

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: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-026563
Date Inspected: 24-Oct-2011

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

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name:	Pat Swain	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:	OBG Sections	

Summary of Items Observed:

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

Orthotropic Bridge Girder (OBG) Sections:

13E/14E weld joint D-2: This QA Inspector randomly observed ABF welding personnel setting up equipment in preparation to start using the Flux Cored Arc Welding (FCAW) process. This QA Inspector observed shielding gas transfer lines, gas torch transfer lines for preheating and welding equipment being brought into the space. This QA Inspector performed a random visual verification of the fit up from Y-0 to Y-8350. This QA Inspector observed the following; Y-50 to Y-200 a planar offset of 3 mm and from Y-7000 to Y-8350 a planar offset ranging from 3 mm to a maximum of 5 mm and back to 3 mm. This QA Inspector observed the remaining areas appeared to have a planar offset of 0 mm to 2 mm, within the allowed tolerance. This QA Inspector confirmed with QC Inspector Pat Swain that he had basically the same measurements for planar offset. This QA Inspector observed the following welding personnel setting up to perform FCAW; Xiao Jian Wan (#9677), Wai Kitlai (#2953) and Jin Pei Wang (#7299). This QA Inspector randomly observed as various ABF welding personnel and helpers used hand held gas torches to preheat the various areas on D-2 for to begin welding. This QA Inspector randomly observed QC Inspector Pat Swain using an electric temperature gauge to verify the preheat temperature was greater than the minimum of 200°F. This QA Inspector performed a random verification using an electric temperature gauge and the work appeared to comply with the Welding Procedure Specification (WPS). This QA

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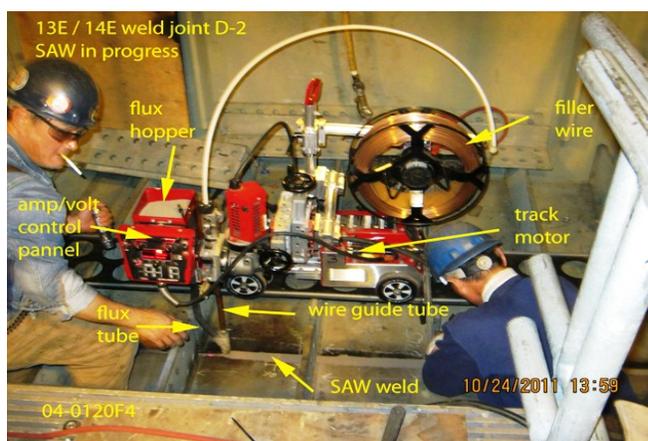
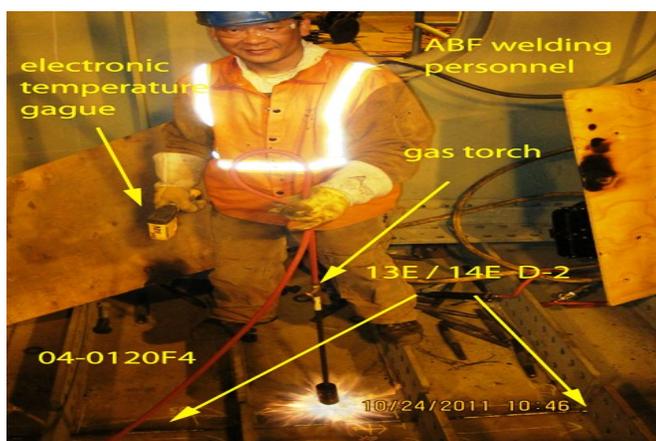
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Inspector randomly observed as QC Inspector Pat Swain verified the following welding parameters; at the beginning of D-2 was Xiao Jian Wan (#9677) with 265 amperes and 23.4 volts at a travel speed of 391 mm per minute to produce a heat input value of 0.95 KJ per mm, at the center of D-2 was Jin Pei Wang (#7299) with 268 amperes and 22.9 volts at a travel speed of 378 mm per minute to produce a heat input value of 0.97 KJ per mm and at the end of D-2 was Wai Kitlai (#2953) with 260 amperes and 23.6 volts at a travel speed of 364 mm per minute to produce a heat input value of 1.01 KJ per mm. The welding observed by this QA Inspector appeared to comply with ABF-WPS-D15-F3200. The welding observed was the continuous tack on each side of the backing bar for the length of the weld. This QA Inspector observed ABF welding helpers using hand held gas torches to maintain the preheat temperature. This QA Inspector observed QC Inspector Pat Swain monitoring the welding and preheat temperature periodically during the shift. This QA Inspector observed after the tack welding was completed two ABF welding personnel using hand held gas torches and electronic temperature gauges to maintain the minimum preheat temperature of 200°F while the remaining AB F welding personnel went below to remove the fit up aids and secure the induction heating blankets to the bottom (outside surface) of the OBG section at weld joint D-2. This QA Inspector observed after the lunch break this date ABF welding personnel setting up the various equipment to start using the Submerged Arc Welding (SAW) process. This QA Inspector randomly observed QC Inspector Pat Swain verify the following parameters; 568 amperes and 32.3 volts at a travel speed of 379 mm per minute to produce a heat input value of 2.90 KJ per mm. The welding observed to comply with the WPS being used by the QC Inspector, ABF-WPS-D15-4042B-1. This QA Inspector observed multiple passes of SAW being performed and by the end of the shift it appeared the weld would be completed except for one more fill pass and two cover passes. See photo of SAW in progress below.

This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted above there were no notable conversations.



Comments

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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:	Hager,Craig	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
