

# Remedial Investigation USS Proteus Fire Fighting Training Area

## Naval Activities (NAVACTS) Apra Harbor, Guam

February 1996

### U.S.S. PROTEUS FIRE FIGHTING TRAINING AREA SITE

#### Site Background

The U.S.S. Proteus Fire Fighting Training Area Site is located within a portion of NAVACTS situated on Polaris Point. Currently, it is a large flat grassy area adjacent to the narrow channel entering Inner Apra Harbor. The U.S.S. Proteus Fire Fighting Training Area Site was used for fire fighting training exercises from 1965 to 1970. It was reported that 55-gallon drums or pontoons were cut in half, filled with gasoline, diesel, or waste oil; and then ignited.

Potential contamination from the combustion and use of flammable liquids and waste oil were the primary targets of the RI. Several areas identified during a geophysical survey were investigated during the RI and included a UST area and a potential bum pit area.

#### RI Activities

The RI field activities at the U.S.S. Proteus Fire Fighting Training Area Site were conducted between March 1993 and May 1994. RI field activities included a geophysical utility survey, surface and subsurface soil investigation, geotechnical testing, ground-water investigation, aquifer testing, marine investigation, and laboratory analysis.

Data collection, evaluation, and interpretation conducted as part of this RI were used to characterize the nature and extent of contamination, support a contaminant fate and transport assessment, conduct a human health and ecological risk assessment, and make recommendations for further action.

#### Nature and Extent of Contamination

Two primary areas had elevated levels of contamination at the U.S.S. Proteus Fire Fighting Training Area Site: (1) a UST area consisting of a gasoline and a diesel tank, the contents of which were pumped out in April 1994, and (2) a fire training bum pit area consisting of wire mesh and charred soils. Although no evidence of fuel leakage from the USTs was detected, elevated PAHs were detected around the vent pipes above the USTs. The contamination above the USTs is thought to be the result of spillage or overfilling. The burn pit area had elevated levels of TFHs and VOCs. No significant ground-water contamination was found at the U.S.S. Proteus Fire Fighting Training Area Site.

Analysis of marine sediment samples collected directly offshore in the Inner Apra Harbor had detections of many compounds exceeding levels found at the U.S.S. Proteus Fire Fighting

Training Area Site. Offsite sources are believed to be responsible for compounds found in these sediments because offsite reference samples had detections at similar concentrations.

### Contaminant Transport Pathways

An evaluation of the potential for contaminants to migrate from the source area through air, soil, surface water runoff, and ground water was completed for the U.S.S. Proteus Fire Fighting Training Area Site. The evaluation concluded that transport of contaminants is not significant because of their insignificant concentrations, immobility in soil, or lack of effective transporting mechanism.

### Human Health Risk Assessment

The HHRA for the U.S.S. Proteus Fire Fighting Training Area Site considered risk to adult occupational residents of this site. The risk assessment concluded that site-related contamination does not appear to pose a significant risk to human health.

### Ecological Risk Assessment

ERA was based on type of habitat, levels of contamination, and on the potential for contaminated sediment to be toxic to organisms or for contamination to bioaccumulate in organisms. Site-related contamination does not appear to pose a significant ecological risk.

### Recommendations

The results of this RI indicate that contaminants at the U.S.S. Proteus Fire Fighting Training Area Site do not pose a significant threat to human health and the environment. Recommendations of the RI report, however, are that the two remaining USTs at the U.S.S. Proteus Fire Fighting Training Area Site be removed prior to site closure. Although no ecological or human health risk was found at the U.S.S. Proteus Fire Fighting Training Area Site, removal of the USTs is a prudent action consistent with current UST Navy and Guam Environmental Protection Agency (GEPA) guidelines. Once the USTs are removed, the U.S.S. Proteus Fire Fighting Training Area Site should be presented for site closure based on the results of the human health and ecological risk assessment.



[Back to Executive Summaries](#)