



**DEPARTMENT OF THE NAVY**  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CA 92132-5190

N00296.000286  
MOFFETT FIELD  
SSIC NO. 5090.3

5090  
Ser 06CH.MP/0814  
August 6, 2001

Farhad Azimzadeh  
Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Subject: **CERTIFICATION REPORT FOR THE WEST-SIDE AQUIFERS TREATMENT SYSTEM UPGRADES, MOFFETT FEDERAL AIRFIELD, MOFFETT FIELD, CALIFORNIA**

Dear Mr. Azimzadeh:

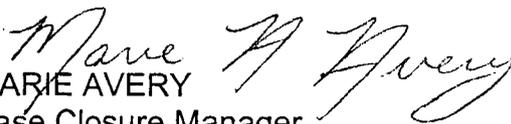
Please find enclosed the letter report certifying the adequacy of the upgrades made to the West-Side Aquifer Treatment System, stamped by a professional engineer registered in the State of California. The final O&M Manual incorporating the upgrade changes shall be submitted within 60 days from the initiation of discharge to the storm sewer.

If you have questions or comments, please contact Ms. Andrea Muckerman in any of the following ways:

Ms. Andrea Muckerman  
BRAC Environmental Coordinator  
Southwest Division  
Naval Facilities Engineering Command  
BRAC Operations Office  
1230 Columbia Street, Suite 1100  
San Diego, CA 92101-8517

Telephone (619) 532-0911  
Facsimile (619) 532-0995  
[muckermanam@efdswnavfac.navy.mil](mailto:muckermanam@efdswnavfac.navy.mil)

Sincerely,

  
MARIE AVERY  
Base Closure Manager  
By direction of the Commander

Enclosure: 1. Certification Report

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Copy to: (w/ encl)  
Ms. Carmen White  
U.S. Environmental Protection Agency  
Region 9  
75 Hawthorne Street, SFD-8-2  
San Francisco, CA 94105

Ms. Adriana Constantinescu  
Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

ROICC-SFBA Moffett Federal Airfield  
Attention: Mr. Gary J. Munekawa  
(Ph: 650-603-9834)  
Building 107  
Moffett Field, CA 94035

Don Chuck  
M/S 218-1  
National Aeronautics and Space Administration  
Ames Research Center  
Moffett Field, CA 94035

Ms. Sandy Olliges  
M/S 218-1  
National Aeronautics and Space Administration  
Ames Research Center  
Moffett Field, CA 94035

Ms. Diane Shelander  
M/S 218-1  
National Aeronautics and Space Administration  
Ames Research Center  
Moffett Field, CA 94035

Mr. Tom Mohr  
Santa Clara Valley Water District  
5750 Almaden Expressway  
San Jose, CA 95118

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CERTIFICATION REPORT ADDENDUM FOR THE  
WEST-SIDE AQUIFERS TREATMENT SYSTEM  
UPGRADES

DATED 16 AUGUST 2001

IS FILED AS ADMINISTRATIVE RECORD NO.  
**N00296.000298**



## FOSTER WHEELER ENVIRONMENTAL CORPORATION

August 6, 2001  
FWSD-RACII-01-0306  
DO No. 0090

Ms. Andrea Muckerman  
BRAC Environmental Coordinator  
Southwest Division  
Naval Facilities Engineering Command  
BRAC Operations Office  
1230 Columbia Street, Suite 1100  
San Diego, CA 92101-8517

**Subject: West-Side Aquifers Treatment System (WATS) Upgrade  
Operation and Maintenance (O&M) Certification Report,  
Moffett Federal Airfield (MFA), Moffett Field, California**

**Reference: SWDIV Contract No. N44255-95-D-6030, DO No. 0090,  
Engineering Field Activities Northwest Remedial Action Contract  
for Sites in Southern California, Arizona, New Mexico, and Southern Nevada**

Dear Ms. Muckerman:

This Letter Report certifies the adequacy of the upgrades made to the West-Side Aquifers Treatment System (WATS). The treatment system was upgraded in order to ensure the effluent conforms to the National Pollution Discharge Elimination System (NPDES) Self-Monitoring Program discharge limits.

The WATS has undergone upgrades due to the determination of an exceedance of organics in the effluent during the First Quarter 2001. These upgrades are detailed in the letter dated July 20, 2001, 'Changes and Improvements to WATS and EATS' from Ms. A. Muckerman, US Navy to Ms. A. Constantinescu, RWQCB. The upgrades were completed on July 17, 2001. In accordance with the NPDES Self-Monitoring Program, the modified system has undergone an initial run (July 18, 2001), followed by a 5-day start-up run (July 20 through 25, 2001) to ensure compliance with discharge limits. Based on the analytical results from both start-up phases, the treated effluent from the modified system conforms to the NPDES discharge limits for volatile organic compounds (VOCs).



