	DOD100366600

Moderate / High Amphipod Survival Toxicity

Proposed Cleanup Level

Figure 2-10
Comparison of Copper Concentrations to Reference and Preliminary Sediment Cleanup Goal (mg/kg)

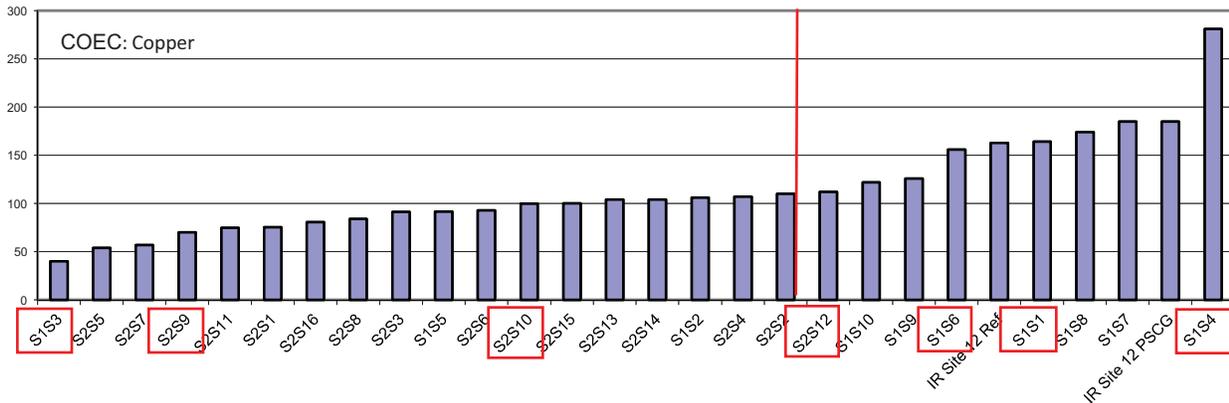


Figure 2-11
Comparison of Lead Concentrations to Reference and Preliminary Sediment Cleanup Goal (mg/kg)

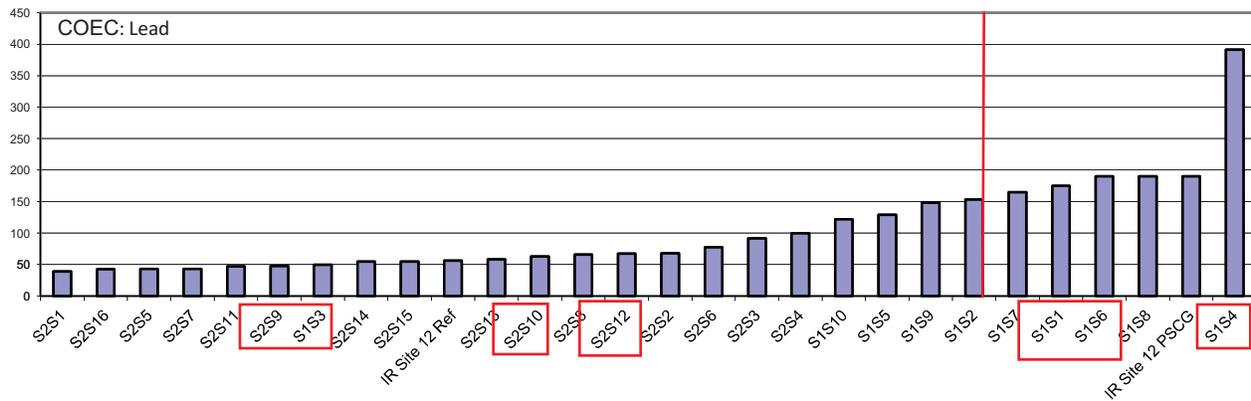
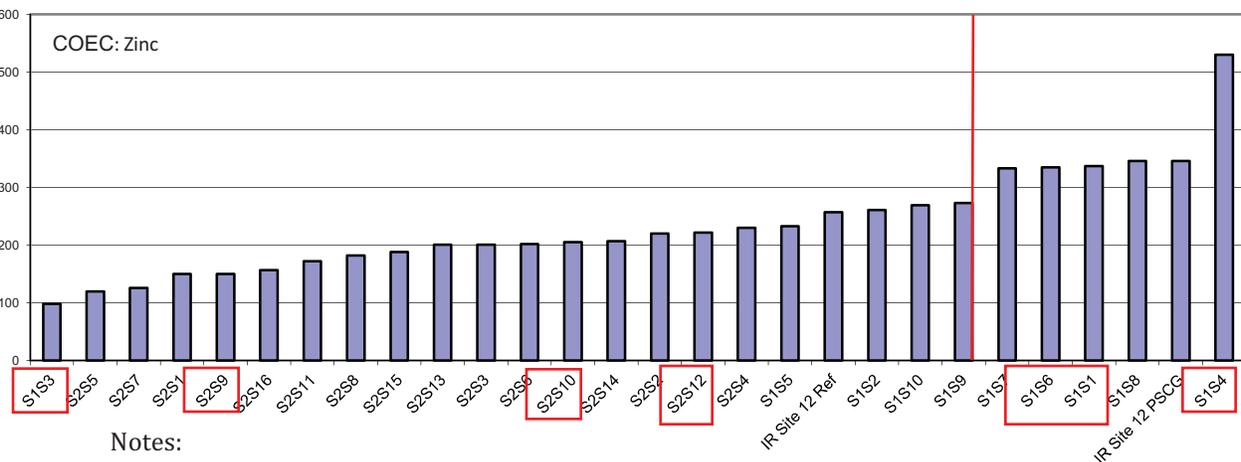


Figure 2-12
Comparison of Zinc Concentrations to Reference and Preliminary Sediment Cleanup Goal (mg/kg)



Notes:

Data are for surface sediment

IR Site 12 Ref - Expanded Reference 95th percent upper predictive limit of mean

IR Site 12 PSCG - preliminary sediment cleanup goal

mg/kg - milligram per kilogram

Figure 2-13
Comparison of Total Chlordane Concentrations to Reference and Preliminary Sediment Cleanup Goal (ug/kg)

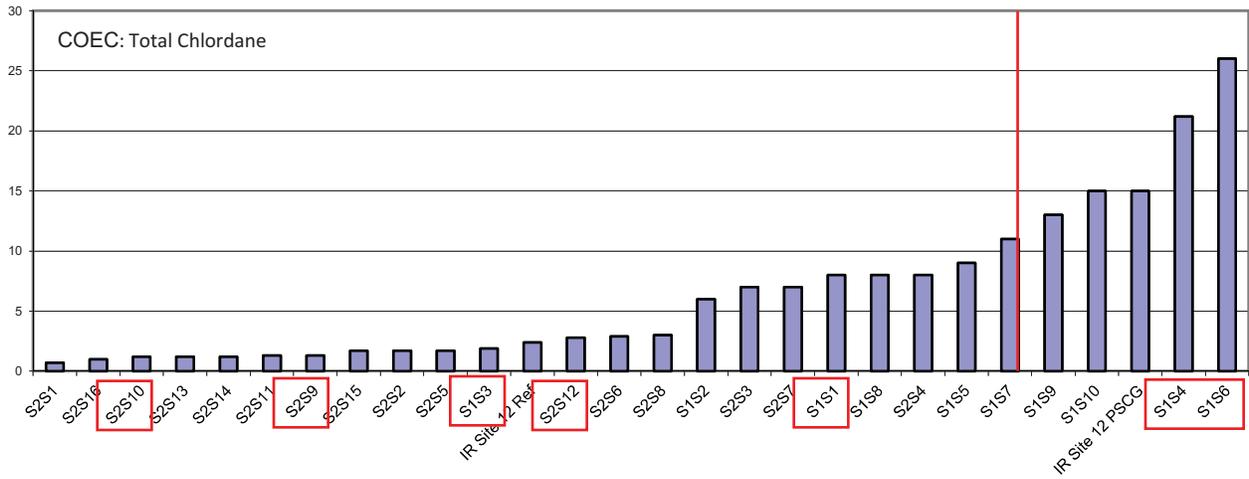
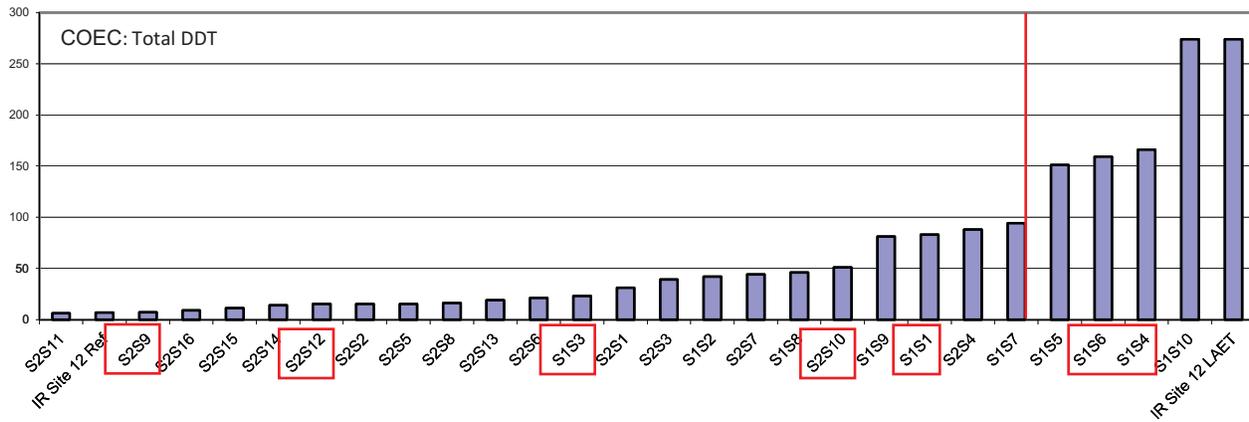


Figure 2-14
Comparison of Total DDT Concentrations to Reference and Lowest Apparent Effects Threshold (ug/kg)



Notes:

Data are for surface sediment

IR Site 12 Ref - Expanded Reference 95th percent upper predictive limit of mean

IR Site 12 PSCG - preliminary sediment cleanup goal

ug/kg - microgram per kilogram