

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-022206**Date Inspected:** 30-Mar-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Steve Jensen and Fred Von Hoff	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 9W/10W side plate 'C1' (2640mm to 5278mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass to cover pass on the splice butt joint. The welder was observed perform 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 heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. During the shift, cover pass welding was completed and the welder has moved to side plate 'C2' (2640mm to 5277mm) of the same OBG. The welder was noted cleaning the joint's bevel faces in preparation for the root pass tomorrow.

At OBG 10E/11E LS6 longitudinal stiffener inside, QA randomly observed ABF welder Hua Qiang Hwang continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding fill pass to cover pass on the stiffener splice butt joint. The stiffener plates being welded are made of high strength plate material HPS 485W and has a thickness of 30mm. The joint has a double V joint preparation that was welded from one side and after the completion from one side to be back gouged, Non Destructive Testing

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

(NDT) tested using Magnetic Particle Testing (MT) and back welded to the other side. The welder was noted 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. 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. The QA Inspector noted the ABF QC Fred Von Hoff was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC Fred Von Hoff was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. At the end of the shift, cover pass welding on both sides of the butt joint was completed and the welder has moved to LS4 of the same location. The welder was instructed by QC to hold the preheat of >200° F for the LS6 stiffener joint just welded for three more hours after welding as required.

At OBG 7W/8W LS2 longitudinal stiffener inside, QA randomly observed ABF welder Xiao Jian Wan perform 3G (vertical) SMAW back welding fill pass on the stiffener CJP 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 other side was back gouged and ground smooth and was also Non Destructive Testing (NDT) tested using the MT. The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. QA noted the ABF QC Gary Ersham was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC Gary Ersham was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. At the end of the shift, cover pass welding on both sides of the stiffener was completed. The welder was also instructed by QC to keep the preheat maintenance of more than 200 degrees Fahrenheit after welding and hold it for three hours as required.

At OBG 8W/9W LS5 longitudinal stiffener inside, QA randomly observed ABF welder Jin Pei Wang perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding fill pass on the stiffener splice butt joint. The stiffener plates being welded are made of high strength plate material HPS 485W and has a thickness of 30mm. The joint has a double V joint preparation that was welded from one side and after the completion from one side to be back gouged, Non Destructive Testing (NDT) tested using Magnetic Particle Testing (MT) and back welded to the other side. The welder was noted 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. 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. The QA Inspector noted the ABF QC Gary Ersham was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC Gary Ersham was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. At the end of the shift, fill pass welding on one side of the butt joint was still ongoing and should continue tomorrow.

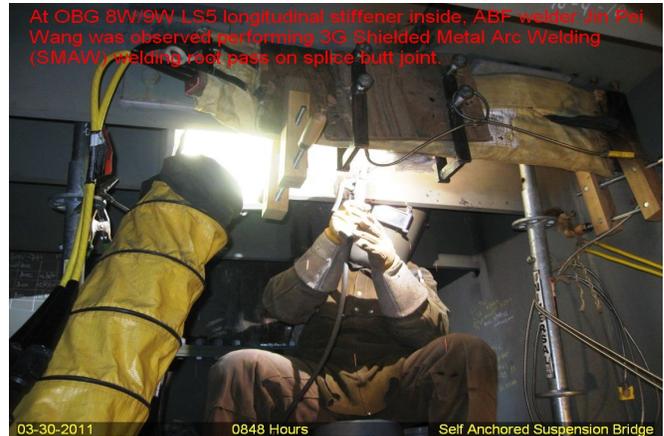
At OBG 10W/11W edge plate 'B' and 'F' outside, QA randomly observed ABF/JV qualified welders Fred Kaddu and Jorge Lopez respectively perform root pass welding on the Complete Joint Penetration (CJP) splice butt joints. The welders were observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joints being welded have a single V-groove butt joint with steel

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

backing bars. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameters with reading of 135 and 140 amperes respectively on the welders which appears in conformance to the contract requirements. At the end of the shift, SMAW root pass welding was still continuing and should remain tomorrow.

At OBG 9E/10E side plate 'E' outside, ABF welder Rory Hogan was noted setting up plasma arc gouging machine and covering the location with tarp in preparation for the back gouging/backing bar removal of the welded splice butt joint.



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 Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer
