

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019463**Date Inspected:** 20-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name: Mike Johnson
Inspected CWI report: Yes No N/A
Electrode to specification: Yes No N/A
Qualified Welders: Yes No N/A
Approved Drawings: Yes No N/A

CWI Present: Yes No
Rod Oven in Use: Yes No N/A
Weld Procedures Followed: Yes No N/A
Verified Joint Fit-up: Yes No N/A
Approved WPS: Yes No N/A
Delayed / Cancelled: Yes No N/A

Bridge No: 34-0006**Component:** Jacking frame saddle**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Jacking Frame to Saddle fillet welding, the highlights of the welding and post weld heat treatment (PWHT) that transpired during QA observations were the following;

1. Upon QA's arrival at the welding area, third pass fillet welding was underway and was completed at 1113hours. After completion of the third fill pass, ABF personnel was noted using an improvised peening machine (converted pneumatic chipping tool) during peening of the third pass.
2. The welder was noted using 5/32" diameter E9018H4R electrode and he was running at 156 amperes which was in compliance to the Caltrans approved Welding Procedure Specification ABF WPS-D15-F1205.
3. The welder started welding the fourth fill pass at 1126hours and completed at 1218hours. Using the infrared temperature gauge prior welding, QA noted the joint preheat was 390 degrees F. After completion of the fourth pass, ABF personnel was noted using an improvised peening machine (converted pneumatic chipping tool) during peening of the fourth pass.
4. The welder started welding the fifth cover pass at 1312hours and completed at 1354hours. Using the infrared temperature gauge prior welding, QA noted the joint preheat was 395 degrees F. Peening was not performed on

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the fifth cover pass.

5. The welder started welding the sixth cover pass at 1400hours and completed at 1501hours. Using the infrared temperature gauge prior welding, QA noted the joint preheat was 380 degrees F. Peening was not performed on the sixth cover pass.

6. After the completion of the sixth cover pass, the welder wire brushed the fillet weld and QA noted ABF QC Mike Johnson performed the visual test (VT). During the VT, QC noted underfill and undercut which the welder has fixed. Final fillet welding/fixing was completed at 1545hours.

7. After the final welding was completed, ABF QC Mike Johnson performed VT and using a 25mm fillet gauge, QC measured the size of the fillet weld and accepted it.

8. QA performed the same VT and using the same fillet gauge used by QC on the whole length of the fillet weld, QA has concurred the acceptable surface profile and adequate size of the fillet weld.

9. The preparation for the PWHT started as soon as the weld was completed. ABF personnel were noted covering the weld joint with fiber glass/wool covering. ABF personnel Ben Jones was noted programming the machines to 390 degrees F/hour heating rate during the prep.

10. The following temperatures were noted on four Miller Proheat 35 Induction Heating System during the heating period of the joint;

Time Machine #1 Machine #2 Machine #3 Machine #4

a. 1635hours 766 deg. F 768 deg. F 750deg. F 671 deg. F

b. 1735 1063 1067 932 791

c. 1835 1100 1100 1064 898

d. 1932 1100 1100 1100 1025

11. ABF personnel informed QA that they started holding the PWHT temperature at 1923hours.

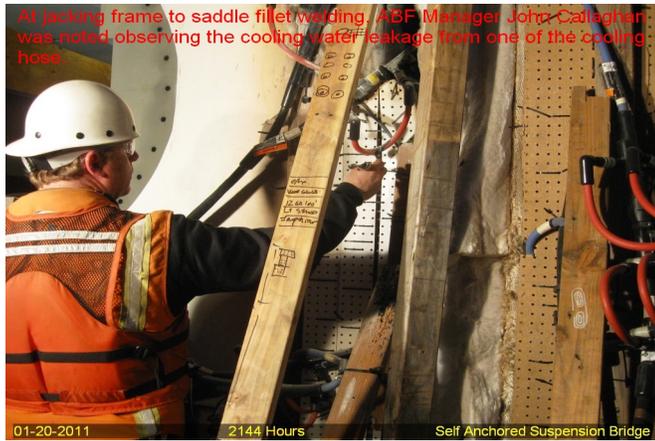
12. At around 2000hours, one of the cooling hose of machine number 4 started to leak. The leakage was noted dropping in front of the joint and not affecting it. The heat output of the machine was also maintained during the leakage. ABF manager John Callaghan was noted observing the leakage most of the time.

13. ABF has completed the PWHT holding time of three hours at 2223hours and immediately, Mr. Callaghan programmed the four Miller Proheat 35 Induction Heating System cooling rate at 400 degrees F per hour.

14. After noting the programming of the cooling rate of the four machines, this QA left the job site (2230hours) and fellow QA Joe Lanz was tasked to assume the remaining observations.

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Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy, 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer