

APPENDIX A

**PROGRESS TOWARD COMPLETING
EPA FIVE-YEAR RECOMMENDATIONS**

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PROGRESS TOWARD COMPLETING EPA FIVE-YEAR RECOMMENDATIONS

Issues and recommendations for the West-Side Aquifers Treatment System (WATS) area were identified in Tables 7-1 and 7-2 of the U.S. Environmental Protection Agency (EPA) *Draft Five-Year Review Report for the Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View, California* (EPA 2004). EPA identified issues and recommendations for Site 28, and the corresponding Navy actions taken or planned are included on Table A.1.

Issues and recommendations for the East-Side Aquifer Treatment System (EATS) were identified in Section 8 of the U.S. Department of the Navy (Navy) *Final East-Side Aquifer Treatment System (Operable Unit 5) Five-Year Review Report for the Period January 1999 to December 2002* (Navy 2005). EATS issues, recommendations, and actions taken or planned are included on Table A.2.

REFERENCES

- U.S. Department of the Navy (Navy). 2005. *Final East-Side Aquifer Treatment System (Operable Unit 5) Five-Year Review Report for the Period January 1999 to December 2002*. February.
- U.S. Environmental Protection Agency (EPA). 2004. *Draft Five-Year Review Report for the Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View, California*. June.

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2008 ANNUAL GROUNDWATER REPORT FOR WATS AND EATS

TABLE A.1

PROGRESS TOWARDS COMPLETING WATS FIVE-YEAR REVIEW RECOMMENDATIONS

Issue ^a	Recommendation and Follow-up Action ^a	Action Taken or Planned	Timeframe
TCE, cis-1,2-DCE, and VC contamination may be migrating off the WATS area to the north near 14D09A in the A aquifer zone.	Evaluate options to increase capture in the A aquifer.	Re-evaluated capture zones in 2005 and 2006; evaluation showed complete capture in the upper portion of the A aquifer of the regional plume in the area of Navy's responsibility. Evaluation in 2008 supported this action.	Evaluation completed in 2005. Continue to evaluate result for 2009.
Elevated TCE concentrations in excess of 1,000 µg/L are in the A2/B1 aquifer near Hangar 1.	Installed new A2 extraction well, EA2-3. Evaluate capture of area.	New lower portion of the A aquifer well EA2-3 was installed. Capture has been evaluated in annual reports. Positive results reported.	EA2-3 brought online in January 2004. Continue to evaluate through 2009.
The source of contamination in the A2/B1 Aquifer in the vicinity of NASA Ames well 14D25A2 and WU4-19 is unknown.	Evaluate options to increase capture in this area.	Re-evaluated capture zones in 2005 and 2006; evaluation showed complete capture in the upper portion of the A aquifer of the regional plume in the area of Navy's responsibility. Evaluation in 2008 supported this action.	Evaluation completed in 2005. Continue to evaluate capture zones through 2009.
TCE has been detected in the B2 aquifer, indicating that vertical downgradient migration of contaminants may be occurring.	Monitor selected wells in the B2 aquifer on an annual basis.	Selected B2 wells have been included in annual sampling.	Ongoing.
There is a potential vapor intrusion of TCE into buildings overlying the shallow TCE groundwater plume.	Sampling/evaluation of additional buildings overlying shallow TCE groundwater plume. Develop and implement long-term monitoring program.	No action taken or planned.	No schedule.
Elevated levels of TCE were detected in indoor air above EPA's health protective risk range at selected buildings overlying the regional TCE plume north and south of U.S. Highway 101.	Identify potential pathways and implement mitigation measures to reduce levels in the indoor air. Implement long-term monitoring program.	No action taken or planned.	No schedule.

Notes:

^a From Draft Five-Year Review Report for the Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View, California (EPA 2004).

Abbreviations and Acronyms:

µg/L – micrograms per liter

cis-1,2-DCE – cis-1,2-dichloroethene

EATS – East-Side Aquifer Treatment System

EPA – U.S. Environmental Protection Agency

NASA – National Aeronautics and Space Administration

Navy – U.S. Department of the Navy

TCE – trichloroethene

VC – vinyl chloride

WATS – West-Side Aquifers Treatment System

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2008 ANNUAL GROUNDWATER REPORT FOR WATS AND EATS

TABLE A.2

PROGRESS TOWARDS COMPLETING EATS FIVE-YEAR REVIEW RECOMMENDATIONS

Issue ^a	Recommendation and Follow-up Action ^a	Action Taken or Planned	Timeframe
EATS may not be efficient in cleaning up the low concentrations of VOCs in the groundwater.	Complete implementation of the EATS Evaluation Work Plan to collect field data for evaluation of the effectiveness and efficiency of EATS and applicability of other potential remedial options in achieving the groundwater cleanup standards specified in the ROD. Due to the low concentrations of extracted contaminants and low mass removal rates, opportunity exists to optimize and/or select more effective and economical remedies through implementation of the EATS Evaluation Work Plan.	EATS Evaluation Work Plan was implemented by the Navy beginning in May 2003. Recommendations for continued EATS system operation, modifications, and/or alternative long-term remedial strategies are summarized in the <i>Final Site 26, East-Side Aquifer Treatment System Evaluation Report</i> (TtEC, 2008a) and the <i>Final Site 26 Technical Memorandum (Optimization Evaluation)</i> (TtEC 2008c).	<i>Final East-Side Aquifer Treatment System Evaluation Work Plan</i> (FWENC, 2003b) implemented in May 2003. Related monitoring activities and data evaluation are ongoing. The <i>Site 26, East-Side Aquifer Treatment System Evaluation Report</i> and the <i>Final Site 26 Technical Memorandum (Optimization Evaluation)</i> were finalized in 2008. The Navy is conducting a pilot test to evaluate the effectiveness of combined biotic/abiotic treatment using EHC®. The pilot test should be complete in 2010.

Notes:

^a From *Final East-Side Aquifer Treatment System (Operable Unit 5) Five-Year Review Report for the Period January 1999 to December 2002* (Navy 2005).

Abbreviations and Acronyms:

EATS – East-Side Aquifer Treatment System
 FWENC – Foster Wheeler Environmental Corporation
 Navy – U.S. Department of the Navy
 ROD – Record of Decision
 TtEC – Tetra Tech EC, Inc.
 VOC – volatile organic compound
 WATS – West-Side Aquifers Treatment System

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