

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-018182**Date Inspected:** 16-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	William Sherwood and John Pagliuca			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:	Orthotropic Box Girder		

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 7W/8W side plate 'E' (3640mm to 7900mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 perform CJP groove welding root pass on the splice butt joint. The welder was observed performing automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. Prior to welding, QA and QC performed a joint fit up alignment check of the splice butt joint. The alignment measurement taken during the verification was 2.0mm and lower except on one location (2nd WT stiffener from the bottom) wherein the alignment reading was 4.0mm and has a length of 5 inches. According to ABF QC William Sherwood, this 4.0mm misalignment was already recorded on their side and also submitted to ABF for review and approval. The root gap between the abutting plates was also measured more than 4.0mm in general except on two locations where they were measured less than 4mm and already marked for grinding/opening prior welding. At the end of the shift, root pass welding was completed and the welder has not welded after that.

At OBG 6E/7E LS2 longitudinal stiffener inside, QA randomly observed ABF welder Hua Qiang Hwang ID

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

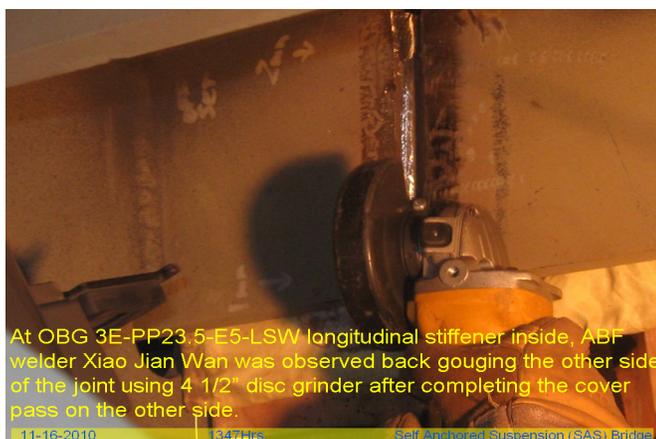
#2930 continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding root pass to fill pass on one side of the stiffener splice butt joint. The joint has a double V joint preparation that was being welded from one side using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded is a high strength plate material HPS 485W which has a thickness of 30mm was root welded using a ceramic backing. The splice joint was preheated and maintained to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. Prior to welding, QA and QC performed a joint fit up alignment check of the splice butt joint. The alignment measurement taken during the verification was 2.0mm and the root gap was 5mm which deemed acceptable to WPS mentioned above. At the end of the shift, fill pass welding of the stiffener was still continuing and should remain tomorrow. The QA Inspector noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed.

At OBG 3E-PP23.5-E5- LSW longitudinal stiffener inside, QA randomly observed ABF welder Xiao Jian Wan ID #9677 continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding cover pass on one side of the stiffener splice butt joint. The joint has a double V joint preparation that was welded from one side using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded is a high strength plate material HPS 485W which has a thickness of 30mm was root welded using a ceramic backing. The splice joint was preheated and maintained to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. During the shift, the welder has completed welding cover on one side of the stiffener and moved to the other side and back gouged the joint using 4 1/2" disc grinder. After the completion of the back gouging, ABF QC was noted performing the Magnetic Particle Testing (MT). The QA Inspector noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed.

At OBG 6E-PP37.5-E2 ventilation access hole infill plate inside, QA randomly observed ABF/JV qualified welder Wai Kitlai perform fill pass welding on the CJP butt joint. The welder was observed manually welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1010 Revision 1. The joint being welded has a double V-groove butt joint. During welding, ABF QC John Pagliero was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Summary of Conversations:

No significant conversation today.

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

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer