

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-017894**Date Inspected:** 03-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 7E/8E side plate 'E' inside, QA randomly observed ABF welder Songtao, Huang continuing to perform 3G SMAW welding fill pass to cover pass on 9955mm to 10555mm location of the splice butt joint. This location was welded manually using the SMAW due to limited access when using the automatic FCAW-G track mounted Bug-o nozzle holder. The welder was using 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040A. During welding, ABF QC William Sherwood was noted monitoring the welder's welding parameters. At the end of the shift, cover pass welding on this location was completed and the welder has moved to side plate 'C' of the same OBG. The welder was noted cleaning the bevel and its adjacent base metal. Aside from cleaning the plates, the welder was also noted lining up their track mounted Bug-o nozzle holder. While the welder was performing their task, this QA and ABF QC William Sherwood performed a joint fit up alignment check on the splice joint. Result of the joint alignment check/measurement was less than 2.0mm which deemed acceptable to contract requirements.

At OBG 5E/6E LS6 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) back welding fill pass to cover pass on the other 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

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strength plate material HPS 485W which has a thickness of 30mm was root welded using a ceramic backing, and fully welded on one side. 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. 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. During the shift, the welder has not completed welding the cover of the stiffener and should continue tomorrow.

At OBG 5E/6E LS2 longitudinal stiffener inside, QA randomly observed ABF welder Hua Qiang Hwang ID #2930 continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) back welding fill pass on the other 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, and fully welded on one side. 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 not completed welding cover of the stiffener and should continue 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.

QA randomly observed ABF/JV qualified welders Rory Hogan and Jeremy Dolman continuing to perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) 6W/7W side plate 'C1' 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 Bug-o track mounted welder holder assembly that was 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 on top of the plate prior welding and by moving the blanket to the side of the weld being welded during welding. The vicinity was also properly protected from wind and other climatic conditions. ABF Quality Control (QC) William Sherwood 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.

At OBG 6W/7W side plate 'E' outside, ABF QC Tom Pasqualone was observed performing Ultrasonic Testing (UT) on the welded splice butt joint. QC was using General Electric USM35 ultrasonic machine. QC was also observed scanning from both sides of face 'B' of the joint. During the shift, ultrasonic testing on the butt joint was still continuing and should remain tomorrow.

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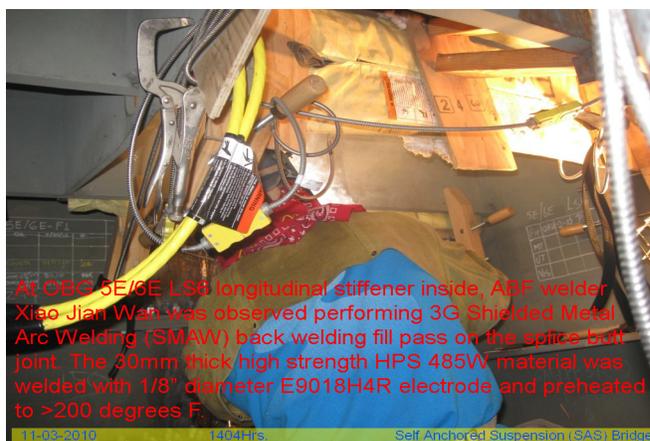
At OBG 6W/7W side plate 'E' outside, ABF QC Tom Pasqualone was observed performing Ultrasonic Testing (UT) on the flush ground cover of the back welded splice butt joint.



At OBG 5E/6E LS6 longitudinal stiffener inside, the splice butt joint was ground smooth prior back welding.



At OBG 7E/8E side plate 'C' inside, ABF QC was observed checking the fit up alignment of the splice butt joint. The alignment/offset was measured less than 2.0mm



At OBG 5E/6E LS6 longitudinal stiffener inside, ABF welder Xigo Jian Wan was observed performing 3G Shielded Metal Arc Welding (SMAW) back welding fill pass on the splice butt joint. The 30mm thick high strength HPS 485W material was welded with 1/8" diameter E9018H4R electrode and preheated to >200 degrees F.

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
