

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-020949**Date Inspected:** 17-Feb-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1330**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, 7E-pp52-E4-2, 6E-pp40-E3-1, 5E/6E-D1 the following items were observed:

9E/10E-E1/E2

The QA Inspector randomly observed the ABF welder Song Tao Hunag had previously started the induction heating blankets on the inside of OBG to ensure the minimum required preheat of 150°F was achieved prior to welding. The QA Inspector randomly verified utilizing a 150°F temperature indicating marker and noted the minimum required preheat had been achieved. The QA Inspector observed the ABF welder to be utilizing the semi automated flux cored arc welding (FCAW) for the above identified weld joint. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector identified as Steve Jensen set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3042-B-1 The QA Inspector randomly observed the FCAW parameters were 265 Amps, 23.5 Volts and a travel speed of 295mm/min. The QA Inspector noted the ABF welder continued welding the FCAW fill/cover passes for the remainder of the shift. The QA Inspector noted the fit up in the areas being welded were in compliance with the contract requirements. The QA Inspector noted the welding continued through out the duration of the QA Inspectors shift.

7E-pp52-E4-2

The QA Inspector randomly observed the ABF welder identified as Jason Collins performing carbon arc gouging of the above identified weld joints. The QA Inspector randomly observed the welder utilize a grinding disc and a burr bit grinder to grind and blend the back gouged weld joints to a weldable profile. The QA Inspector noted no

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welding was performed on the QA Inspectors shift only carbon arc gouging and grinding.

6E-pp40-E3-1

The QA Inspector randomly observed the ABF welder Salvador Sandoval performing carbon arc gouging and back grinding of the above identified weld joints. The QA inspector randomly observed the ABF welder grind the back gouged weld joint to bright metal. The QA Inspector randomly observed the back gouged weld joint and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the SE QC Inspector Tony Sherwood perform magnetic particle testing of the back gouged weld joint and noted no relevant indications were present at the time of the testing. The QA Inspector randomly observed the ABF welder continue welding the in process lift lug hole restoration of the lifting lug hole identified as #1. The QA Inspector noted the weld joint was approximately 60% complete at the time of the SMAW 4G back weld. The QA Inspector randomly observed the ABF welder continue the SMAW fill pass. The QA Inspector randomly observed the SMAW parameters were 1/8" E7018 low hydrogen electrodes with 121 Amps. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on this date. The QA Inspector noted the weld reinforcement was ground flush on the QA Inspectors shift. The QA Inspector observed the grinding did appear to comply with the contract requirements for the lifting lug hole identified as #1

5E/6E-D1

Upon the arrival of the QA Inspector at the above identified location, it was observed the ABF welder Wai Kit Lai was performing a shielded metal arc welding repair. The QA Inspector noted the repair was designated an R4 or fourth time repair and was approved and identified previously as RWR 201010-002 on 10-5-10. The QA Inspector noted the ultrasonic testing rejection was a METS QA UT verification rejection located after the weld was turned over to METS QA. The QA Inspector observed the weld defect was excavated on the previous day shift and the excavation dimensions were recorded in on site UT tracking sheet. The QA Inspector randomly observed the UT reject was located 14mm deep the 20mm bottom flange plate "D". It was previously reported by the QA Inspector the exterior skin plate had been previously painted. The QA Inspector observed the weld repair was partially under a longitudinal stiffener on the "D" plate. The QA Inspector noted that with the external surface painted it would not be feasible to perform the UT of the repair from the external surface. Without being able to perform UT from the outside there is no direct access to the portion of the weld underneath the stiffener plates. The QA Inspector asked the QC Inspector Bonifacio Daquinag and he informed the QA Inspector paint may need to be removed from the external surface, but he was not sure yet. The QA Inspector noted scanning patterns C and D may satisfy 100% volumetric coverage from the internal surface.

Summary of Conversations:

The QA Inspector was informed by the ABF WQCM Jim Bowers, all welding and work will be shut down for the day at 1100. The QA Inspector noted the early shut down of work was due to severe weather.

At 2200 the QA Inspector Robert Mertz informed the QA Lead Inspector Rick Bettencourt the R6 at 6E/7E-A1 the RWR was identified as 201102-005 was approved to precede with the welding repair per Nick Havass.

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 Nina Choy 510-385-5910, who represents the Office of Structural Materials for

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your project.

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