

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-019459**Date Inspected:** 20-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as Jacking Frame to Saddle fillet weld (West side), and the following observations were made:

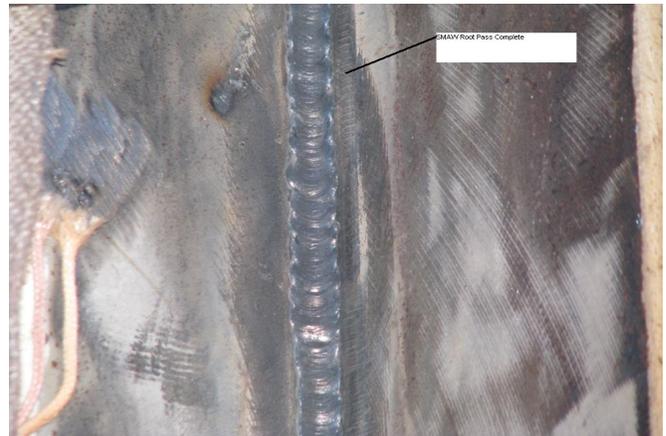
Jacking Frame to Saddle fillet weld (West side)

Upon the arrival of the QA Inspector at 0700 it was observed the weld joint had been preheated and maintained at approximately 350°-380°F prior to ABF performing any production welding. The QA Inspector was informed by the Smith Emery (SE) Quality Control (QC) Inspector Mike Johnson, the fit was acceptable and ready for production welding. The QA Inspector performed a random visual inspection of the completed fit up and noted the fit up appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the ABF welder Rick Clayborn remove the E9018-H4R welding electrode from a new container of electrodes at 0730. The QA Inspector randomly observed the ABF welder begin the shielded metal arc welding (SMAW) root pass at 0745. The QA Inspector randomly observed the welder to be utilizing 1/8" electrodes with 119 Amps. The QA Inspector noted the SMAW parameters appeared to be in general compliance with approved ABF-WPS-D1. 5-F1205. The QA Inspector noted the SMAW root pass was completed at 0825 and the temperature range appeared not to change from that identified above. The QA Inspector observed the SE QC Inspector perform VT of the completed root pass and noted the weld was acceptable. The QA Inspector performed a random visual inspection of the completed root pass and noted it did appear to be in general compliance with the contract requirements. At 0835 the QA Inspector observed the ABF welder begin the second pass or "hot pass" utilizing 5/32" electrodes. The QA Inspector noted the QC Inspector made the necessary SMAW machine adjustments for the change in electrode diameter. The QA Inspector noted the SMAW parameters were 156 Amps and did appear

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to be in general compliance with the approved WPS. The QA Inspector noted the ABF welder completed the second weld pass at 0950. The QA Inspector noted the weld joint and surrounding material appeared to be approximately 420°F. The QA Inspector periodically observed the temperature of the casting behind the weld joint. The QA Inspector noted the temperature behind the weld joint on the 415 casting appeared to be approximately 40°-50°F higher than that in the weld joint or surrounding material. In addition the QA Inspector randomly checked the 485W HPS material on the jacking frame side of the weld joint. The QA Inspector noted due to the configuration of the induction heating blankets the QA Inspector was only able to check the temperature under the jacking frame approximately 12" from the weld joint. The QA Inspector noted temperature at the location described above maintained approximately 320°F through out the duration of the first three passes. After the second pass was completed the QA Inspector observed the contractor begin peening utilizing a small ball peen hammer. The QA Inspector noted the contractor was striking the weld pass with the hammer. It was noted by the QA Inspector the hammer being utilized did not appear to have enough energy or force to sufficiently peen the weld pass (see summary of conversation). The QA Inspector noted the ABF personnel began peening the weld joint utilizing a pneumatic air chisel with a 6mm radius bit. It was observed the peening technique did appear to indent or elongate the weld pass with sufficient force to satisfy the code requirement. The QA Inspector noted the METS QA Inspector Joselito Lizardo relieved the QA Inspector at the above identified location for the remainder of the welding.



Summary of Conversations:

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The QA Inspector informed the ABF Project Engineer John Callaghan of the questionable method used for peening. Mr. Callaghan agreed the small hammer did not have enough force or energy to adequately peen the weld pass. Mr. Callaghan informed the QA Inspector ABF would utilize a pneumatic air hammer with an altered bit to meet the requirements of peening in AWS D1.5.

Mr. Callaghan informed the QA Inspector the contractor will work into the night to tentatively 1200 hours to complete the post weld heat treating (PWHT) cycle.

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 Sang Le 916-764-5650, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
