

FINAL
PARCEL D BARGE SURVEY WORK INSTRUCTION
April 20, 2007
DCN: TTPB-RAC3-07-0234

During a site walk-down of potential locations for a second Radiological Screening Yard for future Sanitary Sewer and Storm Drain removal actions at Hunters Point Shipyard (HPS), a wooden barge-like vessel measuring approximately 50 feet by 12 feet was discovered. This barge is currently in the vicinity of Building 307 in Parcel D at HPS.

During the period that the Naval Radiological Defense Laboratory (NRDL) operated at HPS, historical records that are part of *Final Historical Radiological Assessment (HRA), Volume II, History of the Use of General Radioactive Materials, 1939–2003* (Naval Sea Systems Command [NAVSEA], 2004) indicate that a barge, YFNX-16, was used as a decontamination facility for OPERATION CROSSROADS materials until at least December 31, 1958. After this time, it is considered highly likely that a ship-support platform used to perform work associated with the barge was moved to various locations throughout HPS. However, the Naval Vessel Registry lists no reference to YFNX-16 including its acquisition, and thusly the final disposition is unknown.

Since this ship-support platform may have been utilized to perform work associated with YFNX-16 and the radiological status of this ship-support platform is unknown, the Navy has directed Tetra Tech EC, Inc. (TtEC) to dispose of this ship-support platform as low level radioactive waste since wooden structures are impossible to survey for free release.

Surveys for alpha and beta radiation will be performed during dismantlement of the ship-support platform to ensure that no potential contamination is spread to surrounding areas. The surface below the foot print of the barge will be scanned using 2" x 2" sodium-iodide (NaI) detectors in accordance with Standard Operating Procedure (SOP) HPO-Tt-006, *Radiation and Contamination Surveys*. The results of the survey will be reported to the Radiation Safety Officer (RSO) for analysis and submitted to the Radiological Affairs Support Office (RASO).

During the barge surveys, surveying of personnel, tools, materials, or equipment will not be performed unless alpha, beta and/or gamma activity in excess of the release criteria in Table 1 are found. TtEC will conduct tools, materials, and/or equipment screening in accordance with TtEC's SOP HPO-Tt-012, *Release of Material from Radiological Control Areas* at a frequency specified in the applicable Radiological Work Permit (RWP). Personnel screening will be performed in accordance with the general base-wide RWP.

The RASO will be notified if surveys identify activity that exceeds the release criteria identified in Table 1. If contamination is discovered, media samples will be collected for laboratory analysis. Any decontamination necessary will be performed using a separate work instruction.

Activities performed under this Work Instruction will be conducted in accordance with the Base-wide Radiological Work Plan, Revision 1, and the TtEC Base-wide Health and Safety Plan.

Personnel assigned to conduct this work will be trained and qualified to perform the tasks required to complete this Work Instruction.

Survey results will be submitted to the RASO upon completion of the field surveys and compilation of the data collected.

TABLE 1

**PRIMARY RADIATION PROPERTIES AND
RELEASE CRITERIA FOR RADIONUCLIDES OF CONCERN**

Radionuclide	Primary Radiation Properties		Release Criteria		
	Half-life	Type	Buildings and Structures		Release Criteria for Residential Reuse Solid Samples ^b (pCi/g)
			Total Surface Activity ^a	Removable Activity ^a	
Radium-226	1600 y	Alpha Gamma	100	20	1.0 ^c
Strontium-90	29.1 y	Beta	1,000	200	0.0361
Cesium-137	30.17 y	Beta Gamma	5,000	1,000	0.113

Notes:

- ^a Units are disintegrations per minute (dpm) per 100 square centimeters (cm²)
- ^b U.S. Environmental Protection Agency (EPA) Preliminary Remediation Goals (PRGs) for soil, except as noted
- ^c Limit is 1 pCi/g above background, per agreement with EPA

dpm – disintegrations per minute
 EPA – Environmental Protection Agency
 pCi/g – picouries per gram
 y – year



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Contract No. N44255-01-D-2000 (RAC 3)

Document Control No. 07-0234

File Code: 5.0

TO: Contracting Officer
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Building 127, Room 108
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DATE: 05/07/07
TO: 0070
LOCATION: Hunters Point Shipyard

FROM: [Signature]
A. N. Bolt, Program Manager

DESCRIPTION: Final Parcel D Barge Survey Work Instruction, April 20, 2007

TYPE: [] Contract/Deliverable [x] TO Deliverable [] Notification
[] Other

VERSION: Final REVISION #: N/A
(e.g. Draft, Draft Final, Final, etc.)

ADMIN RECORD: Yes [x] No [] Category [] Confidential []
(PM to Identify)

SCHEDULED DELIVERY DATE: 04/20/07 ACTUAL DELIVERY DATE: 05/07/07

NUMBER OF COPIES SUBMITTED: 0/12C/10E Copy of SAP to N. Ancog []

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