

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-026582
Date Inspected: 26-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 as QC Inspector Pat Swain verified the preheat temperature to be greater than 200°F prior to the start of welding this date with an electronic temperature gauge. This QA Inspector randomly observed as QC Inspector Pat Swain verified the following welding parameters for ABF welding personnel Wai Kitlai (#2953) at the end of weld D-2 (cross beam side); 270 amperes and 24.3 volts at a travel speed of 382 mm per minute to produce a heat input value of 1.03 Kj per mm. This QA Inspector randomly observed as QC Inspector Pat Swain verified the following welding parameters for ABF welding personnel Xiao Jian Wan (#9677) at the beginning of weld D-2 (bike path side); 248 amperes and 23.7 volts at a travel speed of 390 mm per minute to produce a heat input value of 0.90 Kj per mm. This QA Inspector observed both welding personnel only had minimal distances to weld, approximately 300 mm. The FCAW welding was to complete the welding on D-2 between the 2- vertical full height stiffeners. This QA Inspector observed the welding at this location was completed and observed QC Inspector Pat Swain perform a preliminary visual inspection for undercut and under fill. See photo of inspection in progress. This QA Inspector also observed the stiffeners were being installed across the deck and were of an angle configuration rather than a flat plate which had typically been used. This configuration appeared to greatly limit the access to performing inspections; visual and

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Magnetic Particle Testing (MT) and Ultrasonic Testing (UT) if done from this face. This QA Inspector informed QC Inspector Pat Swain of the observation.

13E/14E – SPCM weld joint A-2.2 thru A-5: This QA Inspector was informed there would be a delay in starting the Submerged Arc Welding (SAW) this morning by ABF Welding Supervisor Danny Ieraci (#3232) due to the continued electrical issues experienced yesterday afternoon. This QA Inspector observed after the morning break that welding was ready to begin and randomly observed QC Inspector Fred Von Hoff verify the minimum preheat temperature of 150°F for the entire length to be welded, A-2.2 thru A-5. This QA Inspector randomly observed QC Inspector Fred Von Hoff verify the welding parameters for ABF welding personnel James Zhen (#6001) welding from A-2.2 to A-4; 550 amperes and 33 volts at a travel speed of 430 mm per minute to produce a heat input value of 2.53 KJ per mm. This QA Inspector randomly observed QC Inspector Fred Von Hoff verify the welding parameters for ABF welding personnel Todd Jackson (#4639) welding from A-4 to A-5; 550 amperes and 32.5 volts at a travel speed of 432 mm per minute to produce a heat input value of 2.50 KJ per mm. This QA Inspector observed flux being taken from the heated flux oven (backed flux) and placed into a flux holding/storage container adjacent to the work. This QA Inspector observed the temperature gauge on the flux storage container was greater than 225°F. This QA Inspector used an electronic temperature gauge to verify the flux temperature was greater than 225°F; the flux temperature appeared to be within several degrees of the temperature gauge on the unit. The welding observed appeared to comply with ABF-WPS-D15-4042B-1 being used by the QC Inspector. This QA Inspector observed that shortly after the second SAW unit had started the electrical issued appeared. ABF welding Supervisor Danny Ieraci (#3232) informed AC Inspector Fred Von Hoff and this QA Inspector that only one SAW unit would be used at a time, therefore only one of the welding personnel would be need. This QA Inspector observed ABF welding personnel James Zhen (#6001) using both SAW units, one after the other, to finish a weld pass. This QA Inspector randomly observed the following ABF welding personnel were used at sometime during the shift at this location; Todd Jackson (#4639), James Zhen (#6001) and / or Danny Ieraci (#3232) depending upon the electrical issues and / or ABF welding Supervisor Danny Ieraci (#3232) requests. This QA Inspector observed that welding was not completed at this location this date.

12E/13E weld joint D-1, D-2 and D-3: This QA Inspector observed ABF welding personnel Wai Kitlai (#2953) and Xiao Jian Wan (#9677) had completed the grinding of the back gouged weld. This QA Inspector had previously reported on observing several welding slag inclusions in the back gouged area of the weld; see Welding Inspection Report (TL-6031) dated 10/21/2011. This QA Inspector performed a random visual verification at the areas previously noted and observed that it appeared additional grinding was performed and that the slag indications had been removed. Prior to the visual verification noted above; this QA Inspector randomly observed QC Inspector Pat Swain perform a visual and Magnetic Particle Testing (MT) on the back gouged weld. See photo of MT in progress. QC Inspector Pat Swain informed this QA Inspector he had accepted the back gouged weld.

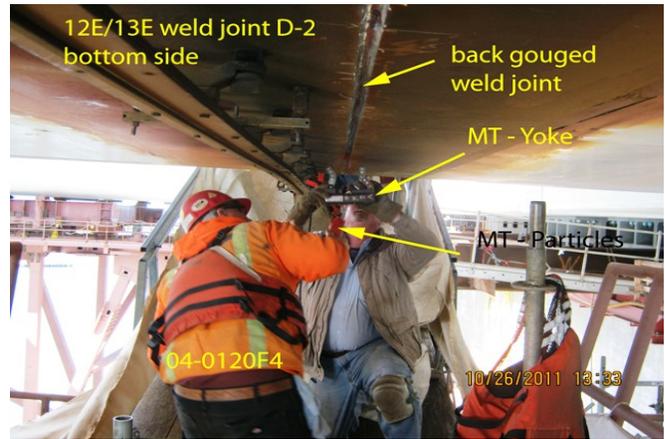
This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.

Summary of Conversations:

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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

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