

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017700**Date Inspected:** 27-Oct-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:	John Pagliero and William Sherwood			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 3E-PP19.5-E5-LSW longitudinal stiffener underneath the ventilation access hole inside, QA randomly observed ABF welder Xiao Jian Wan ID #9677 perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) back welding cover pass on 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 was root welded using a ceramic backing, fully welded from one side then back gouged and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated 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 back welding the west longitudinal stiffener (LSW) and held the preheat maintenance of more than 200 degrees Fahrenheit for three hours as required. 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 E9018 electrodes due to its limited exposure time allowed. At the end of the shift, while the welder was waiting for the holding of preheat maintenance to three hours as required, the welder was noted flush grinding the cover of the previously welded stiffener joint LSE.

At OBG 3E-PP23.5-E2-LSW longitudinal stiffener underneath the ventilation access hole inside, QA randomly

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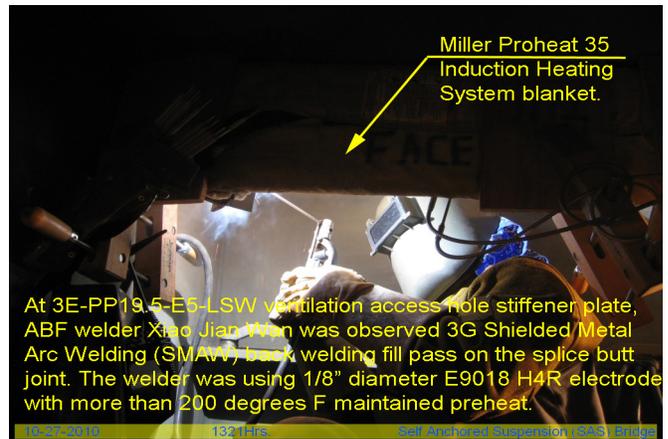
observed ABF welder Hua Qiang Hwang ID #2930 perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) back welding cover pass on the stiffener splice butt joint. The joint has a double V joint preparation that was welded from one side using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded was root welded using a ceramic backing, fully welded from one side then back gouged and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated 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. QA 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 E9018 electrodes due to its limited exposure time allowed. At the end of the shift, cover pass welding on stiffener LSW was completed and the welder was told to keep the preheat maintenance of more than 200 degrees Fahrenheit and hold it for three hours as required.

QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) 6W/7W side plate 'E' outside. The welder was observed back welding in the 4G (overhead) 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-D15-3110-4. The welder was using a track mounted welder holder assembly that is remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated and maintained to greater than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the other side of the plate prior/during welding. The vicinity was also properly protected from wind and other climatic changes. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. Before the end of the shift, cover pass welding of the splice butt joint was completed and the QC was noted performing initial visual test (VT) on the completed weld.

At OBG 2E-PP17-E3#3 and #1 and 2EPP11-E2-#4 top deck plate 'A' erection access holes outside, QA randomly observed ABF/JV qualified welders Eric Sparks and Darcel Jackson continuing to perform CJP groove welding root pass then fill pass on the infill plates to top deck butt joints. The welders were observed respectively welding in the 1G (flat) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1070. The infill plates have single bevel of 45 degrees and 5mm root gap to deck plate with 250mm diameter x 12.5mm thickness copper backing plate. During the shift, ABF QC Mike Johnson was noted monitoring the welders. ABF welder Darcel Jackson has completed welding cover pass on the 2E-PP11-E2-#4 and has moved to 2E-PP15-E2-#3 erection access hole.

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Summary of Conversations:

No significant conversation occurred 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