DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-019339
Date Inspected: 17-Jan-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
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 9W/10W-A, 2W-pp17-W4-2&4 and the following observations were made:

9W/10W-A

Upon the arrival of the QA Inspector in the morning it was observed the above identified field splice had a full length tack weld approximately 50% complete. The QA Inspector noted the tack welding was performed on Friday 1-14-11. The QA Inspector noted the weld joint was not locked in place by welding rather only one side of the weld joint appeared to be welded. The QA Inspector noted the induction heating blankets were in place and the weld joint was being maintained at approximately 200ºF. The QA Inspector randomly observed the Smith Emery Quality Control (QC) Inspector Tony Sherwood perform an additional dimensional verification to verify if the previous planar misalignment had changed. The QA Inspector noted no change in the alignment of the top deck plates identified above was observed.

A1-A2

The QA Inspector randomly observed the ABF welder identified as Xiao Jian Wan was performing flux cored arc welding (FCAW) of the full length tack weld or seal weld. The QA Inspector randomly observed the SE QC Inspector set the FCAW parameters on a scrap piece of steel. The QA Inspector noted the FCAW parameters were 275 Amps, 22.5 Volts and a travel speed of 355mm/min. The QA Inspector noted the FCAW parameters did not vary from those listed above through out the duration of the QA Inspectors shift. The QA Inspector noted the welding did appear to be complete at the end of the QA Inspectors shift.

A3-A5

The QA Inspector randomly observed the ABF welder identified as #9230 was performing flux cored arc welding (FCAW) of the full length tack weld or seal weld. The QA Inspector randomly observed the SE QC Inspector set the FCAW parameters on a scrap piece of steel. The QA Inspector noted the FCAW parameters were 290 Amps, 23.5 Volts and a travel speed of 365mm/min. The QA Inspector noted the FCAW parameters did not vary from those listed above through out the duration of the QA Inspectors shift. It was observed the welding parameters did appear to comply with ABF-WPS-D1.5-F3200R2. The QA Inspector noted the welding did appear to be complete at the end of the QA Inspectors shift.

The QA Inspector randomly observed the ABF welder Xiao Jian Wan performing FCAW pick up welding at areas that had been previously ground. The QA Inspector randomly observed the ABF welding Superintendent Dan Ieraci performing dimensional measurements from a punch mark placed on the deck plate 200mm from the edge of the bevel. The QA Inspector noted Mr. Ieraci had an ABF representative remove a portion of the FCAW tack weld to reveal the root fit up line (see summary of conversation)

2W-pp17-W4-2&4

The QA Inspector randomly observed the ABF welder Mike Jimenez 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 joints to bright metal. The QA Inspector randomly observed the back gouged weld joints and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the SE QC Inspector Mike Johnson 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. The QA Inspector noted the weld joint was approximately 50% 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 122 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.

Summary of Conversations:

Mr. Ieraci informed the QA Lead Inspector he had previously placed punch marks 200mm from the bevel to use as a reference during the ultrasonic testing. In addition Mr. Ieraci informed the QA Inspector he has randomly removed small sections of the FCAW tack weld to what he believed to be observing the “fusion” of the weld pass. Mr. Ieraci went on to inform the QA Inspector he does not believe all of the UT rejections in the weld joint that are being indicated by SE QC are all legitimate rejects. Rather Mr. Ieraci was insinuating some of the UT rejects that are indicated by SE QC could possibly be weld joint geometry from the initial fit up of the weld joint.

Comments

WELDING INSPECTION REPORT

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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 your project.

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