### Component Adequacy

The upgrade to WATS entailed retrofitting the system to allow further polishing of the Air Stripper Effluent through granular activated carbon (GAC) as described in the previously referenced July 20 letter from Ms. Muckerman to Ms. Constantinescu. The air stripper effluent line was combined with the Storm Drain Action Backup Treatment System effluent and directed to the GAC system. Two additional GAC vessels were added to the system to accommodate the original treatment system's design flow rate of 120 gpm.

During the start-up phases, samples were collected between each major component of the treatment system. The sample ports are located to allow for collection of representative waste stream samples necessary to assess the system's operational effectiveness. The analytical results of these samples were compared and evaluated to assess the effectiveness of each major system component during the treatment process. Each major component of the treatment system, the associated performance requirement, and the results of performance requirement analysis for each major component are presented below.

### Requirement-by-Requirement Analysis

Component	Requirement	Analysis
Advanced Oxidation Process	Remove the majority of the VOCs from the groundwater	The influent VOC concentration in the grab sample of the system at the end of the 5-day run was 752 micrograms per liter ( $\mu\text{g/L}$ ). After the Advanced Oxidation Process, the VOC concentration was 20 $\mu\text{g/L}$ . The majority of the VOCs were removed in the Advanced Oxidation Process, as expected.
Air Stripper	Remove residual VOCs prior to polishing with granular activated carbon	The effluent VOC concentration in the grab sample from the oxidation system was 20 $\mu\text{g/L}$ . After the air stripper, the VOC concentration was 16 $\mu\text{g/L}$ . The air stripper polished the remaining insoluble VOCs, as expected.
Liquid-Phase Granular Activated Carbon System	Polish effluent prior to discharge to storm sewer	After polishing with the carbon, the analytical showed non-detect for all VOCs at a detection limit of 5 $\mu\text{g/L}$ . The GAC system successfully removed any remaining VOCs.

The complete analytical results from the start-up phases are included in the Start-Up Report for the WATS Upgrade.



To ensure that the effluent is in compliance with the discharge limitations, influent and effluent samples will be collected on a weekly basis for the four weeks following completion of the 5-day run of the system. After which, sample collection will revert to the sampling schedule set prior to the shutdown and upgrades, in accordance with the NPDES Self-Monitoring Program. The analytical results from each of these sampling events will be included in the Third Quarterly NPDES Report for WATS.

### O&M Manual

The existing approved O&M manual adequately covers the procedures required to operate the system in compliance with the NPDES requirements. The O&M manual will be revised to incorporate upgrade specifications and to address additional maintenance and sampling requirements. The revised O&M manual is scheduled to be issued within 60 days from the completion of the start-up phase. A copy of the O&M manual is maintained at the site trailer located at Moffett Federal Airfield (MFA), Moffett Field, California.

Sampling ports are provided at appropriate locations throughout the treatment process in order to allow collection of representative samples. The sample locations for the complete treatment system are listed below:

Sample Port	Sample Location
SP-1	System influent
SP-2	After 1st oxidation stage (between T-101 and T-102)
SP-3	After 2nd oxidation stage (between T-102 and T-103)
SP-4	After 3rd oxidation stage (between T-103 and air stripper)
SP-5	Between air stripper and GAC system
SP-B1	GAC Vessel V-307 effluent
SP-B2	GAC Vessel V-308 effluent
SP-B3	GAC Vessel V-309 effluent
SP-B4	GAC Vessel V-310 effluent
SP-6	WATS effluent
SP-SDA1	SDA influent
SP-SDA2	SDA filtered water

By submission of this letter report, Foster Wheeler Environmental certifies that the O&M manual is adequate for the operations of the system and available to the operating personnel, the O&M manual will be updated to address the additional maintenance and testing schedules resulting from the upgrade, and that sampling ports are available at locations where samples representative



Ms. A. Muckerman  
August 6, 2001

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of the waste stream to be monitored can be obtained. If you have any questions, please do not hesitate to contact me at 949-756-7559.

Sincerely,

Foster Wheeler Environmental Corporation



June Yi, P.E.  
Project Engineer

JY:mp 11010306O&MManualCertltr8-6\_

cc: Pete Everds, Project Manager  
Craig O'Rourke, Environmental Compliance  
Connie Weingardt, Technical Lead  
FWENC Project File, San Diego

