

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-018199**Date Inspected:** 17-Nov-2010**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 2E-pp17-E3-1, 3E-pp22-E3-2, 3E-pp22-E4-2 and the following observations were made:

2E-pp17-E3-1

The QA Inspector randomly observed the ABF welder Eric Sharp performing grinding tasks of ultrasonic testing reject in the above identified lifting lug deck hole restoration. The QA Inspector randomly observed the ABF welder had previously excavated the UT rejection located in the above identified hole. The QA Inspector noted the weld repair approximately 30% complete upon the arrival of the QA inspector in AM. The QA Inspector randomly observed the SE QC Inspector John Pagliero was on site to monitor and record the in process welding parameters. The QA Inspector noted the ABF welder was utilizing the shielded metal arc welding process with 1/8" E7018 low hydrogen electrodes in the 4G position under the top deck plate. The QA Inspector randomly observed the ABF welder was utilizing 121 Amps while performing the SMAW repair. The QA Inspector performed a random visual inspection of the previously excavated areas and noted they had been ground and blended to weldable profile. The QA Inspector randomly observed and noted the ABF welder was preheating the material to approximately 100°F prior to making the SMAW repairs. The QA Inspector noted the SMAW repairs appeared to be in general compliance with ABF-WPS-1001 repair. The QA Inspector noted the repair welding was not completed on the QA Inspectors shift.

3E-pp22-E3-2

The QA Inspector randomly observed the ABF welder identified as Salvador Sandoval performing grinding tasks

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on the above identified back gouged weld joints. The QA Inspector randomly observed the Smith Emery (SE) Quality Control (QC) Inspector John Pagliero perform magnetic particle testing several times in an attempt to clear or accept the back gouged weld joint. The QA Inspector randomly observed the back gouged weld joint and noted several MT indications were present and additional grinding would be required. After the grinding was completed, and the weld was re-tested the QA Inspector noted the MT indications had been removed and the back gouged weld joint appeared to be acceptable. The QA Inspector randomly observed the ABF welder begin performing the SMAW back weld for both of the above identified weld joints. The QA Inspector noted the base metal and the weld joint were preheated to approximately 100°F and back welding was commenced. The QA Inspector randomly observed the ABF welder to be utilizing 1/8" E7018 low hydrogen electrodes with 132 Amps. The QA Inspector noted the SMAW back welds were continued from the previous day shift completed on the QA Inspectors shift on this date. The QA Inspector randomly observed the ABF welder begin performing grinding tasks in an attempt to remove and grind the weld reinforcement flush with the base material.

3E-pp22-E4-2

The QA Inspector randomly observed the ABF welder Darcel Jackson setting up to perform carbon arc gouging of the above identified weld joint. Upon the arrival of the QA Inspector it was observed the weld joint appeared to be obstructed by the previously installed splice plate. The QA Inspector noted the splice plate did obstruct or partially cover the weld joint, thus restricting access to perform the necessary back gouge or back welding. The QA Inspector spoke with the ABF Representative Scott Smith which informed the QA Inspector the splice plate will be removed for welding then reinstalled after the welding and testing is completed.

6E-pp46.5-E2-SE

The QA Inspector randomly observed the ABF representatives performing grinding tasks and utilizing the nibbler machine in preparation of fitting the deck access hole insert plate. The QA Inspector noted the plate was not fit up on this date. The QA Inspector noted only preparations and fitting tasks not actual fit up or welding.

7W/8W-A1

The QA Inspector noted the QA Inspector Bert Madison located a rejectable class "A" indication in the above identified weld segment. The QA Inspector noted the weld defect was a SE QC oversight and appeared to have been overlooked during the UT of the entire weld joint. The Lead QA Inspector notified by Mr. Madison, that the SE QC Inspector Steve McConnell was informed of the indication and giving the opportunity to re-test and verify. (see summary of conversations). After the SE QC Inspector re-tested the area, he informed Mr. Madison he did not believe the defect to be rejectable. Later in the shift the QA Inspector and ASNT UT Level III Craig Hager performed testing for informational purposes, of the area in the above weld segment and was able to produce similar results as the QC Inspector Bert Madison. Mr. Hager informed the Lead QA Inspector the weld defect was indeed rejectable and a class "A" defect.

Summary of Conversations:

The Lead QC Inspector Leonard Cross informed the QA Inspector he was concerned with the fact the QA Inspector Bert Madison was determining the defect to a DB rating of a significantly lower DB rating. Mr. Cross suggested the QA Inspector Bert Madison was applying too much pressure to wedge or transducer in an attempt to produce a rejectable indication. The Lead QA Inspector informed Mr. Cross it is to no concern to him how much pressure is applied or how much scanning is done to determine if a weld defect is rejectable or not. The QA Inspector suggested the SE QC Inspector Steve McConnell should possibly utilize such scanning methods and

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maybe he would not have overlooked the defect in the initial inspection. Mr. Cross did not agree with QA Inspectors statement and informed the QA Inspector he would look at the defect himself at a later time in the shift.

In a separate conversation with Mr. Cross later in the afternoon, the QA Inspector asked Mr. Cross if he was able to perform UT verification of the defect identified in weld segment 7W/8W-A1. Mr. Cross informed the QA Inspector he was able to look at the defect and he agreed with QC Inspector Steve McConnell's findings. In addition Mr. Cross added "We will stick with what Steve (Mr. McConnell) initially rated it. I don't have time to tweak or try and achieve a lower DB rating. QA is ridiculous and I want you to write us up" The QA Inspector not Mr. Cross was insinuating he wanted QA to write and issue an Incident Report.

The Lead QA Inspector instructed Mr. Madison to write and submit an incident report in regards to the SE QC Inspector Steve McConnell missing the rejectable weld defect. The QA Inspector noted this was the third instance in which Mr. McConnell had overlooked or missed a rejectable weld defect.

The QA Inspector spent the remainder of the shift updating the NDT tracking and production welding status logs for all in process and completed ABF production welding and repair welding.

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 Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

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